The Republic of South Sudan

Ministry of Agriculture and Food Security

Ministry of Livestock and Fisheries

Ministry of Environment and Forestry

Comprehensive Agriculture Master Plan

CAMP

Annex I
Volume 1
CAMP Investment Plan

October 2016

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1. Funding availability, requirements and allocation

This section discusses the relationship between funding availability, funding requirements and funding allocation. Funding availability is modelled under three public policy scenarios so as to predict the funds that might be available from the government and development partners. Funding requirements are estimated by the CAMP investment plan in the form of project costs. Another modelling exercise allocates the predicted available funds to each subsector. This approach shows that the choice of public policy will determine whether CAMP is fully implemented, or only partially implemented with delays and the associated lost opportunities in the agriculture sector. During CAMP implementation these three funding elements will be monitored and evaluated to allow for adjustment of the CAMP investment plan.

1.1 Funding availability and public policy

This section predicts economic growth (in terms of GDP) and available funds (government and development partners) for agricultural development over the CAMP implementation period of 25 years, which starts in fiscal year 2015/16 and ends in 2039/40. It uses a simple model based on 1) educated assumptions about potential economic growth, which also determines the growth of government revenue, and hence expenditure; and 2) three scenarios for different government policy choices on government expenditure allocation. The three scenarios are: 1) business as usual, 2) economic dividend and (3) peace dividend.

In all three scenarios, recurrent expenditures (salaries etc.) are not included in the funds available for CAMP implementation; only development expenditures are included (funds that allow the government and its employees to carry out activities to develop South Sudan).

This model and its predictions are used to 1) to show the importance of policy choices concerning government expenditure allocation, and 2) obtain realistic estimates of funds available for CAMP implementation for each scenario.

The predicted funds available in each scenario will be used to prioritise and sequence CAMP projects, so that 1) their total annual requirement for funds is within the limit predicted in the relevant funding availability scenario, and 2) maximum outcomes and impacts are secured with the available funds during CAMP implementation. The scenarios will also facilitate discussions by the government and stakeholders on policy decisions.

During CAMP implementation, the performance of the agriculture sector and the impact (e.g. GDP growth) of public interventions will be assessed periodically. The model and its assumptions about economic growth and government policy choices will be re-evaluated. For example, investment in the agriculture sector may increase economic growth which would allow more government expenditure; the model would have to be updated with new assumptions/parameters. Project prioritisation and sequencing may be revised to ensure optimal CAMP implementation.

1.1.1 Economic growth

Economic growth is the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Of more importance is the growth of the ratio of GDP to population (GDP per capita), which is also called per capita income.

Due to the limited availability of macroeconomic data, several assumptions were made in the model based on the examination of available data and educated judgement.

The national economy in early 2015 is characterised by the ongoing economic shock from the conflict that started in December 2013, compounded by the austerity measures starting in 2012. However, the economic shock of the conflict is not captured in this model due to the unavailability of reliable macroeconomic data for that period. Therefore, the real macroeconomic performance is expected to be worse than modelled. Volatile oil prices are not factored into the model.

1.1.1.1 Predicted economic growth rates

Table 1-1 shows the predicted economic growth rates for South Sudan up to 2039. The rates for the oil sector were taken from South Sudan Development Plan 2011.[1] The rates for the agriculture sector were determined by educated judgement: 1) phase I 3% growth, 2) phase II 4% growth 3) phase III 5% growth 4) phase IV continuing growth 5-6% due to improving agriculture sector performance. For other non-oil sectors, 1% higher growth rates were used as productivity in the agriculture sector generally grows more slowly than those in other sectors.

Table 1-1: Predicted economic growth rates

CAMP period	Year	Fiscal Year (After 2012 FY starts July and ends June)	Gross domestic product (GDP) (constant price at 2009)											Assumed econ. growth rate in developed countries
			Oil GDP	Non-oil GDP									Total	
				Government activities	Non-profit institutions	Other activities						Sub-total		
						Agriculture, livestock, forestry and fisheries	Trade, hotels and restaurants	Manufacturing and mining	Transport and communication	Construction	Other services			
	2008	2008												
	2009	2009	11.1%	5.7%	63.0%	**-5.9%**	-5.9%	-5.9%	-5.9%	-5.9%	-5.9%	-5.9%	-2.7%	4.3%	
	2010	2010	-2.1%	14.7%	-18.3%	***11.4%***	*11.4%*	*11.4%*	*11.4%*	*11.4%*	*11.4%*	11.4%	11.7%	4.2%	
	2011	2011	-1.0%	9.7%	-49.3%	**4.4%**	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	5.0%	1.9%	
	2012	2012/13	*-64.2%*	-32.8%	10.8%	**-31.4%**	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.5%	-47.6%	
	2013	2013/14	*53.6%*	14.8%	-4.3%	**8.6%**	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	10.0%	24.7%	1.0%
	2014	2014/15	*89.2%*	39.5%	-9.4%	**0.1%**	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	10.3%	43.0%	1.0%
Phase I	2015	2015/16	*18.5%*	10.0%	3.0%	**3.0%**	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	5.3%	12.6%	1.0%
	2016	2016/17	*-4.2%*	1.0%	4.0%	**3.0%**	4.0%	4.0%	4.0%	4.0%	4.0%	3.5%	2.7%	-1.3%	1.0%
	2017	2017/18	*-10.9%*	1.0%	4.0%	**3.0%**	4.0%	4.0%	4.0%	4.0%	4.0%	3.5%	2.7%	-4.9%	1.0%
	2018	2018/19	*-11.4%*	1.0%	4.0%	**3.0%**	4.0%	4.0%	4.0%	4.0%	4.0%	3.5%	2.7%	-4.7%	1.0%
	2019	2019/20	*-11.1%*	1.0%	4.0%	**3.0%**	4.0%	4.0%	4.0%	4.0%	4.0%	3.5%	2.7%	-4.0%	1.0%
Phase II	2020	2020/21	*-11.3%*	1.0%	4.0%	**3.0%**	4.0%	4.0%	4.0%	4.0%	4.0%	3.5%	2.7%	-3.6%	1.0%
	2021	2021/22	*-12.9%*	1.0%	4.0%	**4.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	3.4%	-3.4%	1.0%
	2022	2022/23	*-13.2%*	1.0%	4.0%	**4.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	3.4%	-2.8%	1.0%
	2023	2023/24	*-13.1%*	1.0%	4.0%	**4.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	3.5%	-2.1%	1.0%
	2024	2024/25	*-14.1%*	1.0%	4.0%	**4.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	3.5%	-1.7%	1.0%
Phase III	2025	2025/26	*-11.9%*	1.0%	4.0%	**4.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	3.5%	-0.5%	1.0%
	2026	2026/27	*-15.6%*	2.0%	4.0%	**5.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.1%	-0.4%	1.0%
	2027	2027/28	*-14.4%*	2.0%	4.0%	**5.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.2%	0.5%	1.0%
	2028	2028/29	*-14.6%*	2.0%	4.0%	**5.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.2%	1.1%	1.0%
	2029	2029/30	*-14.4%*	2.0%	4.0%	**5.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.2%	1.6%	1.0%
Phase IV	2030	2030/31	*-9.9%*	2.0%	4.0%	**5.0%**	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.2%	2.5%	1.0%
	2031	2031/32	*-11.2%*	3.0%	5.0%	**5.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	5.6%	4.9%	3.2%	1.0%
	2032	2032/33	*-3.7%*	3.0%	5.0%	**5.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	5.6%	4.9%	4.1%	1.0%
	2033	2033/34	*-13.5%*	4.0%	5.0%	**5.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	5.6%	5.2%	3.6%	1.0%
	2034	2034/35	*-4.7%*	4.0%	5.0%	**5.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	5.6%	5.2%	4.5%	1.0%
	2035	2035/36	*-11.0%*	4.0%	5.0%	**5.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	5.6%	5.2%	4.2%	1.0%
	2036	2036/37	*-1.8%*	5.0%	6.0%	**6.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.8%	5.4%	1.0%
	2037	2037/38	*0.0%*	5.0%	6.0%	**6.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.8%	5.5%	1.0%
	2038	2038/39	*0.0%*	5.0%	6.0%	**6.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.8%	5.5%	1.0%
	2039	2039/40	*0.0%*	5.0%	6.0%	**6.0%**	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.8%	5.5%	1.0%
CAMP period average			*-8.7%*	2.7%	4.5%	**4.5%**	5.1%	5.1%	5.1%	5.1%	5.1%	4.8%	4.2%	1.1%	1.0%

Note: Agricultural sector values are indicated by bold numbers.
Source: NBS (underlined values); IMF (double underlined values); AfDB (double underlined Italic values); South Sudan Development Plan 2011 (underlined Italic values); CAMP TT (normal typeface values)

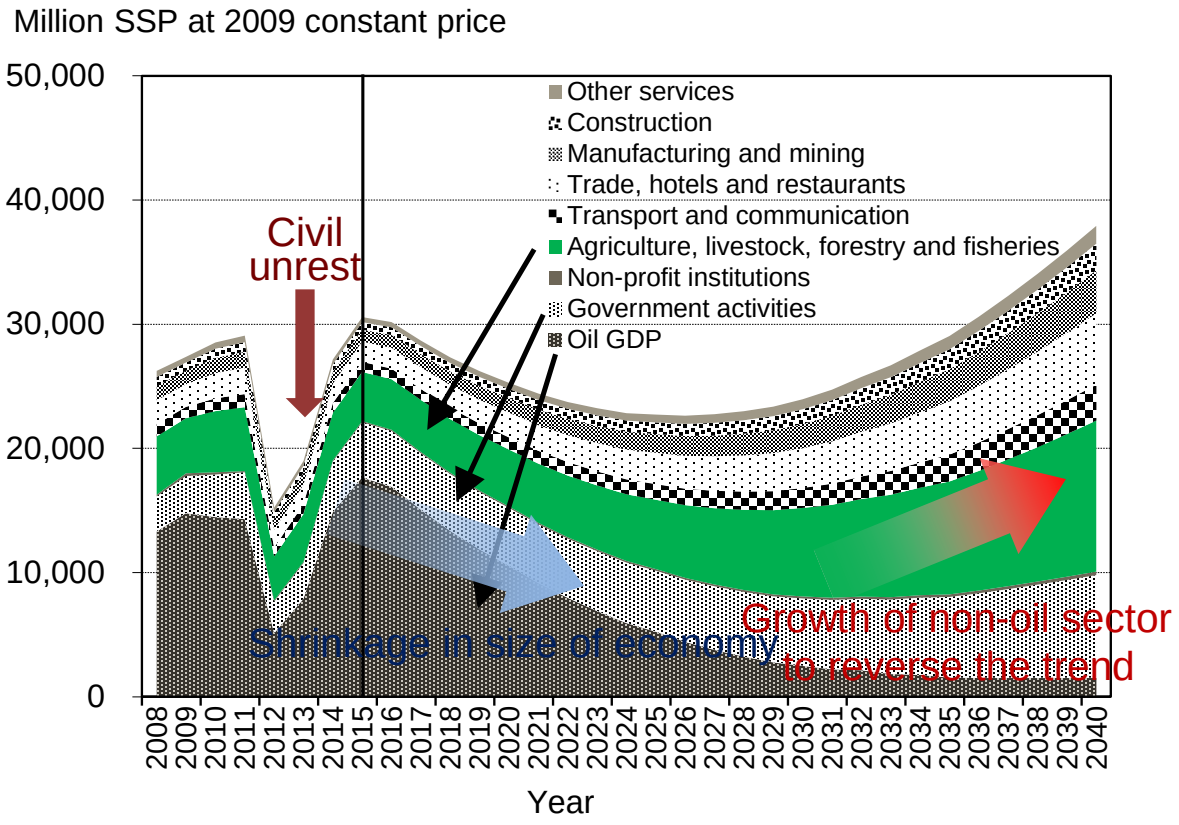
Non-oil sector growth rates were set to compensate for the decline in the oil sector. In order to secure these predicted high and stable growth rates, investment of oil based revenues in quality public service delivery, infrastructure development and production of goods for domestic or export markets is essential. Oil based revenues must be used for the creation of productive assets and improvement of sector productivity rather than for consumption.

[1] Government of the Republic of South Sudan. 2011. *South Sudan Development Plan 2011-2013*. Juba: GRSS.

1.1.1.2 Predicted contribution to GDP by sector

Table 1-2 shows the predicted GDP by sector using the growth rates in Table 1-1; it is presented graphically in Figure 1-1. Table 1-3 shows the predicted contribution to the GDP by each sector and is derived from Table 1-2.

Figure 1-1: Predicted GDP by sector



Source: NBS, IMF, AfDB, FAO and CAMP TT

Currently the oil sector is a dominant feature of GDP. At the time of independence in 2011 the oil sector contributed half of the national GDP. However, its contribution to the GDP is expected to reduce to less than a tenth of its initial value by the end of the CAMP implementation period, with an average annual growth rate of -8.7%.

Also significant is the shrinking size of the national economy in phases I and phase II (Table 1-2). Negative GDP growth ends in 2026 (phase III) at SSP22,637 million which is 74% of the GDP in 2015. After 2026, the GDP is forecasted to grow due to the predicted high GDP growth of non-oil sectors. Positive GDP growth continues until the end of CAMP implementation (2039), when the predicted national GDP is SSP 35,936 million or 118% of the initial year GDP. By 2039, the oil sector GDP is only 9% of its initial value; the agriculture sector GDP reaches SSP 11,479 million or 290% of its initial value; the other non-oil sectors grow to 335% of their initial value; and the government sector shows moderate growth of 177%.

The oil sector's contribution to the GDP is predicted to decline to 4% in the final year of CAMP implementation, from 58% in the first year (Table 1-3). On the other hand, the GDP contribution of other sectors increases. The agriculture sector GDP contribution increases from 13% to 32%. The contributions of the other non-oil sectors triple in this time period. The contribution of the government grows moderately from 15% to 22%. By the end of CAMP implementation, the largest contribution to the GDP is by the agriculture sector (32%).

Table 1-2: Predicted GDP by sector

CAMP period	Year	Fiscal Year (After 2012 FY starts July and ends June)	Gross domestic product (GDP) at 2009 constant price (Million SSP)											
			Oil GDP	Non-oil GDP										Total
				Government activities	Non-profit institutions	Other activities							Sub-total	
						Agriculture, livestock, forestry and fisheries	Trade, hotels and restaurants	Manufacturing and mining	Transport and communication	Construction	Other services	Sub-total		
	2008	2008	13,313	2,827	135	**4,713**	1,918	1,170	975	715	481	9,972	12,934	26,247
	2009	2009	14,792	2,988	220	**4,432**	1,804	1,100	917	673	453	9,379	12,587	27,379
	2010	2010	14,475	3,427	180	***4,940***	*2,010*	*1,226*	*1,022*	*749*	*504*	10,452	14,059	28,533
	2011	2011	14,325	3,760	91	**5,155**	2,098	1,280	1,067	782	526	10,908	14,759	29,084
	2012	2012/13	*5,128*	2,526	101	**3,534**	1,438	877	731	536	361	7,477	10,104	15,232
	2013	2013/14	*7,874*	2,900	97	**3,838**	1,562	953	794	582	392	8,121	11,118	18,992
	2014	2014/15	*14,899*	4,047	88	**3,842**	1,563	954	795	583	392	8,130	12,265	27,163
Phase I	2015	2015/16	*17,661*	4,452	90	**3,958**	1,610	983	819	600	404	8,374	12,916	30,577
	2016	2016/17	*16,914*	4,496	94	**4,076**	1,675	1,022	852	624	420	8,669	13,259	30,174
	2017	2017/18	*15,066*	4,541	98	**4,199**	1,742	1,063	886	649	437	8,975	13,614	28,680
	2018	2018/19	*13,349*	4,587	101	**4,325**	1,811	1,105	921	675	455	9,293	13,981	27,330
	2019	2019/20	*11,865*	4,632	106	**4,454**	1,884	1,149	958	702	473	9,621	14,359	26,224
Phase II	2020	2020/21	*10,530*	4,679	110	**4,588**	1,959	1,195	996	731	492	9,961	14,750	25,279
	2021	2021/22	*9,166*	4,725	114	**4,771**	2,057	1,255	1,046	767	516	10,413	15,253	24,419
	2022	2022/23	*7,959*	4,773	119	**4,962**	2,160	1,318	1,098	805	542	10,886	15,778	23,737
	2023	2023/24	*6,914*	4,820	123	**5,161**	2,268	1,384	1,153	846	569	11,381	16,325	23,240
	2024	2024/25	*5,943*	4,869	128	**5,367**	2,381	1,453	1,211	888	598	11,899	16,896	22,838
Phase III	2025	2025/26	*5,237*	4,917	134	**5,582**	2,501	1,526	1,271	932	627	12,440	17,491	22,728
	2026	2026/27	*4,421*	5,016	139	**5,861**	2,626	1,602	1,335	979	659	13,062	18,216	22,637
	2027	2027/28	*3,783*	5,116	144	**6,154**	2,757	1,682	1,402	1,028	692	13,715	18,975	22,758
	2028	2028/29	*3,230*	5,218	150	**6,462**	2,895	1,766	1,472	1,079	726	14,401	19,769	22,999
	2029	2029/30	*2,766*	5,323	156	**6,785**	3,039	1,855	1,545	1,133	763	15,121	20,600	23,365
Phase IV	2030	2030/31	*2,492*	5,429	163	**7,124**	3,191	1,947	1,623	1,190	801	15,877	21,468	23,960
	2031	2031/32	*2,212*	5,592	171	**7,480**	3,383	2,064	1,720	1,261	849	16,758	22,521	24,733
	2032	2032/33	*2,130*	5,760	179	**7,854**	3,586	2,188	1,823	1,337	900	17,689	23,628	25,758
	2033	2033/34	*1,842*	5,990	188	**8,247**	3,801	2,319	1,933	1,417	954	18,672	24,850	26,692
	2034	2034/35	*1,755*	6,230	198	**8,659**	4,029	2,458	2,049	1,502	1,011	19,709	26,137	27,891
	2035	2035/36	*1,562*	6,479	207	**9,092**	4,271	2,606	2,172	1,592	1,072	20,805	27,492	29,053
	2036	2036/37	*1,533*	6,803	220	**9,638**	4,527	2,762	2,302	1,688	1,136	22,054	29,076	30,609
	2037	2037/38	*1,533*	7,143	233	**10,216**	4,799	2,928	2,440	1,789	1,204	23,377	30,753	32,286
	2038	2038/39	*1,533*	7,500	247	**10,829**	5,087	3,104	2,586	1,897	1,276	24,779	32,527	34,060
	2039	2039/40	*1,533*	7,875	262	**11,479**	5,392	3,290	2,742	2,010	1,353	26,266	34,403	35,936

Note: Agricultural sector values are indicated by bold numbers.
Source: NBS (underlined values); IMF (double underlined values); AfDB (double underlined Italic values); South Sudan Development Plan. 2011 (underlined Italic values); CAMP TT (normal typeface values)

Table 1-3: Predicted contribution to GDP by sector

CAMP period	Year	Fiscal Year (After 2012 FY starts July and ends June)	Gross domestic product (GDP) (constant price at 2009)											
			Oil GDP	Non-oil GDP										Total
				Government activities	Non-profit institutions	Other activities							Sub-total	
						Agriculture, livestock, forestry and fisheries	Trade, hotels and restaurants	Manufacturing and mining	Transport and communication	Construction	Other services	Sub-total		
	2008	2008	51%	11%	1%	**18%**	7%	4%	4%	3%	2%	38%	49%	100%
	2009	2009	54%	11%	1%	**16%**	7%	4%	3%	2%	2%	34%	46%	100%
	2010	2010	51%	12%	1%	***17%***	*7%*	*4%*	*4%*	*3%*	*2%*	37%	49%	100%
	2011	2011	49%	13%	0%	**18%**	7%	4%	4%	3%	2%	38%	51%	100%
	2012	2012/13	*34%*	17%	1%	**23%**	9%	6%	5%	4%	2%	49%	66%	100%
	2013	2013/14	*41%*	15%	1%	**20%**	8%	5%	4%	3%	2%	43%	59%	100%
	2014	2014/15	*55%*	15%	0%	**14%**	6%	4%	3%	2%	1%	30%	45%	100%
Phase I	2015	2015/16	*58%*	15%	0%	**13%**	5%	3%	3%	2%	1%	27%	42%	100%
	2016	2016/17	*56%*	15%	0%	**14%**	6%	3%	3%	2%	1%	29%	44%	100%
	2017	2017/18	*53%*	16%	0%	**15%**	6%	4%	3%	2%	2%	31%	47%	100%
	2018	2018/19	*49%*	17%	0%	**16%**	7%	4%	3%	2%	2%	34%	51%	100%
	2019	2019/20	*45%*	18%	0%	**17%**	7%	4%	4%	3%	2%	37%	55%	100%
Phase II	2020	2020/21	*42%*	19%	0%	**18%**	8%	5%	4%	3%	2%	39%	58%	100%
	2021	2021/22	*38%*	19%	0%	**20%**	8%	5%	4%	3%	2%	43%	62%	100%
	2022	2022/23	*34%*	20%	1%	**21%**	9%	6%	5%	3%	2%	46%	66%	100%
	2023	2023/24	*30%*	21%	1%	**22%**	10%	6%	5%	4%	2%	49%	70%	100%
	2024	2024/25	*26%*	21%	1%	**24%**	10%	6%	5%	4%	3%	52%	74%	100%
Phase III	2025	2025/26	*23%*	22%	1%	**25%**	11%	7%	6%	4%	3%	55%	77%	100%
	2026	2026/27	*20%*	22%	1%	**26%**	12%	7%	6%	4%	3%	58%	80%	100%
	2027	2027/28	*17%*	22%	1%	**27%**	12%	7%	6%	5%	3%	60%	83%	100%
	2028	2028/29	*14%*	23%	1%	**28%**	13%	8%	6%	5%	3%	63%	86%	100%
	2029	2029/30	*12%*	23%	1%	**29%**	13%	8%	7%	5%	3%	65%	88%	100%
Phase IV	2030	2030/31	*10%*	23%	1%	**30%**	13%	8%	7%	5%	3%	66%	90%	100%
	2031	2031/32	*9%*	23%	1%	**30%**	14%	8%	7%	5%	3%	68%	91%	100%
	2032	2032/33	*8%*	22%	1%	**30%**	14%	8%	7%	5%	3%	69%	92%	100%
	2033	2033/34	*7%*	22%	1%	**31%**	14%	9%	7%	5%	4%	70%	93%	100%
	2034	2034/35	*6%*	22%	1%	**31%**	14%	9%	7%	5%	4%	71%	94%	100%
	2035	2035/36	*5%*	22%	1%	**31%**	15%	9%	7%	5%	4%	72%	95%	100%
	2036	2036/37	*5%*	22%	1%	**31%**	15%	9%	8%	6%	4%	72%	95%	100%
	2037	2037/38	*5%*	22%	1%	**32%**	15%	9%	8%	6%	4%	72%	95%	100%
	2038	2038/39	*5%*	22%	1%	**32%**	15%	9%	8%	6%	4%	73%	95%	100%
	2039	2039/40	*4%*	22%	1%	**32%**	15%	9%	8%	6%	4%	73%	96%	100%

Note: Agricultural sector values are indicated by bold numbers.
Source: NBS (underlined values); IMF (double underlined values); AfDB (double underlined Italic values); South Sudan Development Plan. 2011 (underlined Italic values); CAMP TT (normal typeface values)

1.1.1.3 Predicted GDP per capita by sector

Table 1-4 shows the predicted GDP per capita based on Table 1-2. It was assumed that the annual population growth was 2%. All estimated values are presented at 2009 constant prices and SSP/USD exchange rate (2.31). Predicted GDP per capita declines from its highest value (USD 1,201) in 2015 to its lowest value (USD 696) in 2029. It then increases to USD 878 in 2039 which is 75% of its initial value. This will almost certainly lead to physical and food insecurity, which will need to be addressed by increased public investment in the non-oil sectors to accelerate the growth of the economy.

Table 1-4: Predicted GDP per capita by sector

CAMP period	Year	Fiscal Year	Population[*1]	growth	GDP (million SSD at 2009 price)	growth	GDP per capita (in SSP at 2009 price)	SSD/ USD 2009 rate	GDP per capita in USD (at 2009 rate)	growth
	2008	2008	8,473,315		26,247		3,098	2.31	**1,341**	
	2009	2009	8,940,854	5.52%	27,379	4.31%	3,062	2.31	**1,326**	-1.14%
	2010	2010	9,415,421	5.31%	28,533	4.22%	3,030	2.31	**1,312**	-1.04%
	2011	2011	9,897,118	5.12%	29,084	1.93%	2,939	2.31	**1,272**	-3.03%
	2012	2012/13	10,386,000	4.94%	15,232	-47.63%	1,467	2.31	**635**	-50.09%
	2013	2013/14	10,594,000	2.00%	18,992	24.68%	1,793	2.31	**776**	22.24%
	2014	2014/15	10,806,000	2.00%	27,163	43.02%	2,514	2.31	**1,088**	40.22%
Phase I	2015	2015/16	11,022,000	2.00%	30,577	12.57%	2,774	2.31	**1,201**	10.36%
	2016	2016/17	11,242,000	2.00%	30,174	-1.32%	2,684	2.31	**1,162**	-3.25%
	2017	2017/18	11,467,000	2.00%	28,680	-4.95%	2,501	2.31	**1,083**	-6.81%
	2018	2018/19	11,696,000	2.00%	27,330	-4.71%	2,337	2.31	**1,012**	-6.57%
	2019	2019/20	11,929,920	2.00%	26,224	-4.05%	2,198	2.31	**952**	-5.93%
Phase II	2020	2020/21	12,168,518	2.00%	25,279	-3.60%	2,077	2.31	**899**	-5.49%
	2021	2021/22	12,411,889	2.00%	24,419	-3.40%	1,967	2.31	**852**	-5.30%
	2022	2022/23	12,660,127	2.00%	23,737	-2.79%	1,875	2.31	**812**	-4.70%
	2023	2023/24	12,913,329	2.00%	23,240	-2.10%	1,800	2.31	**779**	-4.02%
	2024	2024/25	13,171,596	2.00%	22,838	-1.73%	1,734	2.31	**751**	-3.65%
Phase III	2025	2025/26	13,435,028	2.00%	22,728	-0.48%	1,692	2.31	**732**	-2.44%
	2026	2026/27	13,703,728	2.00%	22,637	-0.40%	1,652	2.31	**715**	-2.35%
	2027	2027/28	13,977,803	2.00%	22,758	0.53%	1,628	2.31	**705**	-1.44%
	2028	2028/29	14,257,359	2.00%	22,999	1.06%	1,613	2.31	**698**	-0.92%
	2029	2029/30	14,542,506	2.00%	23,365	1.59%	1,607	2.31	**696**	-0.40%
Phase IV	2030	2030/31	14,833,356	2.00%	23,960	2.54%	1,615	2.31	**699**	0.53%
	2031	2031/32	15,130,023	2.00%	24,733	3.23%	1,635	2.31	**708**	1.20%
	2032	2032/33	15,432,624	2.00%	25,758	4.14%	1,669	2.31	**723**	2.10%
	2033	2033/34	15,741,276	2.00%	26,692	3.63%	1,696	2.31	**734**	1.59%
	2034	2034/35	16,056,102	2.00%	27,891	4.49%	1,737	2.31	**752**	2.45%
	2035	2035/36	16,377,224	2.00%	29,053	4.17%	1,774	2.31	**768**	2.12%
	2036	2036/37	16,704,768	2.00%	30,609	5.36%	1,832	2.31	**793**	3.29%
	2037	2037/38	17,038,863	2.00%	32,286	5.48%	1,895	2.31	**820**	3.41%
	2038	2038/39	17,379,641	2.00%	34,060	5.49%	1,960	2.31	**848**	3.43%
	2039	2039/40	17,727,234	2.00%	35,936	5.51%	2,027	2.31	**878**	3.44%

Note: Agricultural sector values are indicated by bold numbers.
Source: NBS (underlined values); IMF (double underlined values); AfDB (double underlined Italic values); SouthSudan Development Plan. 2011 (underlined Italic values); CAMP TT (normal typeface values)

1.1.2 Funding availability scenarios

1.1.2.1 Predicted government expenditures and development partner support

To predict funds available for CAMP implementation, future government expenditures were estimated based on the following assumptions:

- Government revenues, and hence expenditures, will grow (or shrink) at the same rate as the GDP (overall economic growth rate in Table 1-1).[2]
- Development partner contributions will grow at a constant economic growth rate of 1% for developed countries.
- Execution rates of government budget and development partner commitments are assumed to be 95% and 70%.
- Predicted total expenditures are based on the average government budget and donor commitments for 2011/12 and 2012/13, using the execution rates above. Predictions are shown in 2011/12 constant prices.
- Development expenditures for the national government are predicted by assuming that initially 95% are recurrent expenditures and 5% development. This reflects the fact that currently the government is generally able to finance recurrent expenditures (salaries etc.) but has limited funds to allow its employees to carry out activities to develop South Sudan (hence the term development budget/expenditures)
- The average percentage of total expenditures in 2011/12 and 2012/13 allocated to the agriculture sector was 2.3%, which is based on the percentage of the budget allocated to the sector in those years.[3, 4] This figure includes recurrent and development expenditures, so only 0.12% of national total expenditure was allocated to agriculture sector development.
- All development partner contributions are considered development expenditures.
- Predicted development expenditures for security expenditure is performed by subtracting the salary and pension costs. This is due to unavailability of security expenditure details.[5]
- The number of government officers is constant (no increase or decrease in size of government) and so recurrent expenditures are generally constant throughout CAMP implementation.

Predicted government expenditures and development partner support is shown in Table 1-5. Development expenditure for all sectors (except security) is predicted to decline consistently to become minimal in 2026/27 (phase III) and then grows rapidly. A total of SSP 26,861 million is available for non-security development expenditure over the 25 years of CAMP implementation. During this period, SSP 96,769 million is available for security development expenditures. Development partner support to development expenditures is expected to be stable and increase gradually for a total of SSP 8,939 million during this period.

[2] In this section, to predict government expenditures the overall GDP growth rate is used. However in Table 1-1 a different growth rate is used for the government sector. In theory they should be identical. However, due to limited availability of information a simple model is used. In the future a better model and data could be used.

[3] MoFEP. 2011. *Approved Budget Book 2011/12*. Juba: GRSS.

[4] MoFEP. 2012. *Approved Budget Book 2012/13*. Juba: GRSS.

[5] Development expenditure from security expenditure is double counted: 1) as the remainder of security expenditure after salary and pension costs are deducted, 2) as 5% of government total expenditure, which includes security salary and pension costs. However, the resulting funds available to the agriculture sector from this double counting are small.

Table 1-5: Predicted government expenditures and development partner support

CAMP period	Fiscal year	Econ. growth rate		Government's expenditure forecasts									DPs
		Assumed national econ. growth rate	Assumed econ. growth rate in developed countries	National expenditure forecast						National security expenditure forecast (excluding salary and pension)			Support to ag. sector
				Government total expenditure		Recurrent expenditure		Development expenditure					
				Value	Growth value	Value	% to g. total	Value	% to gov. total	Value	% to gov. total	Growth value	Value
		%	%	Mill.SSP	Mill.SSP	Mill.SSP	%	Mill.SSP	%	Mill.SSP	%	Mill.SSP	Mill.SSP
		a (assumed values)	*b (assumed values)*	$c_t=c_{t-1}$ *$(1+a_t)$	$d_t=c_t-c_{t-1}$	e=c*f	f=e/c (assumed values)	g=c-e	h=g/c	$i_t=i_{t-1}$ *$(1+a_t)$	j=i/c	$k_t=i_t-i_{t-1}$	$l_t=l_{t-1}$ *$(1+b_t)$
	Start value[*1]			6,851						**2,207**			**307**
	2013/14	24.7%	1.0%	8,542	1,691	8,115	95%	**427**	5%	**2,751**	32%	545	**310**
	2014/15	43.0%	1.0%	12,217	3,675	11,606	95%	**611**	5%	**3,935**	32%	1,184	**313**
Phase I	2015/16	12.6%	1.0%	13,752	1,535	13,064	95%	**688**	5%	**4,430**	32%	494	**317**
Phase I	2016/17	-1.3%	1.0%	13,570	-181	12,892	95%	**679**	5%	**4,371**	32%	-58	**320**
Phase I	2017/18	-4.9%	1.0%	12,899	-672	12,254	95%	**645**	5%	**4,155**	32%	-216	**323**
Phase I	2018/19	-4.7%	1.0%	12,291	-607	11,677	95%	**615**	5%	**3,959**	32%	-196	**326**
Phase I	2019/20	-4.0%	1.0%	11,794	-498	11,322	96%	**472**	4%	**3,799**	32%	-160	**329**
Phase II	2020/21	-3.6%	1.0%	11,369	-425	10,914	96%	**455**	4%	**3,662**	32%	-137	**333**
Phase II	2021/22	-3.4%	1.0%	10,982	-387	10,653	97%	**329**	3%	**3,538**	32%	-125	**336**
Phase II	2022/23	-2.8%	1.0%	10,676	-307	10,355	97%	**320**	3%	**3,439**	32%	-99	**339**
Phase II	2023/24	-2.1%	1.0%	10,452	-224	10,243	98%	**209**	2%	**3,367**	32%	-72	**343**
Phase II	2024/25	-1.7%	1.0%	10,271	-180	10,066	98%	**205**	2%	**3,309**	32%	-58	**346**
Phase III	2025/26	-0.5%	1.0%	10,222	-50	10,119	99%	**102**	1%	**3,293**	32%	-16	**350**
Phase III	2026/27	-0.4%	1.0%	10,181	-41	10,181	100%			**3,279**	32%	-13	**353**
Phase III	2027/28	0.5%	1.0%	10,235		10,133	99%	**102**	1%	**3,297**	32%	18	**357**
Phase III	2028/29	1.1%	1.0%	10,344	108	10,137	98%	**207**	2%	**3,332**	32%	35	**360**
Phase III	2029/30	1.6%	1.0%	10,508	273	10,298	98%	**210**	2%	**3,385**	32%	53	**364**
Phase IV	2030/31	2.5%	1.0%	10,776	540	10,453	97%	**323**	3%	**3,471**	32%	86	**367**
Phase IV	2031/32	3.2%	1.0%	11,123	888	10,790	97%	**334**	3%	**3,583**	32%	112	**371**
Phase IV	2032/33	4.1%	1.0%	11,584	1,349	11,000	95%	**584**	5%	**3,732**	32%	149	**375**
Phase IV	2033/34	3.6%	1.0%	12,004	1,769	11,000	92%	**1,004**	8%	**3,867**	32%	135	**379**
Phase IV	2034/35	4.5%	1.0%	12,544	2,309	11,000	88%	**1,544**	12%	**4,041**	32%	174	**382**
Phase IV	2035/36	4.2%	1.0%	13,066	2,831	11,000	84%	**2,066**	16%	**4,209**	32%	168	**386**
Phase IV	2036/37	5.4%	1.0%	13,766	3,531	11,000	80%	**2,766**	20%	**4,434**	32%	225	**390**
Phase IV	2037/38	5.5%	1.0%	14,520	4,285	11,000	76%	**3,520**	24%	**4,677**	32%	243	**394**
Phase IV	2038/39	5.5%	1.0%	15,318	5,083	11,000	72%	**4,318**	28%	**4,934**	32%	257	**398**
Phase IV	2039/40	5.5%	1.0%	16,162	5,927	11,000	68%	**5,162**	32%	**5,206**	32%	272	**402**
Total				300,412		273,551		**26,861**		**96,769**			**8,939**
Average		1.2%	1.0%				91%		9%		32%		

Source: CAMP TT
Note: 1) Start value is the average estimated national expenditures of FY 2011/12 and 2012/13. 2) Total and average values are calculated for CAMP period only.

1.1.2.2 Policy scenarios

Three policy scenarios are proposed to establish three corresponding funding availability scenarios.

Business as usual scenario: Only 0.12% (estimated percentage allocated in fiscal years 2011/12 and 2012/13) of total national expenditure will be allocated to agriculture sector development each year of the CAMP implementation period. In this case, the government does not recognise the importance of the agriculture sector and expenditure allocation will not change during CAMP implementation.

Economic dividend scenario: 5% of additional funds generated from economic growth is moved to the agriculture sector during the period of positive expenditure growth (i.e. from FY2027/28 to FY2039/40 of the CAMP period). The government recognises the importance of agriculture sector investment and significantly increases its allocation once economic growth, and hence government expenditures, becomes positive.

Peace dividend scenario: In addition to the increments in the economic dividend scenario, security expenditures (excluding salaries and pensions) are moved to the agriculture sector. The

shifts will increase gradually: 1% of security development expenditure in the 1st year, 2% in the 6th, 3% in the 11th, 4% in the 16th and 5% in the 21st. The government recognises the importance of agriculture sector investment and its urgency, and sets policy that, as political stability and peace is restored, immediately moves resources from the security to agriculture sector.

Only development expenditure will shift from other sectors to the agriculture sector; no recurrent expenditures or government officers are moved to the CAMP implementing ministries.

1.1.2.3 Predicted funds available to agriculture sector under all three scenarios

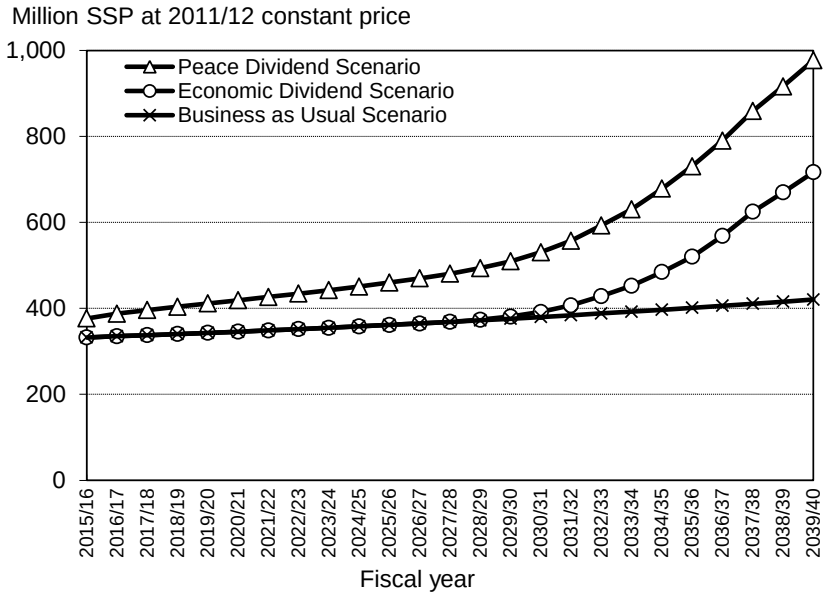
Based on projected government and development partner expenditures (Table 1-5) and the policy scenarios described, the funds available to the agriculture sector over the 25 years of CAMP implementation are calculated for all three funding availability scenarios. Results of the calculation are shown in in Table 1-6 and Figure 1-2. In the case of the business as usual scenario, USD 2,322 million is available; 4% is financed by the government and 96% by development partners. On the other hand, USD 3,456 million is available in the peace dividend scenario; the government contribution is 35% and the development partners' is 65%. The peace dividend scenario shows the highest overall allocation of funds to the development of the sector and the most percentage contribution from the government.

Table 1-6: Predicted funds available to agriculture sector under all three scenarios

CAMP period	Fiscal year	SSP and USD equivalent (Ex=SSP/USD= 4.00)						GRSS/DP contribution ratio					
		Business as Usual Scenario		Economic Dividend Scenario		Peace Dividend Scenario		Business as Usual Scenario		Economic Dividend Scenario		Peace Dividend Scenario	
		Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	GRSS	DP	GRSS	DP	GRSS	DP
		a	b=a/Ex	c	d=c/Ex	e	f=e/Ex	g	h	i	j	k	l
Phase I	2015/16	332	83	332	83	377	94	5%	95%	5%	95%	16%	84%
	2016/17	335	84	335	84	388	97	5%	95%	5%	95%	18%	82%
	2017/18	338	84	338	84	396	99	4%	96%	4%	96%	18%	82%
	2018/19	340	85	340	85	404	101	4%	96%	4%	96%	19%	81%
	2019/20	343	86	343	86	411	103	4%	96%	4%	96%	20%	80%
Phase II	2020/21	346	86	346	86	419	105	4%	96%	4%	96%	21%	79%
	2021/22	349	87	349	87	427	107	4%	96%	4%	96%	21%	79%
	2022/23	352	88	352	88	434	109	4%	96%	4%	96%	22%	78%
	2023/24	355	89	355	89	442	111	3%	97%	3%	97%	23%	77%
	2024/25	358	90	358	90	451	113	3%	97%	3%	97%	23%	77%
Phase III	2025/26	361	90	361	90	460	115	3%	97%	3%	97%	24%	76%
	2026/27	365	91	365	91	470	117	3%	97%	3%	97%	25%	75%
	2027/28	368	92	368	92	481	120	3%	97%	3%	97%	26%	74%
	2028/29	372	93	374	93	494	123	3%	97%	4%	96%	27%	73%
	2029/30	376	94	381	95	510	127	3%	97%	4%	96%	29%	71%
Phase IV	2030/31	380	95	392	98	531	133	3%	97%	6%	94%	31%	69%
	2031/32	384	96	407	102	558	139	3%	97%	9%	91%	33%	67%
	2032/33	388	97	429	107	593	148	3%	97%	13%	87%	37%	63%
	2033/34	392	98	453	113	630	158	4%	96%	16%	84%	40%	60%
	2034/35	397	99	485	121	679	170	4%	96%	21%	79%	44%	56%
	2035/36	401	100	520	130	731	183	4%	96%	26%	74%	47%	53%
	2036/37	406	101	568	142	790	198	4%	96%	31%	69%	51%	49%
	2037/38	411	103	625	156	859	215	4%	96%	37%	63%	54%	46%
	2038/39	416	104	670	167	916	229	4%	96%	41%	59%	57%	43%
	2039/40	421	105	717	179	977	244	4%	96%	44%	56%	59%	41%
Total		9,287	2,322	10,562	2,641	13,826	3,456	4%	96%	15%	85%	35%	65%

Source: CAMP TT

Figure 1-2: Predicted funds available to agriculture sector under all three scenarios



Source: CAMP TT

1.1.2.4 Suggested allocation of funds to subsectors

The suggested allocation of funds to subsectors is presented in Table 1-7. The long term target allocation rates are for MAFCRD 1) ID 13% 2) crop 30%, 3) forestry 12% and for MFLI 1) ID 7%, 2) livestock 28% 3) fisheries 10%. Initial allocation rates for 2015/2016 were estimated from the percentage allocated to each subsector in the 2011/12 and 2012/13 government budget and development partner commitments. Subesequent rates were determined based on the future estimated share of GDP by the subsectors. For example, initially the crop subsector will have a large allocation (91%) but the target allocation will be achieved by 2026/27 in phase III.

Table 1-7: Suggested allocation of funds to subsectors

CAMP period	Fiscal year	Allocation rates of the subsectors (excluding irrigation subsector)								
		MAFCRD and Agriculture Bank				MLFI				Total
		ID	Crop	Forestry	Total	ID	Livestock	Fisheries	Total	
		% to Total	% to Total	% to Total	% to Total	% to Total	% to Total	% to Total	% to Total	%
Phase I	2015/16	1%	91%	3%	**95%**	1%	2%	2%	**5%**	**100%**
	2016/17	1%	89%	3%	**93%**	1%	3%	3%	**7%**	**100%**
	2017/18	2%	85%	3%	**90%**	2%	4%	4%	**10%**	**100%**
	2018/19	3%	80%	4%	**87%**	2%	7%	4%	**13%**	**100%**
	2019/20	3%	75%	5%	**83%**	2%	11%	4%	**17%**	**100%**
Phase II	2020/21	4%	69%	6%	**79%**	2%	14%	5%	**21%**	**100%**
	2021/22	4%	63%	7%	**74%**	3%	18%	5%	**26%**	**100%**
	2022/23	5%	57%	8%	**70%**	3%	21%	6%	**30%**	**100%**
	2023/24	7%	51%	9%	**67%**	4%	22%	7%	**33%**	**100%**
	2024/25	9%	44%	10%	**63%**	5%	24%	8%	**37%**	**100%**
Phase III	2025/26	11%	37%	11%	**59%**	6%	26%	9%	**41%**	**100%**
	2026/27	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2027/28	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2028/29	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2029/30	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
Phase IV	2030/31	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2031/32	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2032/33	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2033/34	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2034/35	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2035/36	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2036/37	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2037/38	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2038/39	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
	2039/40	13%	30%	12%	**55%**	7%	28%	10%	**45%**	**100%**
Target allocation rates		**13%**	**30%**	**12%**	**55%**	**7%**	**28%**	**10%**	**45%**	**100%**

Source: CAMP TT

1.1.2.5 Predicted total funds allocated to subsectors under all three scenarios

The ratio of total funds allocated to each subsector is similar in all three scenarios (Table 1-8). For example, in the peace dividend scenario, total funds of SSP 13,826 million (USD 3,456 million) are allocated as follows: for MAFCRD 1) institutional development 10%, 2) crop 42%, 3) forestry 10%, and for MLFI 1) institutional development 6%, 2) livestock 23%, fisheries 8%. Initially, due to the expected large share of GDP of the crop and livestock subsectors, a larger proportion of funds was allocated to these 2 subsectors.

For CAMP implementation, the peace dividend scenario is recommended as the government's policy and funding availability scenario.

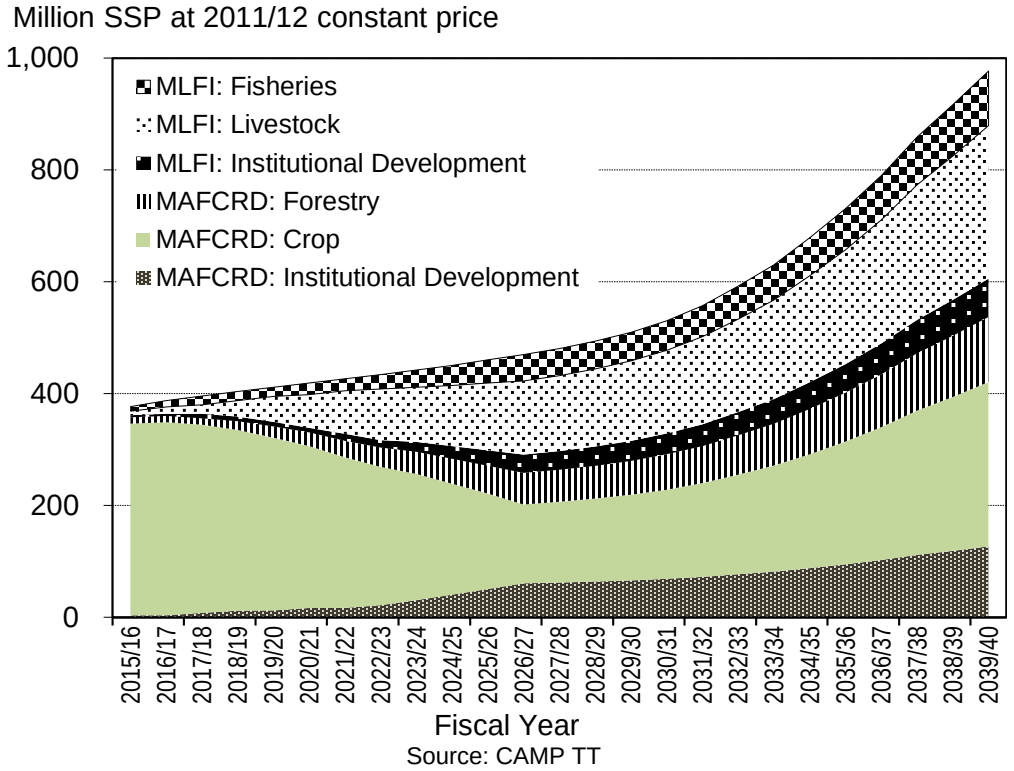
Table 1-8: Predicted total funds allocated to subsectors under all three scenarios

(SSP/USD=4.00)

Scenarios		Business as Usual Scenario			Economic Dividend Scenario			Peace Dividend Scenario		
		SSP Million	USD Million	% to total	SSP Million	USD Million	% to total	SSP Million	USD Million	% to total
MAFCRD and AB	Institutional Development	888	222	10%	1,054	264	10%	1,416	354	10%
	Crop Subsector	4,192	1,048	45%	4,574	1,144	43%	5,821	1,455	42%
	Forestry Subsector	899	225	10%	1,052	263	10%	1,403	351	10%
	Sub-total	5,979	1,495	64%	6,681	1,670	63%	8,639	2,160	62%
MLFI	Institutional Development	492	123	5%	582	145	6%	779	195	6%
	Livestock Subsector	2,068	517	22%	2,426	606	23%	3,241	810	23%
	Fisheries Subsector	747	187	8%	875	219	8%	1,166	292	8%
	Sub-total	3,308	827	36%	3,882	970	37%	5,186	1,297	38%
Total		9,287	2,322	100%	10,562	2,641	100%	13,826	3,456	100%

Source: CAMP TT

Figure 1-3: Predicted funds allocated to subsectors under peace dividend scenario



Source: CAMP TT

Table 1-9: Predicted funds allocated to subsectors under peace dividend scenario

(SSP/USD= 4.00)

CAMP period	Fiscal year	Predicted funds allocated to subsectors																	
		MAFCRD and Agriculture Bank								MLFI								Total		
		ID		Crop		Forestry		Total		ID		Livestock		Fisheries		Total				
		Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	Mill. SSP	Mill. USD	% growth
Phase I	2015/16	4	1	343	86	11	3	**358**	**89**	4	1	8	2	8	2	**19**	**5**	**377**	**94**	
	2016/17	4	1	345	86	12	3	**361**	**90**	4	1	12	3	12	3	**27**	**7**	**388**	**97**	3.0%
	2017/18	8	2	337	84	12	3	**356**	**89**	8	2	16	4	16	4	**40**	**10**	**396**	**99**	2.1%
	2018/19	12	3	323	81	16	4	**351**	**88**	8	2	28	7	16	4	**52**	**13**	**404**	**101**	1.9%
	2019/20	12	3	309	77	21	5	**341**	**85**	8	2	45	11	16	4	**70**	**17**	**411**	**103**	1.9%
Phase II	2020/21	17	4	289	72	25	6	**331**	**83**	8	2	59	15	21	5	**88**	**22**	**419**	**105**	1.9%
	2021/22	17	4	269	67	30	7	**316**	**79**	13	3	77	19	21	5	**111**	**28**	**427**	**107**	1.8%
	2022/23	22	5	248	62	35	9	**304**	**76**	13	3	91	23	26	7	**130**	**33**	**434**	**109**	1.8%
	2023/24	31	8	226	56	40	10	**296**	**74**	18	4	97	24	31	8	**146**	**36**	**442**	**111**	1.9%
	2024/25	41	10	198	50	45	11	**284**	**71**	23	6	108	27	36	9	**167**	**42**	**451**	**113**	1.9%
Phase III	2025/26	51	13	170	43	51	13	**272**	**68**	28	7	120	30	41	10	**189**	**47**	**460**	**115**	2.1%
	2026/27	61	15	141	35	56	14	**258**	**65**	33	8	132	33	47	12	**211**	**53**	**470**	**117**	2.1%
	2027/28	62	16	144	36	58	14	**264**	**66**	34	8	135	34	48	12	**216**	**54**	**481**	**120**	2.3%
	2028/29	64	16	148	37	59	15	**272**	**68**	35	9	138	35	49	12	**222**	**56**	**494**	**123**	2.7%
	2029/30	66	17	153	38	61	15	**280**	**70**	36	9	143	36	51	13	**229**	**57**	**510**	**127**	3.2%
Phase IV	2030/31	69	17	159	40	64	16	**292**	**73**	37	9	149	37	53	13	**239**	**60**	**531**	**133**	4.1%
	2031/32	72	18	167	42	67	17	**307**	**77**	39	10	156	39	56	14	**251**	**63**	**558**	**139**	5.1%
	2032/33	77	19	178	44	71	18	**326**	**82**	42	10	166	42	59	15	**267**	**67**	**593**	**148**	6.3%
	2033/34	82	20	189	47	76	19	**347**	**87**	44	11	177	44	63	16	**284**	**71**	**630**	**158**	6.3%
	2034/35	88	22	204	51	81	20	**373**	**93**	47	12	190	47	68	17	**305**	**76**	**679**	**170**	7.6%
	2035/36	95	24	219	55	88	22	**402**	**100**	51	13	205	51	73	18	**329**	**82**	**731**	**183**	7.7%
	2036/37	103	26	237	59	95	24	**435**	**109**	55	14	221	55	79	20	**356**	**89**	**790**	**198**	8.1%
	2037/38	112	28	258	64	103	26	**472**	**118**	60	15	240	60	86	21	**386**	**97**	**859**	**215**	8.7%
	2038/39	119	30	275	69	110	27	**504**	**126**	64	16	257	64	92	23	**412**	**103**	**916**	**229**	6.7%
	2039/40	127	32	293	73	117	29	**537**	**134**	68	17	274	68	98	24	**440**	**110**	**977**	**244**	6.6%
Total investment		1,416	354	5,821	1,455	1,403	351	**8,639**	**2,160**	779	195	3,241	810	1,166	292	**5,186**	**1,297**	**13,826**	**3,456**	4.1%
% to Total		10%		42%		10%		**62%**		6%		23%		8%		**38%**		**100%**		

Source: CAMP TT

1.1.2.6 Predicted funds allocated to subsectors under peace dividend scenario

Table 1-9 and Figure 1-3 shows the predicted funds allocated to the agriculture subsectors under the peace dividend scenario. Initially 91% of available funds was allocated to the crop subsector, based on the 2011/12 and 2012/13 government budget and development partner commitments (Table 1-7). After that there is a decline in allocated funds until FY 2026/27. Over this period of time more funds are moved to other subsectors, in particular to institutional development projects, and to MLFI to finance livestock projects so as to increase its share of the GDP. The funding of projects in each subsector will be constrained by the annual funding allocations presented in Table 1-9.

1.2 Agriculture sector public investment under the peace dividend scenario

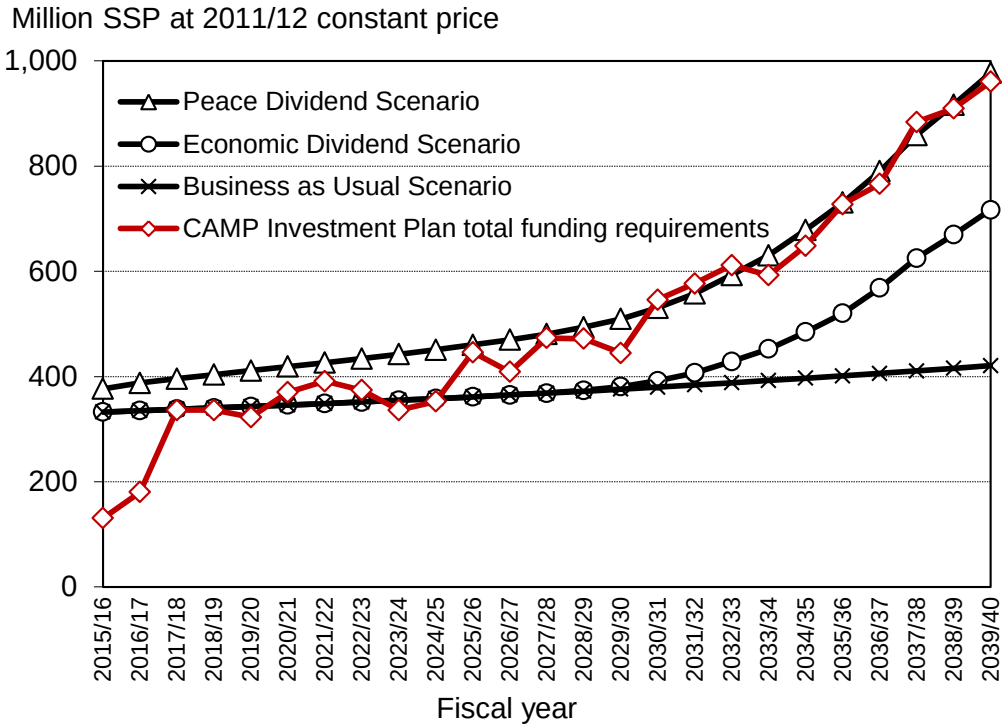
1.2.1 CAMP investment plan funding requirements

Projects are proposed in the CAMP investment plan as project profiles, where the costs to implement them are also estimated. These costs include a "project cost" to implement a project and a "scaling-up cost", which includes costs necessary to carry out routine activities and to scale-up and intensify activities, for example successful pilot schemes will be implemented in other locations. The "project cost" is presented in part 3 of each project profile in this annex, and the "scaling-up cost" is presented in the "Summary of annual project cost and scaling-up cost" section of each subsector. The "scaling-up cost" is estimated to be approximately twice the "project cost." These costs are the funding requirements for the CAMP investment plan.

The required costs could be met by funds made available under the peace dividend scenario. The selection of the other two policy scenarios does not yield sufficient funds for implementation (Figure 1-4). Therefore, the government's ability and determination to secure funds for CAMP

implementation by diverting funds from the security budget to agriculture sector development will be crucial for the success of agriculture development in South Sudan. In the CAMP investment plan (Table 1-10) it is estimated that it will cost USD 3,149 million to implement the CAMP projects, which is 91% of the total available funds (USD 3,456 million) under the peace dividend policy scenario.

Figure 1-4: CAMP investment plan funding requirements under three policy scenarios



Source: CAMP TT

1.2.2 Project and scaling-up costs

The funding requirements by subsector over the 25 year period of CAMP implementation are presented in Table 1-10. The total funding requirements of the CAMP investment plan are USD 3,149 million, consisting of project costs of USD 1,028 million (33%) and scaling-up costs of USD 2,121 million (67%). The institutional development subsector has the largest funding requirements of USD 852 million, followed by the crop (USD 747 million), forestry (USD 679 million), livestock (USD 469 million) and fisheries (USD 402 million) subsectors.

Project costs for all subsectors are relatively large in Phase I, with a rapid increase in Phase II, a gradual decline in Phase III, and reduced or phased out costs in Phase IV (Table 1-10). Large project costs need to be met in Phases I and II, which is where available funds are anticipated to be limited due to the expected decline in GDP and government revenues, and the limited increase in development partners' contributions throughout the CAMP period (1%/year). On the other hand the scaling-up costs show the opposite trend. They appear in Phase II, rapidly increase in Phase III, and further increase in Phase IV. This assumes a rapid expansion of routine work, and an increase in intensity and geographical coverage of public service delivery, based on service delivery models tested by implementation of the proposed projects.

The cost structure of the CAMP investment plan is summarised in Table 1-11. Fifty percent of the total costs of the CAMP investment plan are allocated to the cost group of "management and operation of project." Since half of these costs are incurred by “procurement of professional services (contracted)”, efficient and effective application of professional services and outsourcing will be key for a successful CAMP implementation. The cost group of "construction of infrastructure and procurement of equipment" is the second largest cost group (34%), with feeder roads

construction consuming half of the costs (14%). The remainder of the costs (15%) are incurred by the cost group "subsidies, equity and loans."

Table 1-10: CAMP investment plan funding requirements

SSP/USD = 4.00

CAMP period	Fiscal year	Funding requirement by subsectors (Million SSP)																				
		Crop			Livestock			Forestry			Fisheries			ID of two ministries			Total			% to grand total			
		Project costs	Scaling-up costs	Total	Project costs	Scaling-up costs	Total	Project costs	Scaling-up costs	Total	Project costs	Scaling-up costs	Total	Project costs	Scaling-up costs	Total	Project costs	Scaling-up costs	Grand total	Project costs	Scaling-up costs	Grand total	Phase total
Phase I	15/16	53		53	8		8	49	0	49	8		8	13		13	**131**	**0**	**131**	1%	0%	1%	
	16/17	74		74	9		9	64	2	66	12	0	12	19		19	**178**	**2**	**180**	1%	0%	1%	
	17/18	129		129	7		7	75	3	78	18	0	19	104		104	**333**	**3**	**336**	3%	0%	3%	10%
	18/19	112	3	115	7	3	10	75	3	78	20	0	20	108	3	112	**323**	**13**	**336**	3%	0%	3%	
	19/20	68	7	75	6	5	10	94	5	99	18	1	18	114	6	120	**300**	**23**	**323**	2%	0%	3%	
Phase II	20/21	59	32	91	62	5	67	69	6	76	15	3	18	112	7	118	**317**	**53**	**370**	3%	0%	3%	
	21/22	57	43	100	62	7	69	65	12	77	16	4	21	115	9	124	**316**	**75**	**391**	3%	1%	3%	
	22/23	40	41	81	63	6	70	59	20	79	21	11	31	101	11	113	**284**	**90**	**374**	2%	1%	3%	14%
	23/24	35	30	65	42	11	53	59	18	77	20	11	32	99	11	110	**255**	**81**	**336**	2%	1%	3%	
	24/25	44	28	72	36	11	46	59	28	87	26	12	39	97	12	109	**262**	**90**	**353**	2%	1%	3%	
Phase III	25/26	39	83	122	25	67	92	63	29	92	28	16	44	77	19	96	**233**	**213**	**446**	2%	2%	4%	
	26/27	19	88	107	16	59	76	65	22	87	27	19	46	77	16	93	**205**	**204**	**409**	2%	2%	3%	
	27/28	12	148	159	8	50	58	61	23	84	26	20	46	7	119	126	**113**	**360**	**473**	1%	3%	4%	18%
	28/29	9	140	149	8	49	57	57	27	84	23	23	46	1	135	136	**97**	**374**	**472**	1%	3%	4%	
	29/30	9	89	98	7	49	56	83	29	112	17	30	46	0	132	132	**116**	**329**	**445**	1%	3%	4%	
Phase IV	30/31	6	119	125	1	95	97	54	52	106	15	39	54	1	164	165	**76**	**469**	**546**	1%	4%	4%	
	31/32	2	109	112	1	104	105	49	64	113	19	49	68	1	179	180	**72**	**505**	**577**	1%	4%	5%	
	32/33	2	118	120	1	104	105	47	86	133	16	55	72		182	182	**66**	**546**	**612**	1%	4%	5%	24%
	33/34	2	111	113	1	92	93	47	71	118	29	61	90		179	179	**79**	**514**	**592**	1%	4%	5%	
	34/35	2	113	115	1	97	99	47	96	143	16	86	102		190	190	**67**	**582**	**649**	1%	5%	5%	
	35/36	1	139	139		133	133	44	123	168	16	95	111		177	177	**61**	**666**	**727**	0%	5%	6%	
	36/37	1	141	142		128	128	47	113	159	29	121	150		186	186	**77**	**689**	**766**	1%	5%	6%	
	37/38	1	227	228		131	131	43	128	171	16	128	144		209	209	**60**	**824**	**884**	0%	7%	7%	34%
	38/39	1	222	223		136	136	43	143	186	2	167	169		195	195	**46**	**864**	**910**	0%	7%	7%	
	39/40	1	179	180		162	162	43	152	194	2	199	201		222	222	**45**	**915**	**961**	0%	7%	8%	
Total		777	2,209	2,986	371	1,506	1,877	1,462	1,256	2,718	456	1,151	1,607	1,046	2,363	3,409	**4,112**	**8,485**	**12,597**	33%	67%	100%	100%
(Mill.USD)		194	552	747	93	376	469	366	314	679	114	288	402	262	591	852	**1,028**	**2,121**	**3,149**				

Source: CAMP TT

Table 1-11: Cost structure of CAMP investment plan

SSP/USD = 4.00

Cost groups	Project cost/ Scaling-up cost	SSP (million)						USD (million)						% to grand total
		Crop	Livestock	Forestry	Fisheries	ID	Total	Crop	Livestock	Forestry	Fisheries	ID	Total	
CAMP Investment Plan total	**Project cost**	**777**	**371**	**1,462**	**456**	**1,046**	**4,112**	**194**	**93**	**366**	**114**	**262**	**1,028**	**33%**
	Scaling-up cost	**2,209**	**1,506**	**1,256**	**1,151**	**2,363**	**8,485**	**552**	**376**	**314**	**288**	**591**	**2,121**	**67%**
	Grand total	**2,986**	**1,877**	**2,718**	**1,607**	**3,409**	**12,597**	**747**	**469**	**679**	**402**	**852**	**3,149**	**100%**
1 Management and operation of project	**Project cost**	**552**	**225**	**1,262**	**224**	**145**	**2,408**	**138**	**56**	**316**	**56**	**36**	**602**	**19%**
	Scaling-up cost	**1,290**	**1,060**	**655**	**518**	**402**	**3,925**	**323**	**265**	**164**	**129**	**100**	**981**	**31%**
	Total	**1,842**	**1,285**	**1,917**	**742**	**547**	**6,333**	**461**	**321**	**479**	**186**	**137**	**1,583**	**50%**
1.1 Deployment of government staff	Project cost	9	13	13	1	1	38	2	3	3	0	0	10	0%
	Scaling-up cost	42	71	16	5	12	145	10	18	4	1	3	36	1%
	Sub-total	**51**	**83**	**29**	**6**	**14**	**183**	**13**	**21**	**7**	**2**	**3**	**46**	**1%**
1.2 Procurement of administrative services (contracted)	Project cost	4	40	0	2	0	46	1	10	0	0	0	12	0%
	Scaling-up cost	12	165	0	14	1	192	3	41	0	3	0	48	2%
	Sub-total	**16**	**205**	**0**	**16**	**1**	**238**	**4**	**51**	**0**	**4**	**0**	**59**	**2%**
1.3 Procurement of professional services (contracted)	Project cost	408	87	115	198	81	888	102	22	29	49	20	222	7%
	Scaling-up cost	731	515	418	394	190	2,247	183	129	105	99	47	562	18%
	Sub-total	**1,139**	**601**	**533**	**592**	**270**	**3,135**	**285**	**150**	**133**	**148**	**68**	**784**	**25%**
1.4 Implementation of staff training	Project cost	69	62	20	16	62	230	17	16	5	4	16	57	2%
	Scaling-up cost	326	254	53	47	197	877	81	64	13	12	49	219	7%
	Sub-total	**395**	**316**	**73**	**63**	**260**	**1,107**	**99**	**79**	**18**	**16**	**65**	**277**	**9%**

Source: CAMP TT

Table 1-11: Cost structure of CAMP investment plan funding requirements (cont.)

Cost groups	Project cost/ Scaling-up cost	SSP (million)						USD (million)						% to grand total
		Crop	Livestock	Forestry	Fisheries	ID	Total	Crop	Livestock	Forestry	Fisheries	ID	Total	
1.5 Implementation of research, studies and surveys	Project cost	0		1,059			1,059	0		265			265	8%
	Scaling-up cost	1		8			9	0		2			2	0%
	Sub-total	**1**		**1,066**			**1,068**	**0**		**267**			**267**	**8%**
1.6 Delivery of extension and training services to the private sector	Project cost	44	0	6	2		52	11	0	1	0		13	0%
	Scaling-up cost	133	0	27	24		185	33	0	7	6		46	1%
	Sub-total	**177**	**0**	**33**	**26**		**236**	**44**	**0**	**8**	**6**		**59**	**2%**
1.7 Operation and maintenance	Project cost	17	24	50	5	0	95	4	6	12	1	0	24	1%
	Scaling-up cost	46	56	134	33	2	271	12	14	33	8	0	68	2%
	Sub-total	**63**	**80**	**183**	**38**	**2**	**366**	**16**	**20**	**46**	**10**	**0**	**92**	**3%**
2 Construction of infrastructure and procurement of equipment	**Project cost**	**150**	**79**	**163**	**171**	**844**	**1,407**	**37**	**20**	**41**	**43**	**211**	**352**	**11%**
	Scaling-up cost	**342**	**72**	**316**	**374**	**1,829**	**2,932**	**85**	**18**	**79**	**93**	**457**	**733**	**23%**
	Total	**491**	**150**	**479**	**545**	**2,673**	**4,339**	**123**	**38**	**120**	**136**	**668**	**1,085**	**34%**
2.1 Construction of office buildings	Project cost	1		17	2	121	140	0		4	0	30	35	1%
	Scaling-up cost	8		18	1	201	228	2		5	0	50	57	2%
	Sub-total	**9**		**35**	**2**	**322**	**368**	**2**		**9**	**1**	**81**	**92**	**3%**
2.2 Construction of research, training and other specialized buildings	Project cost	103	40	58	30		229	26	10	14	7		57	2%
	Scaling-up cost	218	2	65	13		297	54	1	16	3		74	2%
	Sub-total	**320**	**42**	**122**	**42**		**527**	**80**	**10**	**31**	**11**		**132**	**4%**
2.3 Construction of feeder roads	Project cost			15		537	552			4		134	138	4%
	Scaling-up cost			56		1,216	1,272			14		304	318	10%
	Sub-total			**71**		**1,753**	**1,824**			**18**		**438**	**456**	**14%**
2.4 Construction of production, market and transportation facilities	Project cost	4	18	28	125	160	335	1	4	7	31	40	84	3%
	Scaling-up cost	8	32	106	209	363	718	2	8	26	52	91	179	6%
	Sub-total	**12**	**50**	**134**	**334**	**523**	**1,052**	**3**	**13**	**33**	**83**	**131**	**263**	**8%**
2.5 Acquisition of land	Project cost			2			2			1			1	0%
	Scaling-up cost			3			3			1			1	0%
	Sub-total			**6**			**6**			**1**			**1**	**0%**
2.6 Procurement of vehicles	Project cost	23	6	37	5	20	90	6	2	9	1	5	23	1%
	Scaling-up cost	44	12	18	10	34	118	11	3	5	2	9	30	1%
	Sub-total	**67**	**18**	**55**	**15**	**54**	**208**	**17**	**5**	**14**	**4**	**14**	**52**	**2%**
2.7 Procurement of equipment	Project cost	20	15	6	10	7	58	5	4	2	3	2	14	0%
	Scaling-up cost	64	26	50	142	15	296	16	6	12	35	4	74	2%
	Sub-total	**84**	**40**	**56**	**152**	**21**	**353**	**21**	**10**	**14**	**38**	**5**	**88**	**3%**
3 Subsidies, equity and loans	**Project cost**	**75**	**68**	**37**	**60**	**57**	**297**	**19**	**17**	**9**	**15**	**14**	**74**	**2%**
	Scaling-up cost	**577**	**374**	**285**	**260**	**132**	**1,628**	**144**	**93**	**71**	**65**	**33**	**407**	**13%**
	Total	**653**	**441**	**322**	**320**	**189**	**1,925**	**163**	**110**	**81**	**80**	**47**	**481**	**15%**
3.1 Provision of cash and/or in-kind subsidies	Project cost	48	61	32	18	54	213	12	15	8	4	14	53	2%
	Scaling-up cost	434	329	182	38	127	1,111	109	82	46	10	32	278	9%
	Sub-total	**483**	**390**	**215**	**56**	**181**	**1,324**	**121**	**98**	**54**	**14**	**45**	**331**	**11%**
3.2 Provision of training services to the private sector	Project cost	27	7	5	2	3	44	7	2	1	1	1	11	0%
	Scaling-up cost	143	45	102	10	5	306	36	11	26	3	1	76	2%
	Sub-total	**170**	**51**	**107**	**13**	**8**	**349**	**42**	**13**	**27**	**3**	**2**	**87**	**3%**
3.3 Equity investments	Project cost													
	Scaling-up cost													
	Sub-total													
3.4 Provision of loans	Project cost				40		40				10		10	0%
	Scaling-up cost				212		212				53		53	2%
	Sub-total				**252**		**252**				**63**		**63**	**2%**
3.5 Social assistance/donation (Emergency)	Project cost													
	Scaling-up cost													
	Sub-total													

Source: CAMP TT

1.2.3 Subsector funding allocation versus requirements

A comparison between the funds allocated to each subsector and their funding requirements are presented in Table 1-12, Figure 1-5, Figure 1-6, Figure 1-7, Figure 1-8 and Figure 1-9. The total funding requirements (project plus scaling-up costs) estimated for the crop and livestock subsectors are less than the funds allocated to these subsectors in Table 1-9. The total estimated funding requirements of projects in the crop subsector are only 51% of the funds allocated (Figure 1-5). This is particularly noticeable during Phase I and II of the CAMP period, when it is expected that the full allocation will be used to fund various emergency measures and ongoing projects that are not included in the CAMP investment plan. These activities will be identified and included in funding requirements during initial resource mobilisation. In the livestock subsector 84% of the allocation is required (Figure 1-6) leaving some room for further expansion and scaling-up of projects. It also may indicate that livestock subsector projects require fewer funds than other subsectors.

The estimated funding requirements of projects in the forestry, fisheries and institutional development subsectors exceed the allocated funds. The inclusion of a large forestry project (National forest resources inventory, information and management plans project), which will benefit all the natural and land resources management ministries and authorities, results in the total funding requirements being 134% of the allocated funds (Table 1-12 and Figure 1-7). For the fisheries subsector, during Phase I through Phase III, the total funding requirements match the allocated funds, but during Phase IV the total funding requirements exceed the allocated funds, resulting in 38% potential over expenditure (Table 1-12 and Figure 1-8). Large total costs are required during Phase I and II by the projects in the institutional development subsector (Table 1-12 and Figure 1-9). This is due to the initial massive investment needed to develop the legal framework (including enforcement), and to develop institutional and human resources. In addition, high up-scaling costs of these projects are envisaged in Phases III and IV due to the continuing importance of the subsector; again funding requirements are expected to be higher than proposed funding allocations.

The estimated funds available under the peace dividend scenario are sufficient to meet the total funding requirements necessary for implementation of the CAMP investment plan. However, subsector fund allocations and total fund requirements will require adjustments during the course of CAMP implementation, based on the results of proper and periodical monitoring and evaluation exercises.

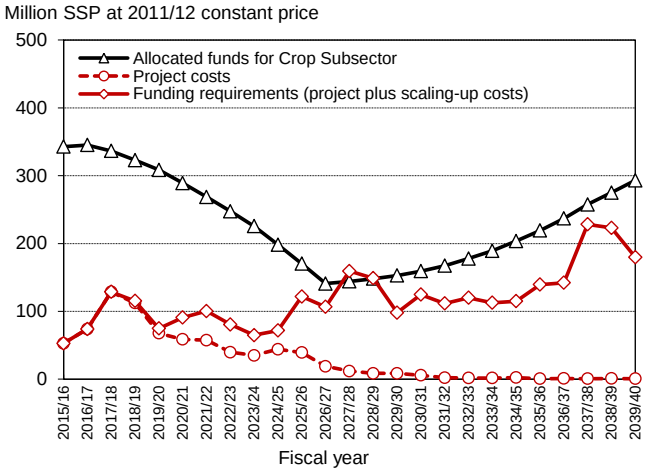
Table 1-12: Summary of funding allocation versus requirements of CAMP investment plan

(SSP/USD=4.00)

Ministries	Subsector	Allocated funds under Peace Dividend Scenario			Funding requirement of CAMP Investment Plan			Balance of funds (Allocated funds - funding requirement)		
		SSP Million a	USD Million b=a/4	% to total c	SSP Million d	USD Million e=d/4	% to total f	SSP Million g=a-d	USD Million h=b-e	Utilization rate i=d/a
MAFCRD and AB	Crop Subsector	5,821	1,455	42%	2,986	747	24%	2,835	709	51%
	Forestry Subsector	1,403	351	10%	1,877	469	15%	-474	-119	134%
MLFI	Livestock Subsector	3,241	810	23%	2,718	679	22%	523	131	84%
	Fisheries Subsector	1,166	292	8%	1,607	402	13%	-441	-110	138%
Both ministries	Institutional Development	2,195	549	16%	3,409	852	27%	-1,214	-304	155%
Total		13,826	3,456	100%	12,597	3,149	100%	1,228	307	91%

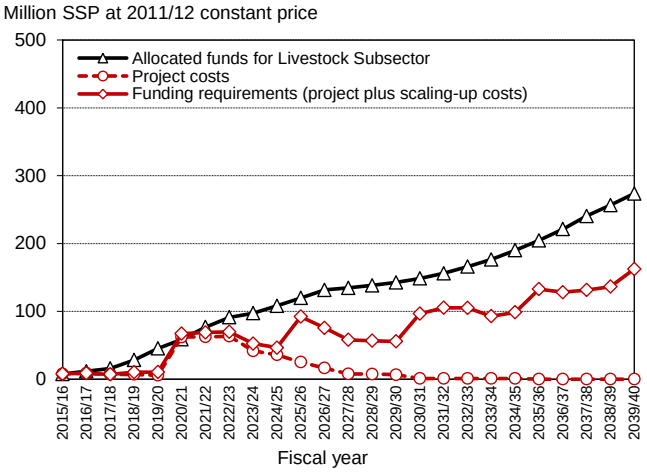
Source: CAMP TT

Figure 1-5: Funding allocation versus requirements for crop subsector projects



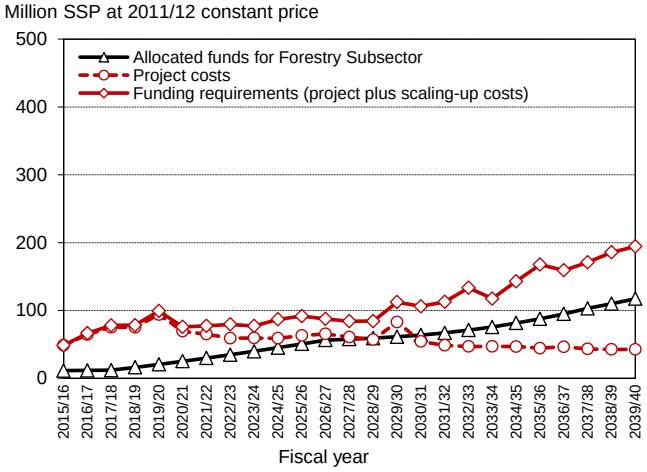
Source: CAMP TT

Figure 1-6: Funding allocation versus requirements for livestock subsector projects



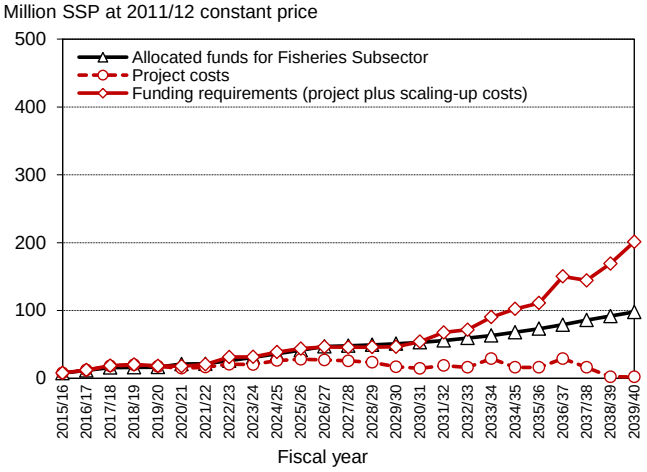
Source: CAMP TT

Figure 1-7: Funding allocation versus requirements for forestry subsector projects



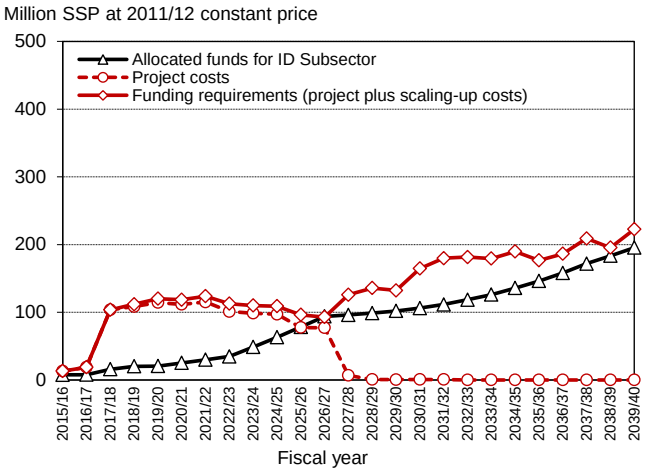
Source: CAMP TT

Figure 1-8: Funding allocation versus requirements for fisheries subsector projects



Source: CAMP TT

Figure 1-9: Funding allocation versus requirements for ID subsector projects



Note: ID: Institutional Development
Source: CAMP TT

2. Crop Subsector

2.1 Investment Planning Space

Subsector / Development Theme / Project ID / Project name	Year	SSP ('000)	USD ('000)	Responsibility
01 Crop Subsector		**776,599**	**194,150**	
T1 Reconstruction and recovery		**31,574**	**7,894**	
01.01 IDPs and returnees settlement/resettlement support project	5	31,574	7,894	NS
T2 Food and nutrition security		**300,920**	**75,230**	
01.02 Quality seed production project	10	18,792	4,698	N
01.03 Subsistence farmer sorghum production project	10	11,793	2,948	NS
01.04 Subsistence farmer maize production project	10	24,487	6,122	NS
01.05 Subsistence farmer rice production project	10	11,205	2,801	NS
01.06 Subsistence farmer vegetable and fruit production project	10	15,798	3,950	NS
01.07 Subsistence farmer cassava production and value addition project	10	18,100	4,525	NS
01.08 Subsistence farmer peas and beans production project	5	14,763	3,691	NS
01.09 Subsistence farmer groundnut production and value addition project	10	16,045	4,011	NS
01.10 Enhancement of animal power utilisation project	10	8,233	2,058	NS
01.11 Promotion of integrated farming for risk reduction project	5	21,693	5,423	NS
01.12 Farmers organisation support project	5	14,049	3,512	NS
01.13 Promotion of market oriented farming project	15	4,674	1,169	NS
01.14 Farmers and pastoralists conflict resolution project	10	13,307	3,327	NS/SC
01.15 Strengthening of extension service delivery project	10	30,612	7,653	NS
01.16 Strengthening and establishment of training institution infrastructure project	10	77,368	19,342	N
T3 Economic growth and livelihood improvement		**350,855**	**87,714**	
01.17 Enhancement of private sector agro-input providers project	10	20,710	5,178	NS
01.18 Enhancement of tractor hire service providers project	10	8,936	2,234	N
01.19 Tractor operator training project	10	18,987	4,747	N
01.20 Urban and peri-urban vegetable production and marketing project	10	12,783	3,196	NS
01.21 Sesame production project	10	24,967	6,242	NS
01.22 Fruit and nut production project	10	16,431	4,108	NS
01.23 Development of research institution infrastructure project	10	58,956	14,739	N
01.24 Development of research capacity project	23	59,371	14,843	N
01.25 Extension system reform and efficient service delivery project	10	74,426	18,607	N
01.26 Establishment and enhancement of national higher educational institutions for agriculture project	10	37,865	9,466	N
01.27 Establishment and enhancement of agricultural vocational institutions project	10	17,424	4,356	NS
T4 Agriculture sector transformation		**72,705**	**18,176**	
01.28 Private sector investment project	0	8,818	2,204	P
01.29 National crop pest and disease control project	12	25,422	6,355	NS
01.30 National phytosanitary infrastructure project	2	6,041	1,510	N
01.31 Establishment of a national phytosanitary system project	4	5,815	1,454	N
01.32 Quality standards and quality control for agricultural products project	7	20,851	5,213	N
01.33 Tractor assembly plant establishment support project	0	5,758	1,440	P
T5 Institutional development		**20,545**	**5,136**	
01.34 Establishment of firm legislative framework project	3	8,844	2,211	N
01.35 Enhancement of laws and regulations enforcement project	10	11,701	2,925	NS

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

Public sector project
Routine work by government
Private sector project
Routine work by private sector

2.1.2 Investment Planning Space by CAADP Pillar

Subsector / CAADP Pillar / Project ID	Project name	Phase I 2015/16	2016/17	2017/18	2018/19	2019/20	Phase II 2020/21	2021/22	2022/23	2023/24	2024/25	Phase III 2025/26	2026/27	2027/28	2028/29	2029/30	Phase IV 2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	Year	SSP ('000)	USD ('000)	Responsi-bility
01 Crop Subsector																											**776,599**	**194,150**	
P1	**Pillar 1: Land and water management**																										**44,881**	**11,220**	
01.01	IDPs and returnees settlement/resettlement support project																										31,574	7,894	NS
01.14	Farmers and pastoralists conflict resolution project																										13,307	3,327	NS/SC
P2	**Pillar 2: Market access**																										**184,244**	**46,061**	
01.02	Quality seed production project																										18,792	4,698	N
01.12	Farmers organisation support project																										14,049	3,512	NS
01.13	Promotion of market oriented farming project																										4,674	1,169	NS
01.17	Enhancement of private sector agro-input providers project																										20,710	5,178	NS
01.19	Tractor operator training project																										18,987	4,747	N
01.20	Urban and peri-urban vegetable production and marketing project																										12,783	3,196	NS
01.21	Sesame production project																										24,967	6,242	NS
01.22	Fruit and nut production project																										16,431	4,108	NS
01.27	Establishment and enhancement of agricultural vocational institutions project																										17,424	4,356	NS
01.28	Private sector investment project																										8,818	2,204	P
01.32	Quality standards and quality control for agricultural products project																										20,851	5,213	N
01.33	Tractor assembly plant establishment support project																										5,758	1,440	P
P3	**Pillar 3: Food supply and hunger**																										**171,598**	**42,900**	
01.03	Subsistence farmer sorghum production project																										11,793	2,948	NS
01.04	Subsistence farmer maize production project																										24,487	6,122	NS
01.05	Subsistence farmer rice production project																										11,205	2,801	NS
01.06	Subsistence farmer vegetable and fruit production project																										15,798	3,950	NS
01.07	Subsistence farmer cassava production and value addition project																										18,100	4,525	NS
01.08	Subsistence farmer peas and beans production project																										14,763	3,691	NS
01.09	Subsistence farmer groundnut production and value addition project																										16,045	4,011	NS
01.10	Enhancement of animal power utilisation project																										8,233	2,058	NS
01.11	Promotion of integrated farming for risk reduction project																										21,693	5,423	NS
01.18	Enhancement of tractor hire service providers project																										8,936	2,234	N
01.34	Establishment of firm legislative framework project																										8,844	2,211	N
01.35	Enhancement of laws and regulations enforcement project																										11,701	2,925	NS
P4	**Pillar 4: Agricultural research**																										**375,876**	**93,969**	
01.15	Strengthening of extension service delivery project																										30,612	7,653	NS
01.16	Strengthening and establishment of training institution infrastructure project																										77,368	19,342	N
01.23	Development of research institution infrastructure project																										58,956	14,739	N
01.24	Development of research capacity project																										59,371	14,843	N
01.25	Extension system reform and efficient service delivery project																										74,426	18,607	N
01.26	Establishment and enhancement of national higher educational institutions for agriculture project																										37,865	9,466	N
01.29	National crop pest and disease control project																										25,422	6,355	NS
01.30	National phytosanitary infrastructure project																										6,041	1,510	N
01.31	Establishment of a national phytosanitary system project																										5,815	1,454	N

Public sector project
Routine work by government
Private sector project
Routine work by private sector

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

2.1.3 Investment Planning Space by Subsector Area/Programme

Subsector Subsector area/programme Project ID Project name	Phase I 2015/16	2016/17	2017/18	2018/19	2019/20	Phase II 2020/21	2021/22	2022/23	2023/24	2024/25	Phase III 2025/26	2026/27	2027/28	2028/29	2029/30	Phase IV 2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	Year	SSP ('000)	USD ('000)	Responsi-bility
01 Crop Subsector																											**776,599**	**194,150**	
Policy and legal framework development																											**20,545**	**5,136**	
01.34 Establishment of firm legislative framework project																										3	8,844	2,211	N
01.35 Enhancement of laws and regulations enforcement project																										10	11,701	2,925	NS
Public sector institution and management capacity development																											**376,872**	**94,218**	
01.15 Strengthening of extension service delivery project																										10	30,612	7,653	NS
01.16 Strengthening and establishment of training institution infrastructure project																										10	77,368	19,342	N
01.23 Development of research institution infrastructure project																										10	58,956	14,739	N
01.24 Development of research capacity project																										23	59,371	14,843	N
01.25 Extension system reform and efficient service delivery project																										10	74,426	18,607	N
01.26 Establishment and enhancement of national higher educational institutions for agriculture project																										10	37,865	9,466	N
01.27 Establishment and enhancement of agricultural vocational institutions project																										10	17,424	4,356	NS
01.32 Quality standards and quality control for agricultural products project																										7	20,851	5,213	N
Private sector projects and businesses																											**8,818**	**2,204**	
01.28 Private sector investment project																										0	8,818	2,204	P
Crop production																											**143,054**	**35,764**	
01.03 Subsistence farmer sorghum production project																										10	11,793	2,948	NS
01.04 Subsistence farmer maize production project																										10	24,487	6,122	NS
01.05 Subsistence farmer rice production project																										10	11,205	2,801	NS
01.07 Subsistence farmer cassava production and value addition project																										10	18,100	4,525	NS
01.08 Subsistence farmer peas and beans production project																										5	14,763	3,691	NS
01.09 Subsistence farmer groundnut production and value addition project																										10	16,045	4,011	NS
01.11 Promotion of integrated farming for risk reduction project																										5	21,693	5,423	NS
01.21 Sesame production project																										10	24,967	6,242	NS
Horticultural crop production																											**49,686**	**12,422**	
01.06 Subsistence farmer vegetable and fruit production project																										10	15,798	3,950	NS
01.13 Promotion of market oriented farming project																										15	4,674	1,169	NS
01.20 Urban and peri-urban vegetable production and marketing project																										10	12,783	3,196	NS
01.22 Fruit and nut production project																										10	16,431	4,108	NS
Mechanisation and animal power																											**41,913**	**10,478**	
01.10 Enhancement of animal power utilisation project																										10	8,233	2,058	NS
01.18 Enhancement of tractor hire service providers project																										10	8,936	2,234	N
01.19 Tractor operator training project																										10	18,987	4,747	N
01.33 Tractor assembly plant establishment support project																										0	5,758	1,440	P
Production, research and management																											**76,780**	**19,195**	
01.02 Quality seed production project																										10	18,792	4,698	N
01.17 Enhancement of private sector agro-input providers project																										10	20,710	5,178	NS
01.29 National crop pest and disease control project																										12	25,422	6,355	NS
01.30 National phytosanitary infrastructure project																										2	6,041	1,510	N
01.31 Establishment of a national phytosanitary system project																										4	5,815	1,454	N
Farmer and producer organisation																											**58,930**	**14,733**	
01.01 IDPs and returnees settlement/resettlement support project																										5	31,574	7,894	NS
01.12 Farmers organisation support project																										5	14,049	3,512	NS
01.14 Farmers and pastoralists conflict resolution project																										10	13,307	3,327	NS/SC

Public sector project
Routine work by government
Private sector project
Routine work by private sector

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

2.2 Summary of funding requirement

2.2.1 Summary of project cost and scaling-up cost

SSP/USD = 4.00

Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV								SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
00 CAMP Investment Plan total	Project cost	130.6	178.1	333.0	322.9	299.5	316.6	316.4	284.3	255.3	262.2	233.0	204.9	113.1	97.4	115.7	76.4	71.6	66.0	78.9	66.6	61.4	76.6	60.2	46.0	45.4	4,112.1	1,028.0
	Scaling-up cost	0.1	2.2	3.1	13.1	23.5	53.4	74.7	89.8	80.8	90.4	213.0	203.8	360.2	374.4	329.1	469.5	505.4	545.6	513.6	581.9	666.0	689.5	823.6	863.7	915.1	8,485.3	2,121.3
	Grand total	130.7	180.2	336.1	336.1	323.0	370.0	391.1	374.0	336.1	352.6	446.0	408.8	473.2	471.8	444.8	545.9	577.0	611.6	592.4	648.5	727.4	766.1	883.8	909.7	960.5	12,597.3	3,149.3
01 Crop Subsector	Project cost	52.9	74.0	128.7	112.4	67.7	58.7	57.5	39.7	35.1	44.1	39.3	19.0	11.9	8.6	8.6	5.7	2.2	1.7	1.7	2.4	0.8	1.1	0.8	1.1	0.8	776.6	194.1
	Scaling-up cost				3.0	7.0	32.3	43.0	41.0	29.7	27.8	82.7	87.6	147.5	140.3	89.4	118.9	109.4	118.3	110.9	112.5	138.7	141.1	227.4	221.9	179.1	2,209.4	552.4
	Subsector total	52.9	74.0	128.7	115.4	74.8	90.9	100.5	80.7	64.8	71.9	121.9	106.6	159.4	148.9	98.0	124.7	111.7	120.0	112.6	115.0	139.5	142.2	228.2	223.1	179.9	2,986.0	746.5
T1 Reconstruction and recovery	Project cost	10.5	8.5	8.4	1.7	2.5											13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	31.6	7.9
	Scaling-up cost						13.3	15.6	15.6	2.4	2.4	17.7	13.7	11.7	1.8	1.8	13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	189.2	47.3
	Theme total	10.5	8.5	8.4	1.7	2.5	13.3	15.6	15.6	2.4	2.4	17.7	13.7	11.7	1.8	1.8	13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	220.7	55.2
01.01 IDPs and returnees settlement/resettlement support project	Project cost	10.5	8.5	8.4	1.7	2.5											13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	31.6	7.9
	Scaling-up cost						13.3	15.6	15.6	2.4	2.4	17.7	13.7	11.7	1.8	1.8	13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	189.2	47.3
	Project total	10.5	8.5	8.4	1.7	2.5	13.3	15.6	15.6	2.4	2.4	17.7	13.7	11.7	1.8	1.8	13.3	11.7	12.1	1.9	2.1	15.9	14.8	15.6	2.6	3.0	220.7	55.2
T2 Food and nutrition security	Project cost	35.9	47.9	72.4	57.7	26.5	12.0	17.7	10.5	7.7	9.4	1.5	0.6	0.2	0.5	0.5	0.1	0.1									300.9	75.2
	Scaling-up cost						13.4	17.8	17.8	17.8	17.8	55.0	49.9	102.6	95.2	49.4	50.8	47.1	53.3	57.1	57.1	57.6	60.2	138.0	134.5	83.9	1,176.3	294.1
	Theme total	35.9	47.9	72.4	57.7	26.5	25.3	35.5	28.4	25.5	27.2	56.4	50.5	102.7	95.7	49.9	50.9	47.2	53.3	57.1	57.1	57.6	60.2	138.0	134.5	83.9	1,477.2	369.3
01.02 Quality seed production project	Project cost	1.2	1.3	1.1	1.8	3.7	3.0	3.6	1.2	0.6	1.2						4.2	4.2	4.4	4.5	4.8	5.1	5.3	5.6	5.9	7.0	18.8	4.7
	Scaling-up cost											5.6	4.9	4.2	4.2	4.2											74.3	18.6
	Project total	1.2	1.3	1.1	1.8	3.7	3.0	3.6	1.2	0.6	1.2	5.6	4.9	4.2	4.2	4.2	4.2	4.2	4.4	4.5	4.8	5.1	5.3	5.6	5.9	7.0	93.1	23.3
01.03 Subsistence farmer sorghum production project	Project cost	4.1	2.8	1.3	0.8	1.0	0.3	0.3	0.4	0.3	0.6						1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	2.2	11.8	2.9
	Scaling-up cost											1.7	1.5	1.3	1.3	1.3											22.9	5.7
	Project total	4.1	2.8	1.3	0.8	1.0	0.3	0.3	0.4	0.3	0.6	1.7	1.5	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	2.2	34.7	8.7
01.04 Subsistence farmer maize production project	Project cost	3.3	9.5	1.7	0.8	0.9	1.1	6.4	0.1		0.5						11.0	11.1	11.6	11.8	12.5	13.2	14.0	15.0	15.4	18.4	24.5	6.1
	Scaling-up cost											14.7	12.9	11.3	11.0	11.0											195.0	48.8
	Project total	3.3	9.5	1.7	0.8	0.9	1.1	6.4	0.1		0.5	14.7	12.9	11.3	11.0	11.0	11.0	11.1	11.6	11.8	12.5	13.2	14.0	15.0	15.4	18.4	219.5	54.9
01.05 Subsistence farmer rice production project	Project cost	2.6	2.0	1.6	0.7	0.6	1.2	0.8	0.7	0.2	0.9						1.8	1.3	1.4	1.4	1.5	2.2	1.7	1.8	1.9	2.2	11.2	2.8
	Scaling-up cost											2.4	1.6	1.3	1.3	1.3											25.2	6.3
	Project total	2.6	2.0	1.6	0.7	0.6	1.2	0.8	0.7	0.2	0.9	2.4	1.6	1.3	1.3	1.3	1.8	1.3	1.4	1.4	1.5	2.2	1.7	1.8	1.9	2.2	36.4	9.1
01.06 Subsistence farmer vegetable and fruit production project	Project cost	3.1	3.0	2.7	1.7	1.3	0.8	0.9	1.1	0.6	0.6						2.2	2.2	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.7	15.8	3.9
	Scaling-up cost											3.0	2.6	2.2	2.2	2.2											39.4	9.8
	Project total	3.1	3.0	2.7	1.7	1.3	0.8	0.9	1.1	0.6	0.6	3.0	2.6	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.7	55.2	13.8
01.07 Subsistence farmer cassava production and value addition project	Project cost	4.2	4.8	3.2	1.2	1.3	1.2	0.3	1.2	0.1	0.8						3.0	3.0	3.1	3.3	3.5	3.7	3.9	4.1	4.3	5.1	18.1	4.5
	Scaling-up cost											4.1	3.6	3.0	3.0	3.0											53.6	13.4
	Project total	4.2	4.8	3.2	1.2	1.3	1.2	0.3	1.2	0.1	0.8	4.1	3.6	3.0	3.0	3.0	3.0	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	5.0	71.7	17.9
01.08 Subsistence farmer peas and beans production project	Project cost	2.4	3.4	3.4	3.4	2.3																					14.8	3.7
	Scaling-up cost						3.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	3.0	3.0	3.0	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	5.0	71.1	17.8
	Project total	2.4	3.4	3.4	3.4	2.3	3.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	3.0	3.0	3.0	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	5.0	85.9	21.5
01.09 Subsistence farmer groundnut production and value addition project	Project cost	3.1	3.5	2.7	1.8	1.4	0.8	1.4	0.7	0.4	0.3																16.0	4.0
	Scaling-up cost											3.0	2.6	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.8	39.9	10.0
	Project total	3.1	3.5	2.7	1.8	1.4	0.8	1.4	0.7	0.4	0.3	3.0	2.6	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.8	56.0	14.0

SSP/USD = 4.00

Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV										SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
01.10 Enhancement of animal power utilisation project	Project cost	4.7	1.3	0.1	0.1	0.1	0.9	0.4	0.1	0.1	0.5																8.2	2.1
	Scaling-up cost											2.6	2.2	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.6	2.7	3.2	33.9	8.5
	Project total	4.7	1.3	0.1	0.1	0.1	0.9	0.4	0.1	0.1	0.5	2.6	2.2	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.6	2.7	3.2	42.2	10.5
01.11 Promotion of integrated farming for risk reduction project	Project cost	4.9	9.2	4.0	1.7	1.9																					21.7	5.4
	Scaling-up cost						7.9	10.5	10.5	10.5	10.5	10.5	9.2	7.9	7.9	7.9	7.9	7.9	8.1	8.4	8.9	9.4	10.0	10.5	11.0	13.1	188.1	47.0
	Project total	4.9	9.2	4.0	1.7	1.9	7.9	10.5	10.5	10.5	10.5	10.5	9.2	7.9	7.9	7.9	7.9	7.9	8.1	8.4	8.9	9.4	10.0	10.5	11.0	13.1	209.8	52.5
01.12 Farmers organisation support project	Project cost	2.3	4.0	2.4	1.9	3.5																					14.0	3.5
	Scaling-up cost						2.5	3.4	3.4	3.4	3.4	3.4	3.0	2.5	2.5	2.5	2.5	2.5	2.6	2.7	2.9	3.0	3.2	3.4	3.6	4.2	60.7	15.2
	Project total	2.3	4.0	2.4	1.9	3.5	2.5	3.4	3.4	3.4	3.4	3.4	3.0	2.5	2.5	2.5	2.5	2.5	2.6	2.7	2.9	3.0	3.2	3.4	3.6	4.2	74.8	18.7
01.13 Promotion of market oriented farming project	Project cost			1.0	0.4	0.4	0.1	0.1	0.2	0.5	0.5	0.1	0.1	0.2	0.5	0.5	0.1	0.1									4.7	1.2
	Scaling-up cost																0.3	0.3	2.1	1.0	1.1	0.9	1.0	1.2	1.3	1.7	10.9	2.7
	Project total			1.0	0.4	0.4	0.1	0.1	0.2	0.5	0.5	0.1	0.1	0.2	0.5	0.5	0.4	0.4	2.1	1.0	1.1	0.9	1.0	1.2	1.3	1.7	15.6	3.9
01.14 Farmers and pastoralists conflict resolution project	Project cost			5.1	3.8	1.9	1.1	0.0	0.0	1.1	0.0	0.0	0.0														13.3	3.3
	Scaling-up cost													5.8	2.5	2.5	5.8	2.5	2.6	6.2	2.9	3.0	3.2	7.7	3.5	4.2	52.6	13.1
	Project total			5.1	3.8	1.9	1.1	0.0	0.0	1.1	0.0	0.0	0.0	5.8	2.5	2.5	5.8	2.5	2.6	6.2	2.9	3.0	3.2	7.7	3.5	4.2	65.9	16.5
01.15 Strengthening of extension service delivery project	Project cost		3.1	4.6	3.6	3.0	1.0	3.1	4.6	3.6	3.0	1.0															30.6	7.7
	Scaling-up cost												2.3	4.6	4.6	4.6	2.0	2.0	4.8	4.9	5.3	2.4	2.5	6.2	6.5	7.7	60.6	15.2
	Project total		3.1	4.6	3.6	3.0	1.0	3.1	4.6	3.6	3.0	1.0	2.3	4.6	4.6	4.6	2.0	2.0	4.8	4.9	5.3	2.4	2.5	6.2	6.5	7.7	91.2	22.8
01.16 Strengthening and establishment of training institution infrastructure project	Project cost			37.6	34.1	3.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4														77.4	19.3
	Scaling-up cost													51.2	47.3	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.8	68.2	66.2	2.4	247.9	62.0
	Project total			37.6	34.1	3.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	51.2	47.3	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.8	68.2	66.2	2.4	325.2	81.3
T3 Economic growth and livelihood improvement	Project cost		2.6	30.9	46.9	36.6	44.2	37.4	25.3	20.4	27.4	32.0	14.0	6.4	5.5	4.3	5.0	1.5	1.7	1.7	2.4	0.8	1.1	0.8	1.1	0.8	350.9	87.7
	Scaling-up cost												12.7	22.1	31.7	25.2	40.2	34.4	36.7	33.5	35.6	44.7	46.1	50.9	62.8	63.6	540.2	135.0
	Theme total		2.6	30.9	46.9	36.6	44.2	37.4	25.3	20.4	27.4	32.0	26.8	28.6	37.3	29.4	45.2	35.8	38.3	35.2	38.0	45.5	47.3	51.7	64.0	64.4	891.1	222.8
01.17 Enhancement of private sector agro-input providers project	Project cost				3.4	2.2	4.2	3.1	0.9	1.5	0.9	1.5	0.9	2.1													20.7	5.2
	Scaling-up cost														3.0	3.0	3.0	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	4.9	41.9	10.5
	Project total				3.4	2.2	4.2	3.1	0.9	1.5	0.9	1.5	0.9	2.1	3.0	3.0	3.0	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	4.9	62.6	15.6
01.18 Enhancement of tractor hire service providers project	Project cost			3.8	3.0	0.5	0.1	0.1	0.6	0.1	0.1	0.1	0.5														8.9	2.2
	Scaling-up cost													1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.9	2.0	2.2	2.3	2.7	24.4	6.1
	Project total			3.8	3.0	0.5	0.1	0.1	0.6	0.1	0.1	0.1	0.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.9	2.0	2.2	2.3	2.7	33.3	8.3
01.19 Tractor operator training project	Project cost			3.5	8.1	2.9	1.7	0.5	0.5	0.5	0.3	0.4	0.5														19.0	4.7
	Scaling-up cost													2.3	8.3	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.4	3.1	11.7	1.9	37.3	9.3
	Project total			3.5	8.1	2.9	1.7	0.5	0.5	0.5	0.3	0.4	0.5	2.3	8.3	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.4	3.1	11.7	1.9	56.2	14.1
01.20 Urban and peri-urban vegetable production and marketing project	Project cost			3.7	2.9	2.1	0.5	0.0	0.0	1.7	1.2	0.4	0.2														12.8	3.2
	Scaling-up cost													1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	2.0	2.1	2.2	2.3	2.7	24.6	6.1
	Project total			3.7	2.9	2.1	0.5	0.0	0.0	1.7	1.2	0.4	0.2	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	2.0	2.1	2.2	2.3	2.7	37.4	9.3
01.21 Sesame production project	Project cost						5.4	6.9	3.5	1.9	1.5	0.6	3.5	0.5	0.5	0.7											25.0	6.2
	Scaling-up cost																4.9	4.9	5.1	5.2	5.6	5.9	6.2	6.5	6.9	8.2	59.3	14.8
	Project total						5.4	6.9	3.5	1.9	1.5	0.6	3.5	0.5	0.5	0.7	4.9	4.9	5.1	5.2	5.6	5.9	6.2	6.5	6.9	8.2	84.2	21.1

SSP/USD = 4.00

Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV										SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
01.22 Fruit and nut production project	Project cost											5.2	2.5	0.9	0.6	0.6	3.7	0.5	0.5	0.5	1.3						16.4	4.1
	Scaling-up cost																					6.0	6.4	6.7	7.0	8.4	34.5	8.6
	Project total											5.2	2.5	0.9	0.6	0.6	3.7	0.5	0.5	0.5	1.3	6.0	6.4	6.7	7.0	8.4	50.9	12.7
01.23 Development of research institution infrastructure project	Project cost			5.9	10.4	12.1	11.3	8.4	6.1	1.2	1.2	1.2	1.2														59.0	14.7
	Scaling-up cost													5.6	6.2	6.9	9.3	6.5	7.5	5.5	5.8	6.2	6.5	7.5	8.7	11.5	93.7	23.4
	Project total			5.9	10.4	12.1	11.3	8.4	6.1	1.2	1.2	1.2	1.2	5.6	6.2	6.9	9.3	6.5	7.5	5.5	5.8	6.2	6.5	7.5	8.7	11.5	152.7	38.2
01.24 Development of research capacity project	Project cost			7.6	10.0	7.9	5.4	5.1	1.6	1.7	1.3	1.3	1.3	1.3	3.4	1.3	1.3	0.9	1.1	1.2	1.1	0.8	1.1	0.8	1.1	0.8	59.4	14.8
	Scaling-up cost																											
	Project total			7.6	10.0	7.9	5.4	5.1	1.6	1.7	1.3	1.3	1.3	1.3	3.4	1.3	1.3	0.9	1.1	1.2	1.1	0.8	1.1	0.8	1.1	0.8	59.4	14.8
01.25 Extension system reform and efficient service delivery project	Project cost		2.6	6.3	9.0	8.9	8.4	7.8	7.8	7.8	7.8	8.0															74.4	18.6
	Scaling-up cost												12.7	10.9	10.9	10.9	15.6	12.6	13.0	11.7	12.4	13.1	13.8	14.6	15.5	18.2	186.0	46.5
	Project total		2.6	6.3	9.0	8.9	8.4	7.8	7.8	7.8	7.8	8.0	12.7	10.9	10.9	10.9	15.6	12.6	13.0	11.7	12.4	13.1	13.8	14.6	15.5	18.2	260.5	65.1
01.26 Establishment and enhancement of national higher educational institutions for agriculture project	Project cost						4.2	3.5	3.0	2.9	11.4	10.4	1.2	0.8	0.2	0.2											37.9	9.5
	Scaling-up cost																1.6	1.6	2.0	1.7	1.8	2.6	2.0	2.1	2.2	2.7	20.5	5.1
	Project total						4.2	3.5	3.0	2.9	11.4	10.4	1.2	0.8	0.2	0.2	1.6	1.6	2.0	1.7	1.8	2.6	2.0	2.1	2.2	2.7	58.3	14.6
01.27 Establishment and enhancement of agricultural vocational institutions project	Project cost						2.9	2.0	1.3	1.2	1.8	2.9	2.2	0.9	0.8	1.4											17.4	4.4
	Scaling-up cost																1.5	1.5	1.5	1.6	1.7	2.0	1.9	2.1	2.0	2.4	18.1	4.5
	Project total						2.9	2.0	1.3	1.2	1.8	2.9	2.2	0.9	0.8	1.4	1.5	1.5	1.5	1.6	1.7	2.0	1.9	2.1	2.0	2.4	35.5	8.9
T4 Agriculture sector transformation	Project cost	3.5	9.2	9.9	2.3	2.2	2.5	2.4	3.9	7.0	7.2	5.3	4.4	5.3	2.5	3.8	0.7	0.7									72.7	18.2
	Scaling-up cost				1.3	4.5	3.1	6.1	4.1	6.0	4.1	6.6	4.0	4.9	5.3	6.8	8.5	10.0	9.8	11.7	10.8	13.1	12.0	14.6	13.3	18.2	178.5	44.6
	Theme total	3.5	9.2	9.9	3.5	6.6	5.6	8.5	8.0	13.0	11.3	11.9	8.4	10.1	7.9	10.7	9.2	10.7	9.8	11.7	10.8	13.1	12.0	14.6	13.3	18.2	251.2	62.8
01.28 Private sector investment project	Project cost								1.5	1.4	1.1	1.1	0.7	0.5	0.7	0.5	0.7	0.7									8.8	2.2
	Scaling-up cost																		1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.6	9.6	2.4
	Project total								1.5	1.4	1.1	1.1	0.7	0.5	0.7	0.5	0.7	0.7	1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.6	18.4	4.6
01.29 National crop pest and disease control project	Project cost		2.9	2.3	2.0	2.2	2.5	2.4	2.4	2.5	2.3	1.3	1.3	1.3													25.4	6.4
	Scaling-up cost											0.5	0.4	0.4	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.8	33.0	8.3
	Project total		2.9	2.3	2.0	2.2	2.5	2.4	2.4	2.5	2.3	1.8	1.7	1.7	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.8	58.4	14.6
01.30 National phytosanitary infrastructure project	Project cost		0.3	5.8																							6.0	1.5
	Scaling-up cost				0.3	1.9	0.4	2.5	0.6	2.5	0.6	2.5	0.5	1.9	0.4	1.9	0.4	1.9	0.4	2.0	0.5	2.3	0.5	2.5	0.6	3.2	30.4	7.6
	Project total		0.3	5.8	0.3	1.9	0.4	2.5	0.6	2.5	0.6	2.5	0.5	1.9	0.4	1.9	0.4	1.9	0.4	2.0	0.5	2.3	0.5	2.5	0.6	3.2	36.4	9.1
01.31 Establishment of a national phytosanitary system project	Project cost	0.9	3.9	0.8	0.2																						5.8	1.5
	Scaling-up cost					1.1	1.2	1.6	1.5	1.5	1.6	1.6	1.3	1.1	1.2	1.2	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.9	28.7	7.2
	Project total	0.9	3.9	0.8	0.2	1.1	1.2	1.6	1.5	1.5	1.6	1.6	1.3	1.1	1.2	1.2	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.9	34.5	8.6
01.32 Quality standards and quality control for agricultural products project	Project cost									3.1	3.8	2.9	2.4	3.4	1.8	3.4											20.9	5.2
	Scaling-up cost																3.2	3.2	3.3	3.4	3.6	3.8	4.0	4.2	4.5	5.3	38.6	9.6
	Project total									3.1	3.8	2.9	2.4	3.4	1.8	3.4	3.2	3.2	3.3	3.4	3.6	3.8	4.0	4.2	4.5	5.3	59.4	14.9
01.33 Tractor assembly plant establishment support project	Project cost	2.6	2.1	1.0																							5.8	1.4
	Scaling-up cost				1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.5	38.2	9.6
	Project total	2.6	2.1	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.5	44.0	11.0

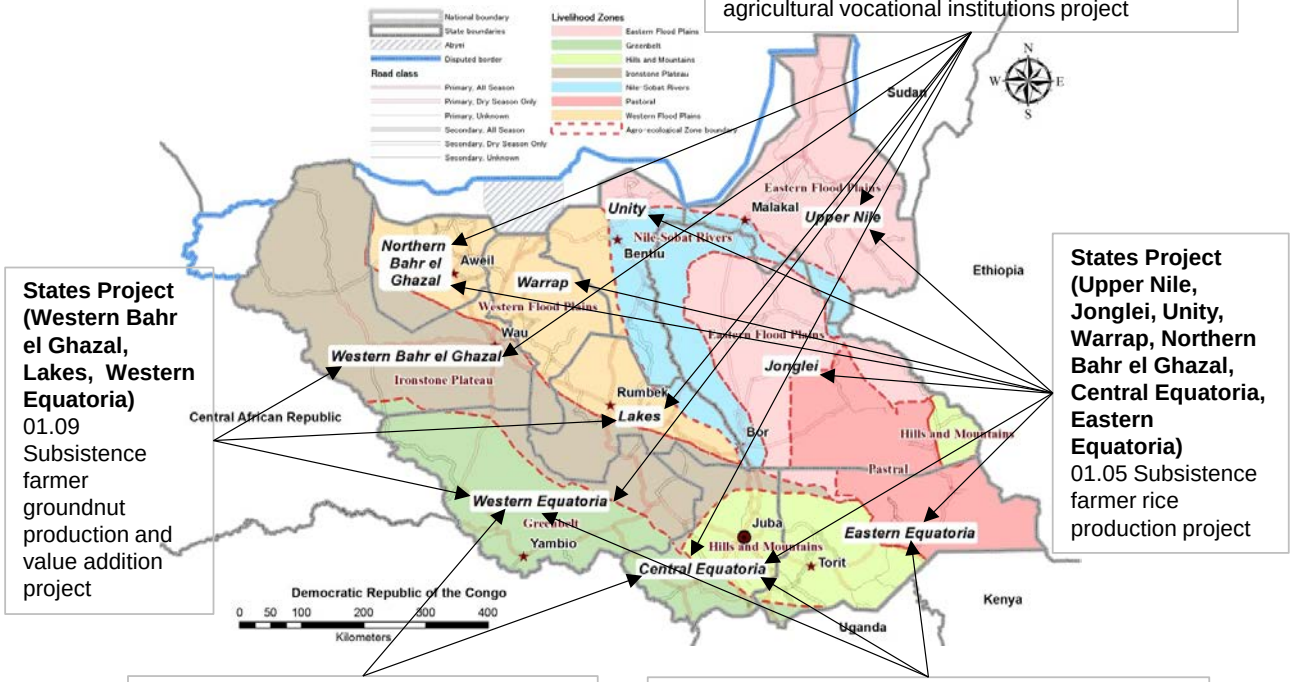
SSP/USD = 4.00

Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV										SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
T5 Institutional development	Project cost	3.0	5.8	7.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6															20.5	5.1
	Scaling-up cost				1.7	2.6	2.6	3.4	3.4	3.4	3.4	3.4	7.3	6.2	6.2	6.2	6.2	6.2	6.4	6.6	7.1	7.5	7.9	8.3	8.7	10.4	125.3	31.3
	Theme total	3.0	5.8	7.2	5.5	2.6	2.6	3.5	3.5	3.5	3.5	4.0	7.3	6.2	6.2	6.2	6.2	6.2	6.4	6.6	7.1	7.5	7.9	8.3	8.7	10.4	145.8	36.5
01.34 Establishment of firm legislative framework project	Project cost	3.0	3.0	2.9																							8.8	2.2
	Scaling-up cost				1.7	2.6	2.6	3.4	3.4	3.4	3.4	3.4	3.0	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.9	3.1	3.3	3.4	3.6	4.3	65.9	16.5
	Project total	3.0	3.0	2.9	1.7	2.6	2.6	3.4	3.4	3.4	3.4	3.4	3.0	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.9	3.1	3.3	3.4	3.6	4.3	74.7	18.7
01.35 Enhancement of laws and regulations enforcement project	Project cost		2.8	4.3	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6															11.7	2.9
	Scaling-up cost												4.3	3.7	3.7	3.7	3.7	3.7	3.8	3.9	4.1	4.4	4.6	4.9	5.1	6.1	59.4	14.9
	Project total		2.8	4.3	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	4.3	3.7	3.7	3.7	3.7	3.7	3.8	3.9	4.1	4.4	4.6	4.9	5.1	6.1	71.1	17.8

2.3 Project Location Map

Nation-wide Projects
01.01 IDPs and returnees settlement/resettlement support project
01.02 Quality seed production project
01.03 Subsistence farmer sorghum production project
01.06 Subsistence farmer vegetable and fruit production project
01.10 Enhancement of animal power utilisation project
01.11 Promotion of integrated farming for risk reduction project
01.12 Farmers organisation support project
01.13 Promotion of market oriented farming project
01.14 Farmers and pastoralists conflict resolution project
01.15 Strengthening of extension service delivery project
01.17 Enhancement of private sector agro-input providers project
01.18 Enhancement of tractor hire service providers project
01.19 Tractor operator training project
01.20 Urban and peri-urban vegetable production and marketing project
01.21 Sesame production project
01.22 Fruit and nut production project
01.24 Development of research capacity project
01.25 Extension system reform and efficient service delivery project
01.28 Private sector investment project
01.29 National crop pest and disease control project
01.30 National phytosanitary infrastructure project
01.31 Establishment of a national phytosanitary system project
01.32 Quality standards and quality control for agricultural products project
01.34 Establishment of firm legislative framework project
01.35 Enhancement of laws and regulations enforcement project

States Project (Upper Nile, Northern Bahr el Ghazal, Western Bahr el Ghazal, Lakes, Western Equatoria, Central Equatoria)
01.27 Establishment and enhancement of agricultural vocational institutions project



States Project (Western Bahr el Ghazal, Lakes, Western Equatoria)
01.09 Subsistence farmer groundnut production and value addition project

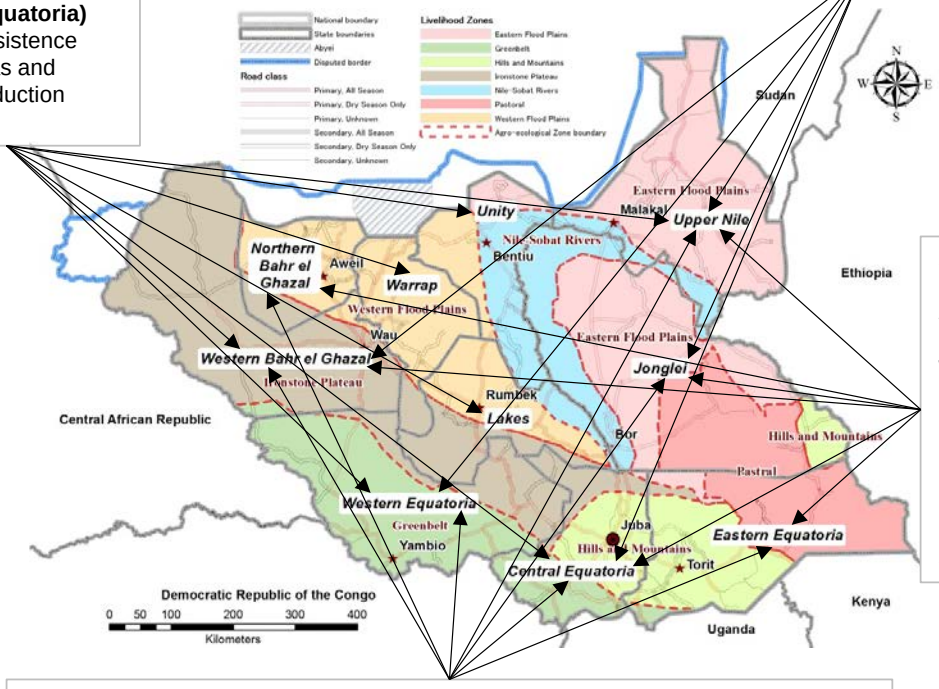
States Project (Upper Nile, Jonglei, Unity, Warrap, Northern Bahr el Ghazal, Central Equatoria, Eastern Equatoria)
01.05 Subsistence farmer rice production project

States Project (Western Equatoria, Central Equatoria)
01.07 Subsistence farmer cassava production and value addition project

States Project (Western Equatoria, Central Equatoria, Eastern Equatoria)
01.04 Subsistence farmer maize production project

States Project (Upper Nile, Unity, Warrap, Western Bahr el Ghazal, Lakes, Western Equatoria, Central Equatoria)
01.08 Subsistence farmer peas and beans production project

States Project (Upper Nile, Jonglei, Western Bahr el Ghazal, Western Equatoria, Central Equatoria)
01.26 Establishment and enhancement of national higher educational institutions for agriculture project



States Project (Upper Nile, Jonglei, Northern Bahr el Ghazal, Western Bahr el Ghazal, Central Equatoria, Eastern Equatoria)
01.33 Tractor assembly plant establishment support project

States Projects (Upper Nile, Jonglei, Northern Bahr el Ghazal, Western Bahr el Ghazal, Western Equatoria, Central Equatoria, Eastern Equatoria)
01.16 Strengthening and establishment of training institution infrastructure project
01.23 Development of research institution infrastructure project

2.4 Project Profiles

2.4.1 IDPs and returnees resettlement support project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop				
(2) Project name:	IDPs and returnees resettlement support project				
(3) Project ID:	0 1 . 0 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2019/20	Duration (years): 5	
(5) Total investment:	SSP 31,574,000		USD 7,894,000	Note: Not including recurrent cost	

1.2 Project characteristics: (to be selected from Tables in Reference Book)

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA11	Production resource management	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Service	Table 2-6
	13	MAF-AE	Directorate of Planning and Agriculture Economics	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12
	207	SP-PL	Service delivery/infra. Dev.-Granting permissions and licences	Table 2-12

1.3 Project characteristics: (to be selected from the items below)

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/15-2020/21, 5 years)	X
	02	PH2	Phase II (2020/21-2025/26, 5 years)	
	03	PH3	Phase III (2025/26-2030/31, 5 years)	
	04	PH4	Phase IV (2030/31-2040/41, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Since the outbreak of conflicts in Juba in December 2013, South Sudan has been facing serious challenges including insecurity, displacement of people, food shortages, outbreaks of disease and seasonal floods. According to UNOCHA and UNHCR[6], over 1.5 million people became displaced from their homes from December 2013 to June 2014, including over 400,000 people who fled to neighbouring countries such as Uganda, Kenya, Ethiopia and Sudan. Inside South Sudan, internally displaced persons (IDP) were scattered over 186 locations and the number of people who fled to 8 UNMISS bases (i.e. Tomping and UN house in Juba, Bor, Malakal, Bentiu, Wau, Melut, Nasser and Rumbek) was over 100,000. Displacement patterns are fluid and many IDPs were forced to flee several times. The influx of IDPs often overwhelms host communities, leading to tensions and further movements. Tens of thousands of people sought shelter on small islands to protect themselves from attack without access to basic services. Most other displaced people were scattered in rural areas with limited information available on their living conditions. Agriculture is the main source of livelihood for IDPs and returnees from neighbouring countries as well as the local residents already in South Sudan. Food security has worsened due to the combination of widespread insecurity, low agricultural production and sharp increases in the price of agricultural commodities. In order to accelerate the resettlement of IDPs and returnees, technical assistance and input support for farming are important; producing more food crops contributes to improving their food security and livelihoods in their areas of resettlement. Simultaneously, people in the host communities of IDPs and returnees need to be supported, since integration and peaceful coexistence between IDPs/returnees and host communities are crucial for success in the resettlement process. Thus, the project will target IDPs and returnees as well as farmers in host communities.
(2) Objectives:	This project aims to support the resettlement of the target IDPs and returnees and to facilitate their integration into host communities through providing technical and input support for farming. In addition, the project aims to improve the livelihood and nutritional status of the target IDPs and returnees, and host communities by producing more food crops.
(3) Overall description including temporal and spatial extent of project:	The project focuses on the IDPs and returnees and their host communities. 50,000 selected IDPs and returnees and 10,000 farmers from their host communities will be targeted. Necessary technical support for farming and inputs and simple tools will be provided to target beneficiaries by government agricultural extension officers (AEOs), and staff of NGOs. To accelerate integration and peaceful coexistence with host communities, joint action plans between IDPs/returnees and host communities will be prepared. Regular meetings between IDPs/returnees and host communities will be facilitated where progress and issues of the project activities will be shared. Before starting the project activities, a social assessment and baseline surveys will be conducted to understand the social aspects in target areas (e.g. relationship between IDPs/returnees and host communities and among IDPs/returnees, tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) and agriculture production potential (e.g. suitable crops, soil conditions, water availability, pests and diseases, appropriate agricultural practices and marketing). By referring to the surveys' results, target crops will be selected in a participatory manner by target IDPs/returnees and farmers from host communities. And then training contents will be discussed and determined. Training courses should be tailored taking into account their socio economic situation and available natural resources for farming. The project will focus on areas where IDPs/returnees have already resettled and can get access to land for farming. The project duration is 5 years. Special attention will be paid to ensure equal/equitable participation, contribution and benefit by both women and men at all levels of the project; this might include affirmative action where necessary. Project reporting, monitoring and evaluation will include gender

[6] South Sudan Crisis Situation Report, 3 July 2014, UNOCHA
South Sudan Refugee Situation, 23-27 June 2014, UNHCR

Items	Information
	disaggregated data as well as gender specific results. The project will also pay special attention to young farmers' participation.
(4) Component structure:	Component 1: Enhancement of coordination between the national and state governments Component 2: Selection of target IDPs and returnees and their host communities Component 3: Provision of technical support and necessary inputs for target IDPs/refugees and host communities Component 4: Provision of periodic follow-up

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Enhancement of coordination between the national and state governments Activity 1.1: Establish a regular (monthly) information sharing system on resettlement status of IDPs and returnees between national and state governments in collaboration with other stakeholders (e.g. UNOCHA, IOM, WFP, related NGOs, etc.) Activity 1.2: Hold regular (monthly) meetings at national and state levels Activity 1.3: Identify needs of IDPs and returnees, especially for agricultural technical support to accelerate their resettlement (e.g. agriculture production skills, use of agricultural inputs and simple tools, post-harvest handling and storing, knowledge of nutrition and hygiene, etc.) Activity 14: Identify measures to address their needs (e.g. technical training and provision of inputs) Outputs: an information sharing system established, regular meetings held at both national and state levels, needs of IDPs and returnees identified and measures to address the needs identified Component 2: Selection of target IDPs and returnees and their host communities Activity 2.1: Conduct social assessment in target areas (e.g. conditions of IDPs/returnees and host communities, land tenure of IDPs/returnees, tension between IDPs/returnees and host communities, conflicts among IDPs/returnees, tribal conflicts, conflicts between farmers and livestock keepers, gender disparity, youth, HIV, etc.) and surveys on agricultural production potential (e.g. suitable crops, soil conditions, water availability, pest and diseases, agricultural practices and marketing) Activity 2.2: Select target IDPs and returnees and their host communities in accordance with selection criteria developed by stakeholders based on social assessment (with a special focus on youth and gender) and agricultural potential survey Activity 2.3: Conduct baseline survey on target IDPs and returnees and their host communities (e.g. land tenure, production capacities, farming activities, gender disparity, economic status, etc.) Activity 2.4: Hold meetings with beneficiaries (i.e. IDPs and returnees and farmers from their host communities) to raise awareness on IDPs/returnees integration and have consensus with project approaches and obligations of beneficiaries Outputs: 50,000 IDPs/returnees (about 25,000 females and 25,000 males) and 10,000 farmers (about 5,000 females and 5,000 males) from host communities selected, baseline survey reports clarifying present conditions; 500 meetings held and project buy in achieved Component 3: Provision of technical support and necessary inputs for target IDPs/refugees and host communities Activity 3.1: Conduct training for AEOs and NGO staff on social considerations and basic farming practices (e.g. basic knowledge of social considerations, conflict resolution and gender, facilitation skills, simple methods of planting, weeding, watering, fertiliser use, pest and disease control, post-harvest handling, and marketing) Activity 3.2: Conduct consultations with the beneficiaries to develop their action plans during the project period (target IDPs/refugees and host communities will work together to prepare action plans) and select target crops Activity 3.2: Hold meetings with the beneficiaries and stakeholders (e.g. state governments, UN agencies, local NGOs, etc.) to share planned activities with them Activity 3.3: Conduct technical training for the beneficiaries by AEOs and NGO staff to disseminate appropriate agriculture production skills on target crops Activity 3.4: Distribute necessary inputs for the beneficiaries (e.g. improved seeds and fertiliser for IDPs/returnees and host communities, and simple tools for IDPs/returnees) Activity 3.5: Hold regular meetings among the beneficiaries to share achievements and issues so as to accelerate peaceful coexistence between IDPs/returnees and host communities

Items	Information
	Outputs: 200 extension agents able to assist farmers, 60,000 farmers trained and able to improve productivity, fertiliser and simple tools distributed, regular meetings held Component 4: Provision of periodic follow-up Activity 4.1: Conduct periodic follow-up by AEOs and NGO staff Activity 4.2: Facilitate integration of IDPs/returnees and host communities, by AEOs and NGO staff Activity 4.3: Carry out end of project survey on improvement of the beneficiaries (IDPs, returnees and host communities) Outputs: 60,000 farmers followed-up, survey reports prepared showing impact of project

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	200 extension agents (e.g. AEOs and NGO staff) State government officers working for IDPs and returnees Some international and local consultants Staff of government training and research institutes Staff of UN agencies (e.g. UNOCHA, IOM and WFP)
(2) Description of beneficiaries within the framework of the project:	Female and male IDPs and returnees and female and male farmers from their host communities and AEOs

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	By starting to farm in resettled areas, most of the target IDPs and returnees will improve their livelihood and household food self-sufficiency. Also host communities will benefit through the project activities which will be conducted together with the target IDPs and returnees. This situation will accelerate integration and will greatly contribute to the resettlement process. In addition, through improved diet and better hygiene, the beneficiaries' nutrition and health will be improved. These benefits will be shared fairly among the household members (e.g. adults female and male, and children).
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • A negative social impact might be observed if there are conflicts between the target IDPs/returnees and their host communities or among the IDPs/returnees. Especially, land tenure might become a sensitive issue if proper coordination with leaders of host communities is not made by stakeholders (e.g. national and state governments, UN agencies and concerned NGOs). Selection of the beneficiaries is also crucial. If equality and fairness cannot be maintained, serious negative impacts would be observed. (Positive) • The social impact of the project will be mainly positive if the above issues are handled properly. Producing staple food and other crops will contribute significantly to improve livelihoods and food security of target IDPs/returnees and farmers from host communities. Appropriate target IDPs/returnees should be selected with gender considerations by following selection criteria set by stakeholders. To maintain transparency, selection criteria should be determined very carefully with stakeholders including local community leaders. This is a key point of the project.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of IDPs/returnees resettled • Number of IDPs/returnees engaged in farming • Number of people in host communities who are willing to accept IDPs/returnees in their communities • Number of conflicts related to resettlement of IDPs/returnees
(2) Measurable indicators and situation at the end point:	• Increased number of IDPs/returnees engaged in farming • Increased number of people in host communities who are willing to accept IDPs/returnees in their communities • Farming income of IDPs/returnees engaged in farming • Number of female and male beneficiaries trained • Number of conflicts related to resettlement of IDPs/returnees
(3) Methods of measurement and	Baseline and end of project surveys, CFSAM data, NBS census data, data from UN

Items	Information
sources of information:	agencies
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with state Ministry of Agriculture will be responsible for monitoring and evaluation as well as UN agencies working on resettlement. The beneficiaries and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing technical training as well as improving practical skills to work with gender and conflict resolution issues. The government should mainly focus on facilitation to create a better environment for resettlement by involving local chiefs and leaders.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (three in-charge for each target state, total 30 staff)) • Extension agents (e.g. AEOs and NGO staff) (about 200 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: 1. One project management (Master degree, 15-years experience) 2. One crop husbandry/extension expert (BSc or BA, 5-years experience) 3. One conflict resolution expert (BSc, 5-years experience) 4. One social consideration (including gender) expert (BSc or BA, 5-years experience) Local consultants for baseline and end of project surveys will be hired. Local chiefs and leaders will be involved to facilitate resettlement.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks	Expected risk level might be medium due to the following reasons. • Conflicts or tensions among beneficiaries (IDPs/returnees and farmers from host communities), and between beneficiaries and non-beneficiaries • Insecurity of rural areas, especially ethnic conflicts • Unfavourable conditions of access roads to reach beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited capacity of AEOs and NGO staff and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders including local chiefs and leaders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection. An intensive social assessment should be conducted to identify the situation of target beneficiaries and locations. Frequent consultations with local chiefs and leaders are very important to avoid conflicts among beneficiaries and ease tension between beneficiaries and non-beneficiaries.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by state government staff, extension agents and staff of UN agencies. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs would be required.

01.01 IDPs and returnees settlement/resettlement support project

SSP/USD = 4.00

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,897**	**1,900**	**1,765**	**1,720**	**2,492**																					**11,774**	**2,944**	**37%**
1 Deployment of government staff	**223**	**223**	**223**	**223**	**223**																					**1,116**	**279**	**4%**
1 Regular meetings at state capital (national staff per diem)	22	22	22	22	22																					108	27	0%
2 Regular meetings at state capital (national staff transportation)	36	36	36	36	36																					180	45	1%
3 Regular meetings, state staff (transportation)	166	166	166	166	166																					828	207	3%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,501**	**1,631**	**1,496**	**1,496**	**2,231**																					**9,354**	**2,339**	**30%**
1 International consultant (project manager)	540	270	135	135	270																					1,350	338	4%
2 International consultant (crop husbandry/extension)	454	454	454	454	454																					2,268	567	7%
3 International consultant (conflict resolution)	454	454	454	454	454																					2,268	567	7%
4 International consultant (social consideration)	454	454	454	454	454																					2,268	567	7%
5 Local consultant (baseline and end line survey)	600				600																					1,200	300	4%
4 Implementation of staff training	**1,020**																									**1,020**	**255**	**3%**
1 Training for 200 extension agents (per diem)	840																									840	210	3%
2 Training for 200 extension agents (transportation)	180																									180	45	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**153**	**46**	**46**	**1**	**38**																					**284**	**71**	**1%**
1 Fuels for baseline survey by extension agents	108																									108	27	0%
2 Fuels for field training for 60,000 farmers	45	45	45																							134	34	0%
3 Fuels for follow up by extension agents		1	1	1																						3	1	0%
4 Fuels for end line survey by extension agents					38																					38	10	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**6,600**	**6,600**	**6,600**																							**19,800**	**4,950**	**63%**
1 Provision of cash and/or in-kind subsidies	**6,600**	**6,600**	**6,600**																							**19,800**	**4,950**	**63%**
1 improved seeds (4 crops) for 60,000 farmers	3,200	3,200	3,200																							9,600	2,400	30%
2 fertilizer for 60,000 farmers	1,000	1,000	1,000																							3,000	750	10%
3 agricultural tools for 60,000 farmers	2,400	2,400	2,400																							7,200	1,800	23%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**10,497**	**8,500**	**8,365**	**1,720**	**2,492**																					**31,574**		**100%**
Total (USD '000)	**2,624**	**2,125**	**2,091**	**430**	**623**																						**7,894**	
% to total	**33%**	**27%**	**26%**	**5%**	**8%**																					**100%**		

Public sector project | Private sector project | Routine work by government | Routine work by private sector

2.4.2 Quality seed production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Quality seed production project				
(3) Project ID:	0 1 . 0 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 18,792,000		USD 4,698,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:	CR.SA8		Agricultural inputs	Table 2-3
(2) Government organisation :	09	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
	02	MAF-RE	Directorate of Research	Table 2-6
(3) Activity types :	204	SP-RE	Service delivery and infrastructure development - Research and experiment	Table 2-12
	301	PS-PR	Private sector - Production	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

Although South Sudan is one of the richest countries in Africa in terms of natural resources, and has great potential for sustainable agricultural development, there is a high incidence of poverty, food insecurity and malnutrition. Low productivity levels prevent South Sudanese farmers from achieving higher yields; this can partially be attributed to the unavailability of quality seed. South Sudan lacks an efficient seed production and distribution system.

The focus will not only be on establishing structures able to provide clean, drought and pest and disease resistant or tolerant varieties of the most common seeds (for staples such as maize), but also to provide biofortified seed to increase nutritional value, and high-quality seed for horticultural products. The aim is to provide access to quality seed of superior varieties, both improved and local, by recognising both informal and formal seed systems. A flourishing seed sector, centred on small farmers will bring huge benefits to agricultural development and farmers' livelihoods.

A long-term objective of the project is to make commercial seed accessible to all farmers, including poor and marginalized farmers. However, a commercial seed sector can only function long-term if the purchasing power of farmers increases. Training them to improve their plant breeding and seed and propagation material production will - over time – enable them to produce those surpluses needed to generate sufficient extra income to pay for commercially produced seed.

More formal methods of producing seed and propagation material consist of diverse commercial services which may include variety breeding, variety registration, propagation, certification and trading. Commercial plant breeding systems like these are more efficient and improve varieties faster. The seed is usually dressed (treated), which ensures that the vast majority of seed actually germinate. Quality control checks and certification help to maintain higher levels of varietal purity in commercial, as opposed to locally produced, seed.

In this situation, however, ownership of the varieties is usually privatised as the knowledge stems from the seed companies' own R&D efforts. This is different in the case of South Sudan. The very few existing seed companies are not engaged in research, but rely exclusively on parastatal research institutions. In the short- and medium-term it cannot be expected that the investment needed to establish private sector research departments will be available. This is beneficial for South Sudan's small farmers as property rights will remain in the public domain. Hence, the focus of this project will be on strengthening and initiating linkages between existing and prospective national government research centres and regional and international research institutes such as the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the Private Agriculture Sector Support (PASS), and International Centre for Tropical Agriculture (CIAT) and existing and new seed companies.

On a macro level, the Directorate of Agricultural Production and Extension Services at MAFCRD needs to be strengthened to be able to take charge of seed company licensing, variety release and cataloguing; import and export regulations; and seed quality assurance. South Sudan developed a Seed Policy in 2011, but a Seed Act and specific regulations have not yet been developed. Also the policy has not been ratified yet. Support to the Directorate of Agricultural Production and Extension Services will therefore constitute an important component of the project.

A Seed Act can be considered as the legal framework that provides for the promotion, regulation and control of plant breeding and variety release, seed multiplication and marketing, seed import and export, and quality assurance of seed and planting materials. It specifies which agency (under the auspices of MAFCRD) is supposed to carry out which function. An indispensable function is seed certification. Examples can be taken from the region: Uganda has established a National Seed Certification Services (NSCS) operating under the Crop Protection Department and accredited to the Organization for Economic Cooperation and Development (OECD) for field seed certification. In Kenya, there is a body called Kenya Plant Health Inspectorate Service (Kephis), which carries out this exercise. Whatever South Sudan will opt for, the establishment of this function is a precondition to ensuring quality seed production and distribution and can therefore not be delayed. Moreover, specific regulations providing guidelines for enforcement of the Act have to be developed.

Items	Information
	Public-private partnerships (PPPs) can present an incentive to seed companies to expand their operations as it reduces the numerous risks private companies are facing in environments such as South Sudan. Seed companies should be supported with capacity development exercises, through linking them up with local, regional, and international research centre/institutes, by including them in the drafting of acts, and regulation through establishing fora for public-private dialogue, thereby ensuring that a truly enabling environment will be created, and also by facilitating access to buyers through establishing contacts with them and by offering companies outlets for their seed through public or NGO-run free (or subsidised) seed hand-out programs.
(2) Objectives:	This project aims to: • Improve seed production systems and enhance farmer's access to quality, and highly improved and adapted seed varieties through building technical capacity of national research institutes, commercial seed companies, extension staff and farmers • Enhance availability of quality seed in the market • Encourage enterprise development and agricultural transformation
(3) Overall description including temporal and spatial extent of project:	The project will create a formal, large-scale commercial seed production and distribution system. The project will cover all states and livelihoods zones. However, a phased approach is recommended. The project rests upon the presumption that research institutions exist in all states and are operational. Project implementation should be aligned to the progress being made in this regard. The project will start in 2015 and should last for 10 years. Its goal is to create a vibrant private sector seed industry. This is an ambitious goal, requiring some preconditions to be in place such as an enabling, regulatory environment. The creation of laws, regulations and policies should therefore be a first priority. Similarly, increasing government capacity concerning its functions will be important. The project will substitute (often dirty and/or counterfeit) imported seed with safe seed and planting material originating from South Sudan, certified and adapted to local conditions. This import substitution strategy will contribute to increase of yield and encourage private sector development. Both seed companies and selected farmers will be trained on how to propagate and multiply quality seeds. These farmers will benefit from being able to use better seeds and could be subcontracted by the seed companies to produce seeds to earn extra income. The benefits of establishing quality seed production through formal, i.e. large-scale commercial activities include employment generation, seeds resistant to drought or pests, and greater food security through increases in productivity.
(4) Component and activity structure:	Component 1: Support to public institutions Component 2: Support existing and new seed companies

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Support to public institutions Activity 1.1: Support the Directorate of Agricultural Production and Extension Services in developing a seed act, and regulations and quality standards against which commercially produced seed will be certified, in collaboration with ASARECA and with private sector input Outputs: a seed act, regulations and quality standards in line with the seed policy, including procedures for registering and certifying newly propagated seeds Activity 1.2: Establish a system for government research centres to store, share and monitor certified seeds of different varieties of different crops; seed companies will propagate and multiply seeds Outputs: certified seeds available at seed companies Activity 1.3: Establish certifying unit under the Directorate of Agricultural Production and Extension Services and strengthen capacity of the Directorate to carry out seed production activities Outputs: Directorate able to carry out its mandate for quality seed production Activity 1.4 Support the government in establishing platforms for public-private dialogue such as "South Sudan Seed Network" with seed companies to ensure private sector feedback as to what they need for an enabling environment Outputs: in all 10 states, bi-annual meetings with representatives of seed companies take place and government officials record and integrate outcomes in decision-making processes Activity 1.5: Monitor situation of quality seed production and government decision making Outputs: Monitoring report used by Directorate of Agricultural Production and Extension Services to improve quality seed production Activity 1.6: Conduct training on the seed act, regulations, quality standards, and system for sharing certified seeds between the government and private sector to government agricultural extension workers (AEOs) and NGO extension workers

Items	Information
	Outputs: knowledgeable AEOs, and NGO extension workers Component 2: Support existing and new seed companies Activity 2.1: Conduct survey on situations about seed companies and outgrowers (farmers who contract with seed companies to propagate/multiply seeds) in each state, (employees of seed company, agro-input dealers, and NGO staff) Outputs: A survey report to determine the numbers of existing seed companies and potential outgrowers in each state Activity 2.2: Assist seed companies in embarking on PPPs Outputs: 20 seed companies have PPP-arrangement with national or state governments. Activity 2.3: Provide technical capacity development to seed companies and selected outgrowers to enable them to carry out seed propagation, multiplication and distribution, including management skills, required on quality seed production Outputs: Seed companies producing quality seeds and knowledgeable about existing seed policy, seed act, regulations, quality standards etc.;, outgrowers knowledgeable about seed multiplication and about key information about seed policy, seed act and regulations Activity 2.4: Provide trained and committed seed companies breeder seeds to start propagation and/or multiplication Outputs: Seed companies with initial breeder seeds Activity 2.5: Link seed companies to national, regional and international research centres and/or institutes to provide them with access to their research findings and enable companies to make best use of them Outputs: Established contacts between seed companies and research institutes Activity 2.6: Link seed companies to seed buyers and public and NGO-run seed distribution programmes to enable them to provide and/or sell seeds required by these programs and commercial farmers. Outputs: Farmers using quality seeds

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• ASARECA staff works with the government (Directorate of Agricultural Production and Extension Services and Directorate of Research) to develop a seed act and according regulations. • Appropriate numbers of officers need to be assigned to the certifying unit • An external consultant facilitates the establishment of PPP-Dialogue formats and works with concerned government agencies to translate lessons learnt into viable private sector supportive policies. • External consultants provide technical assistance to seed companies. • A national focal point (funded by government or a DP) acts as facilitator for establishing contacts between seed companies and research centres/institutions and seed companies and buyers of seed such as traders and retailers.
(2) Description of beneficiaries within the framework of the project:	National government, specifically the Directorate of Plant Protection, seed companies, outgowers, individual small scale farmers and villages

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• The government has developed the institutional structures and enforcement capacities to efficiently regulate the seed sector. • High quality and certified seed is produced and sold in-country. • The regulatory framework on seed production is conducive to private sector operations and new private sector operators emerge. • Farmers' knowledge on seed and planting material production increases and through this production and productivity increase. • Farmers' incomes increase steadily and they can purchase progressively more seed from commercial companies. • Food and nutrition security are strengthened and livelihoods of South Sudanese farmers have improved.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation	(Negative) • No negative impacts are expected. (Positive) • The environmental and social impact will be entirely positive as greater oversight and	

Items	Information
measures:	control of seed and planting material production, trade and import will prevent unsafe, i.e. dirty materials to spread. Growth of the private sector for seed propagation will bring significant positive impacts on the agricultural sector.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No. of seed companies operating in the country • Amount of seed imported from Kenya and Uganda • Status of regulatory framework and capacity of corresponding government agencies
(2) Measurable indicators and situation at the end point:	• No. of seed companies operating in the country • Amount of seed imported from Kenya and Uganda • Capacity of research institutes to develop new varieties (no./year) • Status of regulatory framework and capacity of corresponding government agencies • No. of seeds propagated, multiplied and distributed by seed companies
(3) Methods of measurement and sources of information:	National Bureau of Statistics, Directorate of Research of MAFCRD, seed companies
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agricultural Production and Extension Services, Directorate of Research

2.7 Required human resources

(1) Principle of human resources management:	Qualified and experienced personnel in quality seed production and business administration with PhD or MSc in agriculture sciences, business administration or related subjects, along with extensive practical experience
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 senior inspectors (grades 5 and 7) from the MAFCRD • 4 assistant inspectors: 2 from Directorate of Agricultural Production and Extension Services, 1 from Directorate of Research, and 1 from Directorate of Agriculture Production and Extension Services (grade 9 for each member) of MAFCRD
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of : • Project management (Master's degree, minimum 15-years experience): One • Seed specialist (Master's degree, 10 years experience): One • Business management/planning specialist (BA or BSc, 10-years experience or more): One • Extension specialist (BA or BSc, 5-years experience or more): One • Project coordinator (BA in Agriculture desirable, 3-years experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	• Due to widespread insecurity and conflict there is a risk that the project will be affected. Preconditions for the project to go ahead as planned, is government commitment to and engagement for developing the required policies and legislations and to follow-up on their implementation. If the current crisis does not end before project inception, the government will most likely continue to use national funds for defence purposes and not invest in developing a regulatory framework and creating the necessary institutional structures for implementation and enforcement. • Conflict also deters potential investors from any kind of capital expenditure as the risk of loss is high. The risk can be mitigated by embarking on PPPs, but cannot be completely offset. • Should no political settlement be reached in the short-term, the beginning of the project should be postponed until relative calm returns to the country.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is related to the "Development of research capacity project" especially about the capacity of government agricultural researchers to propagate and multiply seeds. Thus, close communications with the project staff and the Directorate of Research would be important for smooth project implementation. Also, if necessary, AEOs would support seed companies and outgrowers to multiply seeds. Initially, new seed companies could obtain breeding seeds, but they will need to produce their own parent seeds to continue to multiply seeds in the middle to long term.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Follow-up coaching to officers of the Directorate of Agricultural Production and Extension Services, Directorate of Research and the certifying agency might be required.

01.02 Quality seed production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4									Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**1,188**	**1,291**	**1,013**	**1,289**	**1,279**	**904**	**1,094**	**809**	**494**	**994**																**10,351**	**2,588**	**55%**
1 Deployment of government staff	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**																**180**	**45**	**1%**
1 Annual monitoring at each state by 6 project members	6	6	6	6	6	6	6	6	6	6																60	15	0%
2 Annual monitoring at each state by 6 project members	12	12	12	12	12	12	12	12	12	12																120	30	1%
2 Procurement of administrative services (contracted)	**9**																									**9**	**2**	**0%**
1 Copy of documents	9																									9	2	0%
3 Procurement of professional services (contracted)	**1,070**	**1,120**	**780**	**1,080**	**1,070**	**695**	**885**	**760**	**445**	**945**																**8,850**	**2,213**	**47%**
1 International senior consultant (project management)	720	720	540	540	540	360	360	360	360	540																5,040	1,260	27%
2 International expert (seed production)	140	140		210	210	210	210	140		140																1,400	350	7%
3 International expert (business management/planning)	120	115	100	180	180		180	170		180																1,225	306	7%
4 International junior expert (extension)			60	60	50	40	40																			250	63	1%
5 International junior expert (project coordinator)	90	85	80	90	90	85	95	90	85	85																875	219	5%
6 Local consultant (state survey)		60																								60	15	0%
4 Implementation of staff training	**91**	**153**	**215**	**191**	**191**	**191**	**191**	**31**	**31**	**31**																**1,312**	**328**	**7%**
1 Meeting for directorate staff in Juba	24	24	24																							72	18	0%
2 Meeting for establishment of system in Juba	18																									18	5	0%
3 Meeting for establishment of certifying unit in Juba	18																									18	5	0%
4 Trainings for certifying unit staff in Juba		30																								30	8	0%
5 Trainings for government officer at Yei (per diem)		60																								60	15	0%
6 Trainings for government officer at Yei (transportation)		8																								8	2	0%
7 Meeting for government official at state capital (per diem)	18	18	18	18	18	18	18	18	18	18																180	45	1%
8 Meeting for government official at state capital (transportation	12	12	12	12	12	12	12	12	12	12																120	30	1%
9 Annual meeting in Juba	1	1	1	1	1	1	1	1	1	1																6	2	0%
10 Trainings for AEOs and NGO (per diem)			128	128	128	128	128																			640	160	3%
11 Trainings for AEOs and NGO (transportation)			32	32	32	32	32																			160	40	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans			**81**	**550**	**2,387**	**2,117**	**2,517**	**420**	**150**	**220**																**8,441**	**2,110**	**45%**
1 Provision of cash and/or in-kind subsidies					**1,967**	**1,967**	**1,967**																			**5,900**	**1,475**	**31%**
1 Seeds for distribution					100	100	100																			300	75	2%
2 Seeds for distribution					1,867	1,867	1,867																			5,600	1,400	30%
2 Provision of training services to the private sector			**81**	**550**	**420**	**150**	**550**	**420**	**150**	**220**																**2,541**	**635**	**14%**
1 Explanatory sessions for seed companies in Juba			81																							81	20	0%
2 Training for seed companies at each state (per diem)				240	240		240	240																		960	240	5%
3 Training for seed companies at each state (transportation)				30	30		30	30																		120	30	1%

01.02 Quality seed production project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
4 Training for outgrowers (per diem)					125	125		125	125																	500	125	3%
5 Training for outgrowers (transportation)					25	25		25	25																	100	25	1%
6 Meeting for seed companies and research institutes in Juba				60			60																			120	30	1%
7 Meeting for farmers (per diem)				180			180			180																540	135	3%
8 Meeting for farmers (transportation)				40			40			40																120	30	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**1,188**	**1,291**	**1,094**	**1,839**	**3,665**	**3,020**	**3,610**	**1,229**	**644**	**1,214**																**18,792**		**100%**
Total (USD '000)	**297**	**323**	**273**	**460**	**916**	**755**	**903**	**307**	**161**	**303**																	**4,698**	
% to total	**6%**	**7%**	**6%**	**10%**	**20%**	**16%**	**19%**	**7%**	**3%**	**6%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.3 Subsistence farmer sorghum production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector: Crop

(2) Project name: Subsistence farmer sorghum production project

(3) Project ID:	0 1 . 0 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years):	10
(5) Total investment:	SSP 11,793,000		USD 2,948,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture production and Extension Service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Even though a vast amount of arable land is available in South Sudan, many subsistence farmers cannot realise food self-sufficiency. According to the Crop and Food Security Assessment Mission (CFSAM), total estimated net cereal production of South Sudan in 2013 was 892,004 tons. Total cereal requirement for 2014 is 1,300,552 tons based on the assumption that about 11.9 million people (including about 2 million returnees) consume 109kg/capita/year. As a result, the estimated cereal deficit in 2014 is 408,548 tons. A food deficit situation would seriously worsen if internal disputes continued and large amounts of cereal stocks in urban and peri-urban areas were looted or destroyed. To ameliorate food security conditions, the government needs to make more effort to increase staple food production by subsistence farmers (the majority of whom are women), resettled IDPs and returnees, who are all very vulnerable in rural areas. Sorghum (dura), one of the most important staple crops, is cultivated by more than half of the total households and by both women and men, with women providing most of the labour. Main production areas are the Ironstone Plateau, Greenbelt, Hills and Mountains and Eastern and Western Flood Plains zones. Cultivars are mainly traditional varieties, which take almost eight months to mature but some modern varieties, which are high yielding and early maturing with a three-month growing period, are also cultivated. Names of modern varieties are Serena, Go'do, Gadam el hamam, Kavi matama and Wad Ahmed. Through the CAMP situation analysis, two factors that resulted in low yields of sorghum were identified. The first is the use of traditional (or unimproved) varieties of seeds, which take longer to mature and are low yielding; some farmers cannot get access to improved high yielding seeds. In addition, rural people prefer the taste of traditional sorghum varieties which also suffer less damage from birds due to the later timing of their milk and ripening stages. Secondly, sorghum usually grows in areas of less precipitation where rainfall has tended to be erratic recently. Farmers are cultivating sorghum without irrigation which makes sorghum yields low. To mitigate the impact of drought, introduction of early maturity varieties is an effective measure. Under such conditions, there is an urgent need to improve the sorghum production capability of subsistence farmers. The project will focus on improvement of productivity through increase in yield (vertical expansion) since it is difficult for subsistence farmers to expand their farmland rapidly. This is because most subsistence farmers rely on family labour for ploughing and weeding, and have limited financial capacity to hire labour. In addition, due to their multiple roles (reproductive, productive and community) women have limited ability to increase their labour.
(2) Objectives:	This project aims to improve the food security of subsistence farmer households through enhancement of sorghum production.
(3) Overall description including temporal and spatial extent of project:	The project focuses on the improvement of sorghum production of subsistence farmers. 10,000 subsistence sorghum producers will be targeted. Necessary inputs (improved seeds) and technical support for sorghum production will be provided to target farmers by government agricultural extension officers (AEOs), and staff of NGOs. Before starting the extension activities, appropriate variety selection by livelihood zone through on-farm trials will be conducted; basic research for variety selection is not yet done in target livelihood zones. After the identification of suitable sorghum varieties, baseline surveys will be conducted to understand the production capability of target subsistence farmers (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handlings and marketing) and their social aspects (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.). Based on the surveys' results, training contents will be determined. Training courses will focus on increase in yield (vertical expansion) rather than increase in area cultivated (horizontal expansion). Based on the FAO estimate in 2013, average cereal consumption per capita in 2013 was 109kg/year. A household with 6.3 family members (average number in 2013) needs about 0.7Mt/year to fulfil cereal requirement. Average cereal area cultivated per farming household in 2013 was about in 0.88ha (about 2 feddans) and average cereal yield in 2013 was 0.76Mt/ha. So average cereal production per farming household in 2013 was 0.67Mt. If yield reaches to 1.0 Mt/ha, farming households will achieve cereal self-sufficiency. Thus, the project will target yield increment up to 1Mt/ha. The project will cover sorghum production areas situated in the Eastern and Western Flood Plains Iron-stone Plateau, Hills and Mountains, and Greenbelt, covering all 10 states. The project duration is 10 years.

Items	Information
	Special attention will be paid to ensure equal/equitable participation, contribution and benefit by both women and men at all levels of the project and this might include affirmative action where necessary. Project reporting, monitoring and evaluation will include production of gender disaggregated data as well as gender specific results.
(4) Component structure:	Component 1: Assessment of appropriate sorghum varieties by livelihood zone Component 2: Selection of target farmers and baseline survey on sorghum production capacity Component 3: Develop capacity of both extension agents and farmers and provide inputs Component 4: Provision of follow-up technical assistance

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment of appropriate sorghum varieties by livelihood zone Activity 1.1: Conduct on-farm experiments by livelihood zone to select suitable sorghum varieties Activity 1.2: Identify suitable varieties by livelihood zone, especially for Eastern and Western Flood Plains, Iron-stone Plateau, Hills and Mountains, and Greenbelt (1.1 and 1.2 will be done in collaboration with existing research centres) and produce appropriate seed varieties (this might be done by "quality seed production" project) Outputs: survey reports, suitable variety selected, 20Mt of improved seeds for distribution Component 2: Selection of target farmers and baseline survey on sorghum production capacity Activity 2.1: Select target farmers in accordance with selection criteria developed by stakeholders Activity 2.2: Conduct baseline survey on target farmers (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handlings and marketing) and their social aspects (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) Activity 2.3: Hold meetings with beneficiaries to have consensus with project approaches and obligations of farmers Outputs: 10,000 farmers selected (about 5,000 women and men), baseline survey reports prepared Component 3: Develop capacity both extension agents and farmers and provide inputs Activity 3.1: Conduct training for AEOs and NGO staffs on sorghum production and marketing (e.g. line planting, use of fertiliser, effective weeding, pest and disease control, post-harvest handling, marketing, and gender) Activity 3.2: Kick off meetings with farmer beneficiaries to clarify planned activities during the target seasons Activity 3.3: Conduct technical trainings for farmer beneficiaries by AEOs and NGO staff to disseminate appropriate sorghum production skills Activity 3.4: Distribute necessary inputs for target farmers (e.g. improved seeds) Activity 3.5: Conduct on the job trainings (OJTs) by using own farms of target farmers Activity 3.6: Periodical meetings among target farmers to share achievements and issues Outputs: 100 extension agents and 10,000 farmers trained and improved seeds distributed Component 4: Provision of follow-up technical assistance Activity 4.1: Conduct periodic follow-up by AEOs and NGO staff Activity 4.2: Carry out survey on yields and skills adopted by the end of the first season Activity 4.3: Hold meeting with target farmers on preparation for the second season Activity 4.4: Conduct periodical follow-up by AEOs and NGO staff during the second season Activity 4.5: Carry out end of project surveys on target farmers to measure their achievements (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handlings and marketing) Outputs: 10,000 farmers followed-up, survey reports prepared * Farmer beneficiaries will be provided technical support during two seasons.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	For appropriate variety selection and on-farm trials: • Staff of government research centres and some Agriculture Extension Officers • For baseline survey: • 2 local consultants, and 100 extension agents (e.g. AEOs and NGO staff) For capacity development:

Items	Information
	• Staff of government training centres, 100 extension agents For follow-up activities: • 100 extension agents, agro-dealers and tractor operators For end of project surveys: • 2 local consultants and 100 extension agents
(2) Description of beneficiaries within the framework of the project:	Female and male subsistence sorghum producers who do not attain food self-sufficiency in their households

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of productivity, most of the target subsistence sorghum producers and some of their neighbours will achieve household food self-sufficiency. This situation might greatly contribute to stabilisation of rural areas, particularly for improvement of food and nutrition security. Also benefits of the project will be shared fairly among the household members (e.g. adults female and male, and children).
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • A negative social impact might be observed if an unintended encroachment into public land and open spaces is made by sorghum producers. (Positive) • The social impact of the project will be mainly positive. Producing enough staple food will contribute significantly to improve livelihoods of target farmers. • The project pays much attention to social impact. Vulnerable subsistence farmers will be selected with gender consideration by following selection criteria. Selection processes of target farmers should be transparent in involving local communities and stakeholders. • To maintain soil fertility and improve productivity, the project will promote use of organic fertiliser such as manure and compost. This will have a positive impact on the environment.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Subsistence farmer households cannot achieve food self-sufficiency. Their sorghum yield is about 0.5-0.8 Mt/ha.
(2) Measurable indicators and situation at the end point:	Sorghum yield will increase up to1.0 Mt/ha and subsistence households will be able to achieve food self-sufficiency. 10,000 female and male subsistence farmers will be trained and improve their sorghum production skills.
(3) Methods of measurement and sources of information:	Baseline and end of project surveys, CFSAM data, NBS census data
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be the responsible for monitoring and evaluation. The farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staffs at national level (senior inspector level, 5 staff) for project management, procurement, logistics, monitoring • Project staff at state level (one in-charge for each target state, total 10 staff)) • Extension agents (e.g. AEOs and NGO staff) (about 100 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management (Master degree, 15-years experience) • One crop husbandry/extension expert (BSc or BA, 5-years experience) • One agriculture training expert (BSc, 5-years experience) • One social (including gender) and farmer survey (BSc or BA, 5-years experience) Local consultants for baseline and end of project surveys will be hired. Private agro-dealers will be involved to disseminate information on new technologies for subsistence farmers, such as the use of fertiliser and agro chemicals.

Items	Information

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited amount of available quality seeds • Limited capacity of AEOs and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts) • Degraded soil fertility by mono-cropping in long-term (long-term risk)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by extension agents. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs would be required.

01.03 Subsistence farmer sorghum production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to total
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	
Project duration																												
1 Management and operation of project	**4,122**	**2,694**	**1,157**	**626**	**982**	**263**	**263**	**389**	**263**	**635**																**11,393**	**2,848**	**97%**
1 Deployment of government staff	**68**	**68**	**68**	**68**	**68**	**34**	**34**	**34**	**34**	**34**																**513**	**128**	**4%**
1 Monitoring to states (per diem)	32	32	32	32	32	16	16	16	16	16																243	61	2%
2 Monitoring to states (per diem)	36	36	36	36	36	18	18	18	18	18																270	68	2%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**3,864**	**2,444**	**907**	**554**	**908**	**227**	**227**	**353**	**227**	**597**																**10,308**	**2,577**	**87%**
1 International consultant (project manager)	1,512	1,008	378	252	252			126		252																3,780	945	32%
2 International consultant (crop husbandly/extension)	907	907	302	302	302	227	227	227	227	151																3,780	945	32%
3 International consultant (agricultural training)	907	302	227		38					38																1,512	378	13%
4 International consultant (social including gender survey)	378	227			76					76																756	189	6%
5 Local consultant (baseline / endline survey)	160				240					80																480	120	4%
4 Implementation of staff training	**156**	**156**	**156**																							**468**	**117**	**4%**
1 2-week training for 100 extension agents at Juba (per diem)	126	126	126																							378	95	3%
2 2-week training for 100 extension agents at Juba (transportation)	30	30	30																							90	23	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**33**	**26**	**26**	**3**	**6**	**2**	**2**	**2**	**2**	**4**																**104**	**26**	**1%**
1 Fuels for agents for farmers selection meetings	14	11	11																							36	9	0%
2 Fuels for agents for farmers field training	7	5	5																							18	4	0%
3 Fuels for agents for follow up	8	6	6																							20	5	0%
4 Fuels for agents for survey					3					3																5	1	0%
5 Fuels for monitoring (by national staff)	3	3	3	3	3	2	2	2	2	2																26	6	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**133**	**133**	**133**																						**400**	**100**	**3%**
1 Provision of cash and/or in-kind subsidies		**133**	**133**	**133**																						**400**	**100**	**3%**
1 improved seeds for distribution. (20Mt)		133	133	133																						400	100	3%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**4,122**	**2,828**	**1,290**	**760**	**982**	**263**	**263**	**389**	**263**	**635**																**11,793**		**100%**
Total (USD '000)	**1,030**	**707**	**323**	**190**	**246**	**66**	**66**	**97**	**66**	**159**																	**2,948**	
% to total	**35%**	**24%**	**11%**	**6%**	**8%**	**2%**	**2%**	**3%**	**2%**	**5%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.4 Subsistence farmer maize production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Subsistence farmer maize production project				
(3) Project ID:	0 1 . 0 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 24,487,000		USD 6,122,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture production and Extension Service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	
	04	ISP	Ironstone Plateau	
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information
Part 2: Project description	
2.1 Project justification, objectives, overall description and component structure	
(1) Justification:	Even though a vast amount of arable land is available in South Sudan, many subsistence farmers cannot realise food self-sufficiency. According to the Crop and Food Security Assessment Mission (CFSAM), total estimated net cereal production of South Sudan in 2013 was 892,004 tons. Total cereal requirement for 2014 is 1,300,552 tons based on the assumption that 11.9 million people (including 2 million returnees) consume 109kg/capita/year. As a result, the estimated cereal deficit in 2014 is 408,548 tons. The food deficit situation would get much worse if internal disputes continued and large amounts of cereal stocks in urban and peri-urban areas were looted or destroyed. To ameliorate food security conditions, the government needs to make more effort to increase staple food production by subsistence farmers (the majority of whom are women), resettled IDPs and returnees, who are all very vulnerable in rural areas. Maize is the second staple food for the South Sudanese and is cultivated by more than 30% of households, and by both women and men, with women providing most of the labour. Maize is grown mainly in the Greenbelt and Hills and Mountain zones. In the northern part of the country, farmers grow maize in small patches near their homes as supplementary food. Thus, the project focuses on the Greenbelt zone so as to achieve a large increase in production. Maize cultivars in South Sudan are mainly open pollinated varieties but some progressive and large-scale farmers have started using hybrid varieties imported from Kenya and Uganda. Both types take almost five months to mature. Names of varieties are Longe 4, 5, 8 and 9, and Yei 2. Maize seeds are sown in rows since a maize seed is much larger than a sorghum seed, which is usually broadcast. Between rows of planted maize, other crops such as groundnuts, beans, cowpeas and pumpkin are cultivated. Post-harvest losses of the first cropping season (May-September) in the Greenbelt zone are extremely high due to high humidity and poor storage facilities. Wild animals (e.g., monkeys, baboons, rats and squirrels) or livestock can cause serious damage to maize plants. Insect pests (e.g., locust, termite and stem bore) are another large factor for decreased productivity. Recently, Maize lethal necrosis disease has become one of the most serious diseases in neighboring countries (e.g. Kenya and Uganda); prevention measures for this disease need to be taken. Due to these causes it is estimatedthat the average yield is stalled at about 1.5-2.0Mt/ha in the Greenbelt zone, which is lower than that of Uganda and Ethiopia. Under such conditions, there is an urgent need to improve the maize production capability of subsistence farmers. The project will focus on improvement of productivity through increase in yield (vertical expansion) since it is difficult for subsistence farmers to expand their farmland rapidly. This is because most subsistence farmers rely on family labour for ploughing and weeding, and have limited financial capacity to hire labour. In addition, due to their multiple roles (reproductive, productive and community) women have limited ability to increase their labour.
(2) Objectives:	This project aims to improve the food security of subsistence farmer households through enhancement of maize production.
(3) Overall description including temporal and spatial extent of project:	The project focuses on the improvement of maize production of subsistence farmers. 10,000 subsistence maize producers will be targeted. Necessary inputs (improved seeds and fertilisers) and technical support for maize production will be provided to target farmers by government agricultural extension officers (AEOs), and staff of NGOs. Before starting the extension activities, appropriate variety selection will be made based on the research conducted by the Palotaka Basic Seeds Centre. After the identification of suitable maize varieties, social assessment and baseline surveys will be conducted to understand social aspects in target areas (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) and the production capability of target subsistence farmers (e.g. yield, area harvested, farming practices by gender, pest and disease control, post-harvest handling and marketing). Based on the surveys' results, training contents will be determined. Training courses will focus on increase in yield (vertical expansion) rather than increase in area cultivated (horizontal expansion). Based on the FAO estimate (CFSAM), the average area cultivated of maize per farming household in 2013 was about 0.35ha, 0.26ha and 0.90ha in Central, Eastern and Western Equatoria states respectively. Since farmers cultivate several crops simultaneously, they cannot secure a large area for maize production. Hence the project focuses on yield increase to produce more maize on the limited farmland of smallholder subsistence farmers.

Items	Information
	The project will cover maize production areas situated in the Greenbelt, covering 3 states in the Greater Equatoria region (i.e. Central, Eastern and Western Equatoria states). The project duration is 10 years. Special attention will be paid to ensure equal/equitable participation, contribution and benefit by both women and men at all levels of the project; this might include affirmative action where necessary. Project reporting, monitoring and evaluation will include gender disaggregated data as well as gender specific results. The project will also pay special attention to youth participation.
(4) Component structure:	Component 1: Assessment of appropriate maize varieties and seed propagation Component 2: Selection of target farmers and baseline survey on maize production capacity Component 3: Development of capacity of both extension agents and farmers and provision of inputs Component 4: Provision of follow-up technical assistance

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment of appropriate maize varieties and seed propagation Activity 1.1: Conduct on-farm experiments in target areas to select suitable maize varieties by referring to the research results conducted by the Palotaka Basic Seeds Centre Activity 1.2: Identify suitable varieties (1.1 and 1.2 will be done in collaboration with existing research centres in Yei and Palotaka) and propagate appropriate seed varieties (this might be done by the quality seed production project) Outputs: survey reports clarifying suitable varieties, suitable varieties selected, 100Mt of improved seeds produced for distribution Component 2: Selection of target farmers and baseline survey on maize production capacity Activity 2.1: Conduct social assessment in target areas (e.g. tribal conflicts, conflicts between farmers and livestock keepers, land tenure, gender disparity, youth, HIV, etc.) Activity 2.2: Select target farmers in accordance with selection criteria developed by stakeholders based on social assessment (with a special focus on youth and gender) Activity 2.3: Conduct baseline survey on target farmers (e.g. yield, area harvested, farming practices by gender, pest and disease control, post-harvest handling, processing and marketing) Activity 2.4: Hold meetings with beneficiaries to have consensus with project approaches and obligations of farmers Outputs: 10,000 farmers selected (about 5,000 females and 5,000 males); baseline survey reports clarifying present conditions; 100 meetings held and project buy in achieved Component 3: Development of capacity of both extension agents and farmers and provision of inputs Activity 3.1: Conduct training for AEOs and NGO staff on maize production and marketing (e.g. line planting, use of fertiliser, effective weeding, pest and disease control, post-harvest handling, marketing, processing and gender) Activity 3.2: Kick off meetings with farmer beneficiaries to clarify planned activities during the target seasons Activity 3.3: Conduct technical training for farmer beneficiaries by AEOs and NGO staff to disseminate appropriate maize production skills Activity 3.4: Distribute necessary inputs for target farmers (e.g. improved seeds and fertilisers) Activity 3.5: Conduct on the job training (OJTs) by using farms of target farmers Activity 3.6: Provide extension services on pest and disease management (this service could be provided by plant doctors who offer diagnostics and advice at mobile clinics, as mentioned in the "National crop pests and diseases control project".) Activity 3.7: Construct appropriate storage facilities for demonstration Activity 3.8: Periodic meetings among target farmers to share achievements and issues Outputs: 40 extension agents able to assist maize farmers, 10,000 farmers trained and able to improve productivity, improved seeds (open pollinated seed/farmer and 5kg hybrid seed/farmer) and fertiliser (Urea and NPK fertiliser (N:15, P:15, K:15)) distributed, and 40 demonstration storage facilities constructed Component 4: Provision of follow-up technical assistance Activity 4.1: Conduct periodic follow-up by AEOs and NGO staff Activity 4.2: Carry out survey on yields and skills adopted by the end of the first season

Items	Information
	Activity 4.3: Hold meeting with target farmers on preparation for the second season Activity 4.4: Conduct periodic follow-up by AEOs and NGO staff during the second season Activity 4.5: Carry out end of project surveys on target farmers to measure their achievements (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling and marketing) Outputs: 10,000 farmers followed-up, survey reports prepared showing impact of project * Farmer beneficiaries will be provided technical support during two seasons.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	For appropriate variety selection and on-farm trials: • Staff of government research centres and some Agriculture Extension Officers For baseline survey: • 2 local consultants, and 40 extension agents (e.g. AEOs and NGO staff) For capacity development: • Staff of government training centres, 40 extension agents For follow-up activities: • 40 extension agents, agro-dealers and tractor operators For end of project surveys: • 2 local consultants and 40 extension agents
(2) Description of beneficiaries within the framework of the project:	Female and male subsistence maize producers who do not attain food self-sufficiency in their households, and AEOs

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of productivity, most of the target subsistence maize producers and some of their neighbours will achieve household food self-sufficiency. This situation might greatly contribute to stabilisation of rural areas, particularly for improvement of food and nutrition security. Also benefits of the project will be shared fairly among the household members (e.g. adults female and male, and children). Job opportunities would be created for youth.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • A negative social impact might be observed if an unintended encroachment into public land and open spaces is made by maize producers. Also overuse of chemical fertilisers and agricultural chemicals would have a negative impact on the environment. Improperly stored maize may contain aflatoxin which is a very harmful substance for humans. (Positive) • The social impact of the project will be mainly positive. Producing enough staple food will contribute significantly to improve livelihoods of target farmers. The project pays much attention to social impact. Vulnerable subsistence farmers will be selected with gender and youth considerations by following selection criteria. Selection processes of target farmers should be transparent in involving local communities and stakeholders. • To maintain soil fertility and improve productivity, the project will promote not only chemical fertiliser application but also use of organic fertiliser such as manure and compost. This will have a positive impact on the environment.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Many subsistence farmer households find it difficult to achieve food self-sufficiency (no. of households that do not attain food self-sufficiency). Their maize yield is about 1.5-2.0 Mt/ha.
(2) Measurable indicators and situation at the end point:	Maize yield will increase up to 2.5 Mt/ha, which is almost the same level as Uganda and Ethiopia, and subsistence households will be able to achieve food self-sufficiency. 10,000 female and male subsistence farmers will be trained and improve their maize production skills. Farmers start utilising improved seeds, organic and chemical fertilisers and mobile plant clinic services. Some farmers construct appropriate storage facilities.
(3) Methods of measurement and sources of information:	Baseline and end of project surveys, CFSAM data, NBS census data
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be responsible for monitoring and evaluation. The

Items	Information
	farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (one in-charge for each target state, total 3 staff)) • Extension agents (e.g. AEOs and NGO staff) (about 40 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management (Master degree, 15-years experience) • One crop husbandly/extension expert (BSc or BA, 5-years experience) • One agriculture training expert (BSc, 5-years experience) • One social (including gender) and farmer survey expert (BSc or BA, 5-years experience) Local consultants for baseline and end of project surveys will be hired. Private agro-dealers will be involved to disseminate information on new technologies for subsistence farmers, such as the use of fertiliser and agro chemicals.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited amount of available quality seeds • Limited capacity of AEOs and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts) • Degraded soil fertility by mono-cropping in long-term (long-term risk)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by extension agents. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs would be required.

01.04 Subsistence farmer maize production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,315**	**3,109**	**1,668**	**832**	**907**	**1,140**	**34**			**522**																**11,527**	**2,882**	**47%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**3,310**	**2,923**	**1,663**	**832**	**907**	**983**				**517**																**11,135**	**2,784**	**45%**
1 International consultant (project manager)	1,260	1,260	756	378	378	378				126																4,536	1,134	19%
2 International consultant (crop/husbandly/extension)	756	756	454	227	227	227				76																2,722	680	11%
3 International consultant (agricultural training)	756	756	454	227	227	227				76																2,722	680	11%
4 International consultant (social and farmer survey)	378	151			76	151																				756	189	3%
5 Local consultant (baseline and endline survey)	160									240																400	100	2%
4 Implementation of staff training		**152**				**152**																				**304**	**76**	**1%**
1 2-week training for 40 extension agents (per diem)		112				112																				224	56	1%
2 2-week training for 40 extension agents (transportation)		40				40																				80	20	0%
5 Implementation of research, studies and surveys	**5**	**34**	**5**			**5**	**34**			**5**																**88**	**22**	**0%**
1 Fuels for agents for farmers selection & baseline	2					2																				4	1	0%
2 Fuels for agents for farmers meetings	3					3																				6	1	0%
3 Fuels for agents for farmers field training		13					13																			25	6	0%
4 Fuels for agents for follow up		22					22																			43	11	0%
5 Fuels for agents for survey			2							2																4	1	0%
6 Fuels for monitoring (by national staff)			3							3																6	1	0%
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment			**80**					**80**																		**160**	**40**	**1%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities			**80**					**80**																		**160**	**40**	**1%**
1 40 demonstration storages			80					80																		160	40	1%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**6,400**					**6,400**																			**12,800**	**3,200**	**52%**
1 Provision of cash and/or in-kind subsidies		**6,400**					**6,400**																			**12,800**	**3,200**	**52%**
1 Maize seeds (OPV) (50,000kg x 2)		400					400																			800	200	3%
2 Maize seeds (hybrid) (50,000kg x 2)		1,000					1,000																			2,000	500	8%
3 Fertilizer (Urea) 50kg x 10,000 x 2		2,200					2,200																			4,400	1,100	18%
4 Fertilizer (NPK) 50kg x 10,000 x 2		2,800					2,800																			5,600	1,400	23%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**3,315**	**9,509**	**1,748**	**832**	**907**	**1,140**	**6,434**	**80**		**522**																**24,487**		**100%**
Total (USD '000)	**829**	**2,377**	**437**	**208**	**227**	**285**	**1,609**	**20**		**130**																	**6,122**	
% to total	**14%**	**39%**	**7%**	**3%**	**4%**	**5%**	**26%**	**0%**		**2%**																**100%**		

Public sector project | Private sector project | Routine work by government | Routine work by private sector

2.4.5 Subsistence farmer rice production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop								
(2) Project name	Subsistence farmer rice production project								
(3) Project ID:	0	1	.	0	5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2015/16		Ending FY:	2024/25		Duration (years):	10	
(5) Total investment:	SSP 11,205,000			USD 2,801,000			Note: Not including recurrent cost		
(6) Name of this file (automatic):									

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture production and Extension Service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	
	04	ISP	Ironstone Plateau	
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Even though a vast amount of arable land is available in South Sudan, many subsistence farmers cannot realise food self-sufficiency. According to the Crop and Food Security Assessment Mission (CFSAM), total estimated net cereal production of South Sudan in 2013 was 892,004 tons. Total cereal requirement for 2014 is 1,300,552 tons based on the assumption that 11.9 million people (including 2 million returnees) consume 109kg/capita/year. As a result, the estimated cereal deficit in 2014 is 408,548 tons. The food deficit situation would get much worse if internal disputes continued and large amounts of cereal stocks in urban and peri-urban areas were looted or destroyed. To ameliorate food security conditions, the government needs to make more effort to increase staple food production by subsistence farmers (the majority of whom are women), resettled IDPs and returnees, who are all very vulnerable in rural areas. Rice is one of the important staple for the South Sudanese, particularly for urban dwellers, since rice is convenient for storing and cooking. Currently, the volume of rice production is not significant (only one percent of total households grew rice in 2009) but rice could substantially contribute to enhancing food security at both household and national levels since rice imports have been increasing in recent years. There are some large areas with potential for rice production. Upland rice grows mainly in the Greenbelt zones. Cultivars of upland rice (NERICA 1, 4 and 10) are cultivated and are newly introduced from Uganda. Lowland rice (or paddy rice) could grow in the areas that flood in the Eastern and Western Flood Plains and Nile Sobat zones; however, this is not fully exploited so far. Lowland rice is also cultivated in the Aweil Irrigation Rice Scheme (AIRS) in Northern Bahr el Ghazal State. AIRS is a national irrigation scheme and about 2,700 feddans of farmland were operational in 2013, although 11,000 feddans were intended to be irrigated. Cultivars in the scheme are BR 4 and BG 400-1, and yield level is quite low about 1 to 1.5 t/ha. In 2009 AIRS was rehabilitated through the Aweil Irrigation Rehabilitation Project supported by GIZ under the Sudan Productive Capacity Recovery Programme (SPCRP), funded by the EU. During the project period, demining, and dike and canal maintenance were carried out and agricultural machinery (e.g. large scale rice mill and heavy equipment) and technical assistance provided. However, after completion, the scheme has not operated effectively due to limited funds for operating costs, limited human resources and unclear scheme ownership and demarcation of responsibilities between the national and state governments. Under such conditions, there is a high need to improve the rice production capability of subsistence farmers. The project will focus on improvement of productivity through both increase in yield (vertical expansion) and expansion of area cultivated (horizontal expansion) since the potential for rice production is not fully exploited. Most subsistence farmers rely on family labour for ploughing and weeding, and have limited financial capacity to hire labour to expand area cultivated. However, rice production would attract new young farmers because rice is a profitable crop compared to other cereals.
(2) Objectives:	This project aims to improve the food security of subsistence farmer households through enhancement of rice production.
(3) Overall description including temporal and spatial extent of project:	The project focuses on the improvement of rice production of subsistence farmers. 7,000 existing subsistence rice producers or new young farmers will be targeted. Necessary inputs (e.g. improved seeds) and technical support for rice production will be provided to target farmers by government agricultural extension officers (AEOs), and staff of NGOs. Before starting the extension activities, appropriate variety selection will be made based on the research conducted by the Yei Agriculture Research Centre (YARC), the Palotaka Basic Seeds Centre (PBSC) and Aweil Irrigation Rice Scheme (AIRS). After the identification of suitable rice varieties for upland and lowland, social assessment and baseline surveys will be conducted to understand social aspects in target areas (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) and the production capability of target subsistence farmers (e.g. yield, area cultivated, farming practices by gender, pest and disease control, post-harvest handling, processing and marketing). Based on the surveys' results, training contents will be determined. Training courses will focus on both increase in yield (vertical expansion) and increase in area cultivated (horizontal expansion) since yield is still at a low level and the area cultivated is quite limited. Particularly, effective use of wetland for rice production would be examined and promoted. The project will cover potential rice production areas situated in the Greenbelt and Flood

Items	Information
	Plains zones covering 7 states (excluding Western Equatoria, Western Bahr el Ghazal, and Lakes States). Upland rice will be disseminated in the Greenbelt, whereas lowland rice will be promoted in the Flood Plains and small-scale wetlands in the Greenbelt. Small-scale wetland rice production will be dealt by the "Development of small and medium scale irrigation development project." Rehabilitation of and technical support to AIRS will be dealt by the "Development of large-scale irrigation project." The project duration is 10 years. Special attention will be paid to ensure equal/equitable participation, contribution and benefit by both women and men at all levels of the project; this might include affirmative action where necessary. Project reporting, monitoring and evaluation will include gender disaggregated data as well as gender specific results. The project will also pay special attention to young farmers' participation.
(4) Component structure:	Component 1: Assessment of appropriate rice varieties and seed propagation Component 2: Selection of target farmers and baseline survey on rice production capacity Component 3: Development of capacity of both extension agents and farmers and provision of inputs Component 4: Provision of follow-up technical assistance

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment of appropriate rice varieties and seed propagation Activity 1.1: Conduct on-farm experiments in target areas to select suitable rice varieties by referring to the research results conducted by YARC, PBSC and AIRS. Activity 1.2: Identify suitable varieties (1.1 and 1.2 will be done in collaboration with YARC, PBSC and AIRS) and propagate appropriate seed varieties (this might be done by the "Quality seed production project.") Outputs: survey reports clarifying suitable varieties, suitable varieties selected, 35Mt of improved seeds produced for distribution Component 2: Selection of target farmers and baseline survey on rice production capacity Activity 2.1: Conduct social assessment in target areas (e.g. tribal conflicts, conflicts between farmers and livestock keepers, land tenure, gender disparity, youth, HIV, etc.) and also environmental assessment if wetlands are used for rice cultivation Activity 2.2: Select target farmers in accordance with selection criteria developed by stakeholders based on social assessment (with a special focus on youth and gender) Activity 2.3: Conduct baseline survey on target farmers (e.g. yield, area harvested, farming practices by gender, pest and disease control, post-harvest handling, processing and marketing) Activity 2.4: Hold meetings with beneficiaries to have consensus with project approaches and obligations of farmers Outputs: 7,000 farmers selected (about 3,500 females and 3,500 males including more than 50% young farmers who are less than 30 years old); baseline survey reports clarifying present conditions, 70 meetings held and project buy in achieved Component 3: Development of capacity of both extension agents and farmers and provision of inputs Activity 3.1: Conduct training for AEOs and NGO staff on rice production and marketing (e.g. farm planning, seedling preparation and line planting for lowland rice, use of fertiliser, effective weeding, pest and disease control, post-harvest handling, processing (milling), marketing, and gender) *Training on small-scale irrigation development and its Operation & Maintenance(O&M), and water distribution planning would be handled by "Development of small- and medium scale irrigation project" Activity 3.2: Kick off meetings with farmer beneficiaries to clarify planned activities during the target seasons Activity 3.3: Conduct technical training for farmer beneficiaries by AEOs and NGO staff to disseminate appropriate rice production skills Activity 3.4: Distribute necessary inputs for target farmers (e.g. improved seeds) Activity 3.5: Conduct on the job training (OJTs) by using farms of target farmers Activity 3.6: Provide extension services on pest and disease management (this service could be provided by plant doctors who offer diagnostics and advice at mobile clinics, as mentioned in the "National crop pests and diseases control project.") Activity 3.7: Provide assistance to form farmer based organisations (FBOs) for effective post-harvest operations, especially for milling Activity 3.8: Provide FBOs with loans to purchase appropriate small-scale milling machines Activity 3.9: Conduct technical training for FBOs, which purchase milling machines, by AEOs and NGO staff to improve skills on milling machine operation and quality control of milled rice

Items	Information
	Activity 3.10: Periodic meetings among target farmers to share achievements and issues Outputs: 70 extension agents able to assist rice farmers, 7,000 farmers trained and able to improve productivity, improved seeds distributed, and accessible loans for purchasing milling machines Component 4: Provision of follow-up technical assistance Activity 4.1: Conduct periodic follow-up by AEOs and NGO staff Activity 4.2: Carry out survey on yields and skills adopted by the end of the first season Activity 4.3: Hold meeting with target farmers on preparation for the second season Activity 4.4: Conduct periodic follow-up by AEOs and NGO staff during the second season Activity 4.5: Carry out end of project surveys on target farmers to measure their achievements (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling and marketing) Outputs: 7,000 farmers followed-up, survey reports prepared showing impact of project * Farmer beneficiaries will be provided technical support during two seasons.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	For appropriate variety selection and on-farm trials: • Staff of government research centres and some Agriculture Extension Officers For baseline survey: • 3 local consultants, and 70 extension agents (e.g. AEOs and NGO staff) For capacity development: • Staff of government training centres, 70 extension agents For follow-up activities: • 70 extension agents and agro-dealers For end of project surveys: • 3 local consultants and 70 extension agents
(2) Description of beneficiaries within the framework of the project:	Female and male subsistence rice producers and new young farmers who do not attain food self-sufficiency in their households, and AEOs

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of productivity and income growth, most of the target subsistence rice producers and new young farmers and some of their neighbours will achieve household food self-sufficiency. This situation might greatly contribute to stabilisation of rural areas, particularly for improvement of food and nutrition security. Also benefits of the project will be shared fairly among the household members (e.g. adults female and male, and children). Job opportunities would be created for youth.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) A negative social impact might be observed if an unintended encroachment into protected wetland, public land and open spaces is made by rice producers. Without appropriate use of wetland, the environment of small-scale wetlands could seriously deteriorate. Also overuse of chemical fertilisers and agricultural chemicals would have a negative impact on the environment. Improperly stored rice may contain aflatoxin which is a very harmful substance for humans. (Positive) The social impact of the project will be mainly positive. Producing enough rice as a staple food and cash crop will contribute significantly to improve livelihoods of target farmers. The project pays much attention to social impact. Vulnerable subsistence farmers will be selected with gender and youth considerations by following selection criteria. Selection processes of target farmers should be transparent in involving local communities and stakeholders. To maintain soil fertility and improve productivity, the project will promote not only chemical fertiliser application but also use of organic fertiliser such as manure and compost. This will have a positive impact on the soil environment.	

Items	Information

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Many subsistence farmer households find it difficult to achieve food self-sufficiency (no. of households that do not attain food self-sufficiency). Rice yield is about 1.0-1.5 Mt/ha in AIRS. Upland rice yield might be much lower than that of AIRS.
(2) Measurable indicators and situation at the end point:	Lowland rice yield will increase up to 1.5 Mt/ha, which is still less than Uganda and Kenya, and upland rice yield will reach 1.0 Mt/ha. 7,000 female and male subsistence farmers will be trained and improve their rice production skills. Farmers start utilising improved seeds, organic and chemical fertilisers and mobile plant clinic services if available. Some FBOs will operate appropriate small-scale milling machines.
(3) Methods of measurement and sources of information:	Baseline and end of project surveys, CFSAM data, NBS census data
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be responsible for monitoring and evaluation. The farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (one in-charge for each target state, total 7 staff)) • Extension agents (e.g. AEOs and NGO staff) (about 70 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management (Master degree, 15-years experience) • One crop husbandry/extension expert (BSc or BA, 5-years experience) • One agriculture training expert (BSc, 5-years experience) • One social (including gender) and farmer survey expert (BSc or BA, 5-years experience) • Local consultants for baseline and end of project surveys will be hired. • Private agro-dealers will be involved to disseminate information on new technologies for subsistence farmers, such as the use of fertiliser and agro chemicals.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited amount of available quality seeds • Limited capacity of AEOs and NGO staff and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts) • Degraded soil fertility by mono-cropping in long-term (long-term risk)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by extension agents. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs would be required.

01.05 Subsistence farmer rice production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**2,519**	**1,574**	**1,255**	**651**	**590**	**1,178**	**396**	**305**	**183**	**874**																**9,525**	**2,381**	**85%**
1 Deployment of government staff		**23**	**23**	**23**	**23**		**23**	**23**	**23**	**23**																**182**	**46**	**2%**
1 Monitoring to states (per diem)		11	11	11	11		11	11	11	11																86	22	1%
2 Monitoring to states (transportation)		12	12	12	12		12	12	12	12																96	24	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,202**	**1,494**	**1,177**	**619**	**558**	**860**	**317**	**227**	**151**	**842**																**8,448**	**2,112**	**75%**
1 International consultant (project manager)	450	360	270	90	180	180	90			180																1,800	450	16%
2 International consultant (crop husbandly/extension)	605	454	454	302	227	378	151	151	151	151																3,024	756	27%
3 International consultant (agricultural training)	529	454	454	227	151	227	76	76		76																2,268	567	20%
4 International consultant (social including gender survey)	378	227				76				76																756	189	7%
5 Local consultant (baseline / endline survey)	240									360																600	150	5%
4 Implementation of staff training	**312**					**312**																				**624**	**156**	**6%**
1 2-week training for 70 extension agents at Juba (per diem)	252					252																				504	126	5%
2 2-week training for 70 extension agents at Juba (transportation)	60					60																				120	30	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**5**	**57**	**55**	**9**	**9**	**5**	**57**	**55**	**9**	**9**																**270**	**68**	**2%**
1 Fuels for agents for baseline survey	4					4																				8	2	0%
2 Fuels for agents for farmers selection meetings	2	2				2	2																			7	2	0%
3 Fuels for agents for farmers field training		24	24				24	24																		94	24	1%
4 Fuels for agents for follow up		30	30				30	30																		121	30	1%
5 Fuels for agents for survey				8	8				8	8																30	8	0%
6 Fuels for monitoring (by national staff)		1	1	1	1		1	1	1	1																11	3	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**70**	**420**	**350**			**70**	**420**	**350**																		**1,680**	**420**	**15%**
1 Provision of cash and/or in-kind subsidies		**350**	**350**				**350**	**350**																		**1,400**	**350**	**12%**
1 improved seeds for distribution. (35Mt x 2)		350	350				350	350																		1,400	350	12%
2 Provision of training services to the private sector	**70**	**70**				**70**	**70**																			**280**	**70**	**3%**
1 Beneficiaries meetings (transportation)	70	70				70	70																			280	70	3%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**2,589**	**1,994**	**1,605**	**651**	**590**	**1,248**	**816**	**655**	**183**	**874**																**11,205**		**100%**
Total (USD '000)	**647**	**498**	**401**	**163**	**147**	**312**	**204**	**164**	**46**	**219**																	**2,801**	
% to total	**23%**	**18%**	**14%**	**6%**	**5%**	**11%**	**7%**	**6%**	**2%**	**8%**																**100%**		

Public sector project | Private sector project | Routine work by government | Routine work by private sector

2.4.6 Subsistence farmer vegetable and fruit production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Subsistence farmer vegetable and fruit production project				
(3) Project ID:	0 1 . 0 6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 15,798,000		USD 3,950,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA6	Horticultural crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Despite the fact that South Sudan has abundant natural resources, most horticultural products are imported. Depending on vicinity, they originate from Sudan, Kenya and Uganda. Prices fluctuate, but are generally high and out of reach for most subsistence farmers. Not being able to afford vegetables or fruits and not growing them themselves has a negative impact not only on food, but also on nutrition security. While it is a myth that increased production of horticultural produce alone would improve the nutritional status of subsistence farming households, it is certainly a precondition. There is a need to incorporate nutrition interventions into smallholder agriculture and rural livelihoods programs through encouraging home production of foods like fruits and vegetables that are rich in nutrients. To make increased production work for improved nutrition requires additional efforts in terms of awareness raising and education, especially targeting women and children. Setting up school gardens in which children learn how to grow vegetables and fruits, are informed about their nutritional value, don't go hungry at lunch time, but eat what the school garden yields, and get used to regular consumption of horticultural products, is a very efficient intervention to achieve better nutrition in the short-term, resulting in all sorts of long-term benefits. The benefits of childhood nutrition interventions go far beyond mortality reduction to include cognitive and physical development, better health and higher earnings. As the SUN (Scaling Up Nutrition) Initiative describes, interventions in nutrition offer among the very highest rates of return feasible in international development through their payoffs in terms of mortality, morbidity, physical and mental growth, contributions to MDGs, lifetime earnings and overall development. Fruits and vegetables are grown under nearly all farming systems. The potential for growing amaranthus, Sukuma wiki, onions, okra, tomatoes, eggplants, potatoes, cabbages, bananas, mangoes, papayas, oranges, lemons and pineapples is very high. Cultivation of fruits and vegetables allows for productive employment, especially for women, youth and vulnerable groups. The benefits of training women in horticulture production and the nutritional aspects of its consumption exceed the immediate benefits of providing a source of additional food, but help to boost further positive outcomes. As women are mainly responsible for child care, increasing women's and their husbands' knowledge on healthy nutrition and enabling them to feed their children accordingly, greatly enhances the physical and mental health of the population in the long term. The South Sudan Agriculture Sector Policy Framework (ASPF) acknowledges the important role of horticulture and states as a policy objective to "achieve a sustainable increase in the production of fruits and vegetables for both domestic and export markets. "
(2) Objectives:	The objective of the project is to gradually substitute imports of vegetables and fruits and to increase both production and consumption levels in South Sudan. It has a dual focus on both food and nutrition security. The project aims at increasing availability, access, and consumption (utilization) of horticulture crops to improve micronutrient intakes and dietary diversity, and dietary patterns protective against chronic disease. Since physical and mental health is a precondition to building up a stable society and a prosperous economy, this project will help to lay the foundations. Direct beneficiaries will be around 10,000 female and male farmers and primary school pupils, benefitting from training and school gardens.
(3) Overall description including temporal and spatial extent of project:	The project will start in 2015 and last for 10 years. Due to the nature of the project, short-term gains in terms of increased production of horticultural products can be expected to materialize almost from the beginning. The benefits of improved nutrition will only become evident at a later stage. It will be hard to attribute them to project interventions. However, scientific evidence suggests a clear causal link between mental and physical health and the amount and nutritional value of daily dietary intakes. The project is meant to cover localities in all states. Suitable locations in terms of agronomic conditions and availability and interest of potential beneficiaries will be determined in detail by the implementing agency at project inception. The project aims at targeting 10,000 female and male farmers, spread over the 10 states. In addition, all primary schools will be involved in the issue of nutrition. South Sudan has a national syllabus, and even though it cannot now be established if nutrition is part of it, the project will ensure that education on nutrition is one of the subjects covered at primary school

Items	Information
	level. As many primary schools per state as are willing to establish school gardens will be supported in doing so. The support will primarily take the form of teachers' training, but also –at least initially – include hand-outs of free seeds. From a pest management perspective it is essential that these seeds should be free of diseases. This implies sourcing certified seeds if possible, or at the very least sourcing from an experienced and reputable supplier Apart from schools, this project targets mainly women. Even though women do most of the agricultural work in South Sudan (as elsewhere in Africa), they are marginalised and have little access to productive assets. South Sudan is a male-dominated society and changing gender stereotypes will be a difficult and lengthy process. Since women are traditionally engaged in producing vegetables, supporting them in these activities offers an opportunity to assist women (and some men) farmers without provoking domestic problems. An additional reason for focussing on women is the fact that they are responsible for reproductive activities and child care. Hence, educating women about the requirements and effects of healthy nutrition will have a much greater impact on generations to come than doing the same with men. The greatest impact of nutrition on a child's development occurs between – 9 to +24 months. Thus, it is of utmost importance that pregnant and lactating mothers and mothers of young children are aware of and have access to nutritious food, to feed themselves and their children.
(4) Component structure:	Component 1: Baseline Surveys and monitoring Data needed to plan the project in detail and to be able to monitor progress and eventually impact will be gathered, i.e. a baseline on current state of subsistence vegetable production in the states; agronomic suitability of the different horticultural products to determine which ones to promote where; and beneficiaries and private sector actors (agro-dealers) to work with identified Component 2: Strengthen public institutions An enabling environment conducive to horticulture production and utilization through training officials in horticulture departments, extension agents and teachers, and including nutrition in national primary school curriculum will be institutionalized Component 3: Training and Inputs Access to inputs and knowledge will be increased through provision of training on production and utilisation of vegetables and fruits and distribution of seed vouchers Component 4: Private sector engagement A range of agro-dealers will emerge, having horticulture seeds available, able to redeem vouchers and impart basic knowledge on the use of seeds and chemicals

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Baseline surveys and monitoring Activity 1.1: Carry-out baseline surveys on vegetable and fruit production and social aspects (e.g. tribal conflicts, poverty index, gender disparity, youth, HIV, etc.) in selected areas in all 10 states by agricultural extension officers (AEOs) and consultants Activity 1.2: Carry-out assessment to select target horticultural products according to consumption preferences (esp. of children) and agronomic suitability by AEOs in 10 states Activity 1.3: Carry-out assessment on availability of female and male farmers interested to participate, followed by a participatory selection process and a questionnaire on consumption patterns by AEOs in 10 states Activity 1.4: Carry-out assessment on availability of agro-dealers and base selection on capacity (to procure clean, quality seeds and appropriate and safe chemicals) and willingness to work with the project by AEOs in 10 states Activity 1.5: Carry-out annual surveys to assess uptake and progress (school gardens, female and male farmers) by AEOs in 10 states Outputs 1: survey reports for 10 states, selection criteria, selected target groups in 10 states, 10,000 farmers (about 8,000 female and 2,000 male farmers) selected Component 2: Strengthen public institutions Activity 2.1: Carry out training for government employees of Departments of Horticulture, in Ministries of Agriculture at national and state level Outputs 2.1: 10 trained National staff and 20 trained State staff Activity 2.2:Train AEOs on the specifics of horticultural production, including training on vegetable and fruit pests and diseases and their management, soil and weeds management, and postharvest handlings at smallholder level Outputs 2.2: 200 trained AEOs Activity 2.3: Work with Ministry of Education to ensure that nutrition is part of the curriculum for primary education

Items	Information
	Activity 2.4: Provide professional training to primary school teachers on issues of nutrition to enable them to impart this knowledge to pupils Outputs 2.4: 200 trained primary school teachers Activity 2.5: Train teachers on the basics of horticultural production and assist them in preparing school gardens, incl. provision of seeds Outputs 2.5: 200 trained primary school teachers Component 3: Training and Inputs Activity 3.1: Train female and male farmers on horticultural production methods, including safe and appropriate pest management, soil and weeds management, basic post-harvest handling (e.g. drying for conservation, etc.), and irrigation techniques Outputs 3.1: 500 trained groups (about 20 farmers/group, total 10,000 female and male farmers) Activity 3.2: Provide or sell quality seeds and fruit tree seedlings to the farmer groups and target schools Outputs 3.2 One pack of various vegetable seeds per person/school used, and 5 fruit tree seedlings/person and 100 seedlings/school planted Activity 3.3: Raise awareness among target beneficiaries on the nutritional value of horticulture products and their role in the nutrition of children Component 4: Private sector engagement Activity 4.1: work with agro-dealers to enable them to provide basic information on use of seeds and to define a restricted list of low toxicity pesticides which are suitable for use on vegetables and fruits by smallholders and improve the quality of advice and instruction provided to customers, especially the illiterate and women Outputs: 50 lectured agro-dealers

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• National government: oversight and coordination • State governments: AEOs training teachers and female and male farmers on production, basic irrigation and post-harvest techniques • DP consultants: Horticulture and nutrition experts train teachers on imparting knowledge on nutrition to pupils, contractors for baseline surveys • Private sector: agro-dealers engaged in agricultural input trade
(2) Description of beneficiaries within the framework of the project:	Direct beneficiaries are up to 10,000 female and male farmers (500 farmer groups), from all 10 states, who are interested in taking part in the project. Also 10 National and 20 State staff, 200 AEOs and 200 school teachers are indirect beneficiaries for capacity development. National primary schools are part of the project in the sense that they will provide education in nutrition as this is/becomes part of the curriculum; on a voluntary basis a number of primary schools with access to land that can be transformed into school gardens will also participate. The value added by this component is dual: children learn how to cultivate vegetables and fruits and eat their home-grown produce for lunch, so they are not hungry, but able to follow the lessons.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Mainly women farmers and their family members, especially children, maintain good health through a quality and balanced diet. The efficiency of agricultural production by farmers will improve.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Female and male farmers will be selected in a participatory process. The whole country is a potential intervention area, so no community or household will be excluded by design. This should reduce the risk of inter- and intra-communal conflict. The greatest potential for conflict is intra-household. Since many men will not be able to participate in the project, hence benefit from access to training or inputs, they might try to prevent their women from taking part. (Positive) • The project will not have a negative impact on the environment, provided chemical fertilizers and pesticides will not be used excessively. Environmental Impact Assessments will put an emphasis on imparting knowledge on how to make use of	

Items	Information
	organic fertilizer and manure and lower impact pest management approaches. • Should such behaviour be observed on a larger scale, the project has to be complemented with sensitization campaigns, raising awareness among the male population how their sons and heirs will benefit in the long run from: a) well-fed pregnant and lactating mothers and b) children being provided with nutritious food

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	A baseline survey will be carried-out at the onset of the project and assess the status (different varieties, volume per variety, relationship imported/ locally grown) of vegetable and fruit production across the country and the number and state of school gardens already in place. Levels of under- and malnutrition are well observed by various International Organisations active in South Sudan. Hence, an effort will be made to use their data - if possible - and to retrieve macro-level information on the nutritional status of the population in general and specifically of pregnant, lactating, and young mothers and children from these sources, broken down by intervention area. Individual data on the state of health of the target group (school children, participating women/men and their children) will for reasons of cost and attribution problems not be collected. A questionnaire on food habits will produce data sufficient to capture the impact of the project through changes in consumption patterns.
(2) Measurable indicators and situation at the end point:	After 10 years, again a survey assessing the state of horticulture production will be carried out to determine if/how the situation has changed. In the meantime, production data will be collected on a yearly basis at participating households and school gardens. If possible the same data sources used for establishing macro-level nutritional conditions at the beginning of the project will be used to determine change after 10 years. However, one needs to bear in mind that the causal link between project intervention and observed changes might be rather weak. The impact of the project can more reliably traced by questionnaires on consumption patterns to be completed by the target group again at the end of the project.
(3) Methods of measurement and sources of information:	Surveys on production and questionnaires on consumption
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be the responsible for monitoring and evaluation. The farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	Maintaining existing number of AEOs (not hiring additional AEOs) and increasing efficiency of their work by providing transport and training for capacity development The CAMP secretariat will provide oversight, while state ministries implement the project and provide extension services, supported by private consultants (DP staff) The private sector will be supported in making the right seeds plus basic information in seed handling available as well as on safe use of any chemicals they are recommending.
(2) Required human resources in the public sector (Positions, grades and numbers):	1 Project Manager and 4 staff (total 5 staff) at national level, 2 staff in each target state (total 20 staff) and 20 AEOs (total 200 AEOs) in each target state
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	4 consultants (2 horticulture including 1 team leader, 1 extension and training, and 1 pests and diseases experts, experience in working in post-conflict set-ups), 5 staff at national level, and 2 staff in each state 20 AEOs, in each state

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	South Sudan is a country prone to man-made disasters. Working in South Sudan is therefore inherently risky. A precondition for the project to be carried out as outlined is peace or at least low levels of insecurity. If major internal conflict disrupts accessibility of intervention areas and/or schooling, the project's activities have to be modified accordingly to prevent its failure. This will require additional planning, and potentially result in delays, but it will not affect the necessity to implement the project at all.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project.	AEOs' routine monitoring and follow-up will be made to support target female and male farmer groups. There will be a continuing need for extension advice and advice and supplies of seeds and pesticides from agro-dealers.

Items	Information
Description of the required resources can be done in an indicative manner.	

01.06 Subsistence farmer vegetable and fruit production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,069**	**2,896**	**2,186**	**1,301**	**1,301**	**826**	**829**	**598**	**117**	**604**																**13,728**	**3,432**	**87%**
1 Deployment of government staff	**90**	**28**	**35**	**27**	**27**	**90**	**28**	**35**	**27**	**35**																**422**	**106**	**3%**
1 Baseline survey and target selection (per diem)	54					54																				108	27	1%
2 Baseline survey and target selection (transportation)	36					36																				72	18	0%
3 Horticulture training for AEOs (per diem)		19					19																			38	9	0%
4 Horticulture training for AEOs (transportation)		9					9																			18	5	0%
5 Monitoring & assessment (per diem)			8					8		8																24	6	0%
6 Monitoring & assessment (transportation)			27	27	27			27	27	27																162	41	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,812**	**2,308**	**2,005**	**1,274**	**1,274**	**569**	**241**	**418**	**90**	**569**																**11,560**	**2,890**	**73%**
1 International consultant (team leader/horticulture)	1,512	1,008	1,008	504	504	252		252		252																5,292	1,323	34%
2 International consultant (horticulture)	454	454	302	227	227	76	76			76																1,890	473	12%
3 International consultant (extension and training)	454	454	302	227	227	76	76			76																1,890	473	12%
4 International consultant (pests and disease control)	302	302	302	227	227	76		76		76																1,588	397	10%
5 Local consultant for annual survey & monitoring	90	90	90	90	90	90	90	90	90	90																900	225	6%
4 Implementation of staff training	**156**	**560**	**96**			**156**	**560**	**96**																		**1,624**	**406**	**10%**
1 Horticulture training for 30 officers (per diem)	126					126																				252	63	2%
2 Horticulture training for 30 officers (transportation)	30					30																				60	15	0%
3 Horticulture training for AEOs at states (per diem)		490					490																			980	245	6%
4 Horticulture training for AEOs at states (transportation)		70					70																			140	35	1%
5 Training for 200 school teachers at states (per diem)			64					64																		128	32	1%
6 Training for 200 school teachers at states (transportation)			32					32																		64	16	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**12**		**50**			**12**		**50**																		**123**	**31**	**1%**
1 Fuels for baseline survey and target selection	12					12																				23	6	0%
2 Fuels for farmer training at 500 bomas			38					38																		76	19	0%
3 Fuels for distribution of seeds and seedling at 500 bomas			12					12																		24	6	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**140**	**495**	**435**			**70**	**495**	**435**																	**2,070**	**518**	**13%**
1 Provision of cash and/or in-kind subsidies			**495**	**435**				**495**	**435**																	**1,860**	**465**	**12%**
1 Seed of vegetables for 200 school garden			60					60																		120	30	1%
2 Seeds of vegetables distributed to families			300	300				300	300																	1,200	300	8%
3 Seeds of vegetables distributed to schools			30	30				30	30																	120	30	1%
4 Fruit tree seedlings distributed to families			75	75				75	75																	300	75	2%
5 Fruit tree seedlings distributed to schools			30	30				30	30																	120	30	1%
2 Provision of training services to the private sector		**140**					**70**																			**210**	**53**	**1%**

01.06 Subsistence farmer vegetable and fruit production project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Training for 500 agro dealers at states		70					70																			140	35	1%
2		70																								70	18	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**3,069**	**3,036**	**2,681**	**1,736**	**1,301**	**826**	**899**	**1,093**	**552**	**604**																**15,798**		**100%**
Total (USD '000)	**767**	**759**	**670**	**434**	**325**	**207**	**225**	**273**	**138**	**151**																	**3,950**	
% to total	**19%**	**19%**	**17%**	**11%**	**8%**	**5%**	**6%**	**7%**	**3%**	**4%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.7 Subsistence farmer cassava production and value addition project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop			
(2) Project name:	Subsistence farmer cassava production and value addition project			
(3) Project ID:	0 1 . 0 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2015/16	Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 18,100,00	USD 4,525,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CRSA5	Crop production	Table 2-3
(2) Government organisation:	03	MAF-CO	Directorate of Cooperative development	Table 2-6
	12	MAF-PE	Directorate of Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev. – Extension and training	Table 2-12
	205	SP-CR	Service delivery/infra. dev. – Provision of credit	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Cassava is important, not only as a food crop but even more so as a major source of income for rural households. Cassava is largely consumed in many processed forms in South Sudan. As a cash crop, cassava generates cash income for the largest number of households in comparison with other staples. A large proportion of total production is planted annually for sale. Cassava is mainly a subsistence crop grown for food by small-scale farmers who sell the surplus. It grows well in poor soils with limited labour requirements. It provides food security during conflicts when the invader cannot easily destroy or remove the crop, since it conveniently grows underground. Cassava is usually intercropped with vegetables, plantation crops (such as coconut, oil palm, and coffee), yam, sweet potato, melon, maize, rice, groundnut, or other legumes. The application of fertilizer remains limited among small-scale farmers due to the high cost and lack of availability. Roots can be harvested between 6 months and 3 years after planting. As a food crop, cassava has some inherent characteristics which make it attractive, especially to subsistence farmers in South Sudan. First, it is rich in carbohydrates especially starch, calcium, vitamins B and C, and essential minerals and consequently has a multiplicity of end uses. Secondly, it is available all year round, making it preferable to other, more seasonal crops such as grains, peas and beans and other crops for food security. Compared to grains, cassava is more tolerant of low soil fertility and more resistant to drought, pests and diseases. Furthermore, its roots are storable in the ground for months after they mature. In some communities in South Sudan cassava leaves are an important dish e.g. Western Equatoria State in the Azande area. In urban areas cassava leaves are a part of dishes eaten during important occasions and is liked by many consumers. Currently, there are no large scale imports of cassava. It is in principle a low value commodity, with price differentials in the region appearing too low to warrant transport costs and border taxes. Moreover, cassava is the only crop to attract a 15% custom duty at South Sudanese borders. The others stand at 10%. However, there are some imports from Uganda. As demand exceeds local production, these imports supplement domestic production and help meet the market that cannot be satisfied by domestically grown cassava. A potential for import substitution exists. To be able to generate income from import substitution, substantial extension work and agronomic support (seed varieties, organic fertilizer, and agricultural practices) will be needed to lower relative production cost. Though a detailed study of prices is yet to be carried out, preliminary data suggests that, at retail-level, prices fetched by cassava flour are almost double that of cassava chips. Hence, the current potential lies primarily in improving yields and processing cassava tubers into flour and linking farmer/farmer groups more directly to flour sales. For producing chips, knives can be used for peeling and chipping, but in Uganda manual and electrical graters are available facilitating the production of chips. These graters and presses remove a large proportion of the water prior to drying. However, dried cassava in a grated state may not be acceptable to consumers. Market traders indicate that large hand-cut dried cassava pieces are preferable. Any interventions into cassava drying need to take into account the preferences of the end-users, so testing consumer acceptability should precede any intervention. Milling of the chips into flour can be done on a household level, but some small-scale millers are also operating. The project will engage with small-scale millers and traders to develop value chains of cassava.
(2) Objectives:	Focusing on increased productivity and value addition by processing, the project will contribute to reduce food insecurity by improving food availability and increasing income for female and male subsistence cassava farmers with the involvement of small agro-dealers and traders who can sell processing equipment, cassava chips and flour.
(3) Overall description including temporal and spatial extent of project:	On average, only 13 percent of the agricultural households in South Sudan are growing cassava. However, production is clearly concentrated in Western Equatoria State (WES) with 63 percent of agricultural holdings in this state growing cassava. WES will therefore be the main intervention area, with potential to expand to Central Equatoria (32% of households engaged in cassava growing) and to the Hills and Mountains of Eastern Equatoria State in which 7% of households are currently engaged in cassava production. This project aims to improve productivity of subsistence cassava farmers and enhance

Items	Information
	value addition by processing. The project will target 3000 (about 1,500 females and 1,500 males) subsistence cassava farmers with the involvement of at least 20 small agro-dealers and 10 cassava chips and flour traders. Cassava processing is intended to generate extra cash income for subsistence farmers, increase food availability in the market, and decrease dependency from imports. The project will focus on farmer parents with the aim of attracting youth to agriculture. This is necessary to ensure the sustainability of the agricultural sector in the long-term which is today dominated by an older generation of farmers. Apart from this, engaging youth is a strategy to mitigate the risk of conflict resulting from youth being idle and without prospects. The project will showcase that within agriculture serious business opportunities can be found, explored, and developed further.
(4) Component structure:	Component 1: Support to the formation/promotion of farmer based organisations: FBOs (farmer groups, association, cooperatives) Component 2: Support to increasing productivity Component 3: Introduction of simple processing methods for cassava and improvement of access to markets

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Support to the formation/promotion of FBOs (farmer groups, association, cooperatives) Activity 1.1: Develop criteria for selecting farmers (already engaged in cassava production, similar land size and yields, similar socio-economic status, physical proximity to each other and to markets, at least 50% women, 50% youths, etc.), based on do-no-harm principles Activity 1.2: Conduct social assessment in the target areas to ensure selection of participants does not increase the risk of conflict and gender disparity (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) Activity 1.3: Carry-out survey to select potential members of groups/associations/ cooperatives Outputs 1.2, 1.3: survey reports prepared Activity 1.4: Organise meeting with potential members to discuss approach and objectives of the project and obtain commitment to participation Outputs: 100 meetings held Activity 1.5: Assists groups in setting up an organisational structure and (in case existing farmer groups opt for becoming a cooperative or registered association) with the registration processes by Cooperative Offices (COs) Outputs: 100-150 farmer groups organised, 20 COs trained Component 2: Support to increasing productivity Activity 2.1: Carry-out baseline survey on target FBOs (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling and marketing) Outputs: survey report prepared Activity 2.2: Conduct training for Agriculture Extension Officers (AEOs) on cassava production methods, soil management, pests and diseases control and post-harvest handling Outputs: 30 AEOs trained and able to assist cassava farmers Activity 2.3: Provide training for FBO representatives (Training of Trainers on production methods, soil management, pests and diseases control and post-harvest handling through on-farm training) Outputs: 300 representatives (about 150 females and 150 males) of cassava farmers trained Activity 2.4: Provide training to FBO members by trained farmers with support of AEOs Outputs: 2700 farmers trained Activity 2.5: Provide virus free, high-yielding and pest and disease resistant varieties Outputs: 3000 farmers received improved variety stakes Activity 2.6: Conduct follow-up activities by AEOs Outputs: bi-weekly monitoring conducted for 100-150 groups by 30 AEOs Activity 2.7: Carry-out surveys to assess yield levels by farmers and AEOs Outputs: Survey reports prepared Component 3: Introduction of simple processing methods for cassava and improvement of access to markets Activity 3.1: Carry-out market surveys to assess demand for and prices of cassava processed products (soak and dried cassava, cassava chips, and cassava flour) Outputs: survey reports prepared including cassava products with the most value added Activity 3.2: Provide training to enable FBO to select processing methods based on expected return on investment or to enhance linkages with small local millers

Items	Information
	Outputs: 300 representatives (about 150 females and 150 males) of cassava farmers able to select value added products Activity 3.3: Facilitate access to micro-finance institutions providing small loans to FBOs Outputs: some FBOs obtain loans Activity 3.4: Facilitate access to processing equipment Outputs: processing equipment purchased by FBOs Activity 3.5: Provide training on operation and maintenance of processing machines Outputs: 100 FBO representatives able to use processing machines Activity 3.6: Provide training on quality control (including sanitation), packaging and transport of final products Outputs: 100 FBO representatives producing quality value added products Activity 3.7: Facilitate establishment of linkages with small millers and traders Outputs: some millers and traders linked with FBOs who can sell their products Activity 3.8: Carry-out survey to assess volumes of cassava processed and produce sold Outputs: Survey reports prepared to measure impact of project

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• Government: AEOs, COs, training centre staff, target state and county government officials, and national government officials • Private sector: agro-dealers, millers, and traders • Others: DP hired consultants (local and international)
(2) Description of beneficiaries within the framework of the project:	• Subsistence cassava producers and their family members • FBO representatives in terms of business management skills development • AEOs and COs with improved skills gained on training courses • Traders of cassava tubers, chips, flour and leaves

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Cassava producers increase food availability by producing cassava as their food and by purchasing necessary food from markets through sales of surplus and value addition (e.g. dry cassava and flour)
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • If an outbreak of cassava mosaic and brown streak virus diseases occurs due to project activities, it would have a serious negative environmental impact. This should be avoided by introducing virus free cassava stakes, appropriate crop rotation and close monitoring and feedback systems for pests and diseases control. • Since gains in yields are mainly achieved through increased productivity, land issues will be mitigated. Inter-cropping methods and organic fertilizers are used to prevent long-term soil degradation. (Positive) • The project is likely to have a positive impact on society through income generation opportunities provided. By trying to engage idle youth, it should have a conflict mitigating effect.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Yield levels range between 10-15t/ha, very little locally processed cassava (chips and flour) is found in local markets.
(2) Measurable indicators and situation at the end point:	Yields will increase up to 15-20t/ha due to the adoption of high-yielding and disease-resistant varieties. Some cassava producing FBOs will develop processing businesses. Locally produced cassava products (chips and flour) are available on local markets at a competitive price.
(3) Methods of measurement and sources of information:	Farmers' records; market assessments carried out as a baseline at the beginning of the project and a survey conducted after the project has ended
(4) Responsible parties for the monitoring and evaluation:	Farmers, AEOs, COs, target county and state government officials, experts of DP

2.7 Required human resources

(1) Principle of human resources management:	Oversight by public sector (state government), implementation jointly by DP and private sector The government does not need to increase the number of AEOs but tries to improve their

Items	Information
	efficiency of service delivery by providing means of transport (bicycle or motorbike) and technical training, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) at MAFCRD • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (two in-charge for each target state, total 4 staff) • AEOs (30 staff) and COs (20 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • 1. One project management (Master degree, 15-year experience) • 2. One cassava production expert (BSc or BA, 10-year experience) • 3. One extension and training expert (BSc or BA, 5-year experience) • 4. One value-chain development (BSc or BA, 5-year experience) Local consultants for baseline and end-line surveys Private agro-dealers, millers, traders

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be high due to the following reasons. • Outbreak of cassava mosaic and brown streak diseases • Limited amount of available quality virus free stakes • Insecurity of target areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of AEOs who deliver inputs • Limited capacity of AEOs and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	In case the current situation of instability and insecurity does not improve, project implementation is at risk. Risks will then be manifested in various problems: • Farming activities disrupted • Infrastructure still dilapidated and access to markets by roads limited • Access to input inexistent/limited In addition selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is necessary for the targeted farmers by AEOs. AEOs will conduct the follow-up activities as a routine work with minimum cost (fuel for motorbike and some inputs).

01.07 Subsistence farmer cassava production and value addition project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,582**	**3,615**	**2,860**	**1,225**	**1,263**	**7**	**39**	**1,202**	**7**	**761**																**14,560**	**3,640**	**80%**
1 Deployment of government staff	**30**	**29**			**17**			**17**																		**93**	**23**	**1%**
1 Survey for transformation/promotion of FBOs (per diem)	30																									30	8	0%
2 Cooperative officers training (per diem)		8			8			8																		25	6	0%
3 Baseline survey for productivity (per diem)		13																								13	3	0%
4 Agricultural extension officers training (per diem)		8			8			8																		25	6	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**3,326**	**3,326**	**2,822**	**1,224**	**1,246**			**738**		**760**																**13,442**	**3,361**	**74%**
1 International consultant (project management)	1,260	1,260	756	504	504			378		378																5,040	1,260	28%
2 International consultant (cassava production)	1,080	1,080	1,080	720	720			360		360																5,400	1,350	30%
3 International consultant (extension and training)	450	450	450																							1,350	338	7%
4 International consultant (value chain)	450	450	450																							1,350	338	7%
5 Local consultant (field survey for baseline and endline)	86	86	86		22					22																302	76	2%
4 Implementation of staff training	**210**	**210**						**420**																		**840**	**210**	**5%**
1 Training for 20 cooperative officers at Yei (per diem)	196							196																		392	98	2%
2 Training for 20 cooperative officers at Yei (transportation)	14							14																		28	7	0%
3 Training for 30 AEOs at Yei (per diem)		196						196																		392	98	2%
4 Training for 30 AEOs at Yei (transportation)		14						14																		28	7	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**15**	**49**	**38**	**1**	**1**	**7**	**39**	**27**	**7**	**1**																**184**	**46**	**1%**
1 Fuels for survey for transformation/promotion of FBOs	15																									15	4	0%
2 Fuels for baseline survey		6																								6	1	0%
3 Fuels for support field training		12					12																			23	6	0%
4 Fuels for bi-week monitoring and follow up by AEOs		26	26				26	26																		104	26	1%
5 Fuels for endline survey			6																							6	2	0%
6 Fuels for market survey		6																								6	1	0%
7 Fuels for FBOs processing training by agro-dealer			6			6			6																	17	4	0%
8 Fuels for monitoring/assessment survey				1	1	1	1	1	1	1																8	2	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**600**	**1,140**	**300**			**1,200**	**240**		**60**																	**3,540**	**885**	**20%**
1 Provision of cash and/or in-kind subsidies		**240**				**240**																				**480**	**120**	**3%**
1 Improved variety of cassava stakes		240				240																				480	120	3%
2 Provision of training services to the private sector	**600**	**900**	**300**			**960**	**240**		**60**																	**3,060**	**765**	**17%**
1 FBO formation meeting	600																									600	150	3%
2 FBO representative training (300) (per diem)		840				840																				1,680	420	9%
3 FBO representative training (300) (transportation)		60				60																				120	30	1%

01.07 Subsistence farmer cassava production and value addition project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
4 FBO value addition training (300) (per diem)			180				180																			360	90	2%
5 FBO value addition training (300) (transportation)			60				60																			120	30	1%
6 FBO processing training by agro-dealer			60			60			60																	180	45	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**4,182**	**4,755**	**3,160**	**1,225**	**1,263**	**1,207**	**279**	**1,202**	**67**	**761**																**18,100**		**100%**
Total (USD '000)	**1,045**	**1,189**	**790**	**306**	**316**	**302**	**70**	**300**	**17**	**190**																	**4,525**	
% to total	**23%**	**26%**	**17%**	**7%**	**7%**	**7%**	**2%**	**7%**	**0%**	**4%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.8 Subsistence farmer peas and beans production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Subsistence farmers peas and beans production project				
(3) Project ID:	0 1 . 0 8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2019/20	Duration (years): 5	
(5) Total investment:	SSP 14,763,000		USD 3,691,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Currently, demand for peas and beans in South Sudan is met by mainly imports from Uganda. However, peas and beans grow widely in South Sudan: in Western and Central Equatoria, i.e. the Greenbelt zone; and, in Upper Nile, Warrap, Unity (which has become home to large numbers of IDPs, displaced by the ongoing conflict) and Western Bahr el Ghazal, i.e. the Nile Sobat River, Flood Plains and Ironstone Plateau zones. Mainly kidney beans are grown for own consumption, while cowpeas are used as a cash crop. Varieties seem to be limited but there is a range of further legumes that could be grown in the areas (pigeon peas, chick-peas, green grams and black grams). Peas and beans are a food security crop and would be a source of cash income in South Sudan. As a short-duration crop (2.5 -4 moths), they are key for helping to shorten seasonal food insecurity and for providing quick cash. Their early maturity and capacity to provide a range of food products (leaves as well as fresh pods and dry grain) also helps provide a more balanced diet. Peas and beans are excellent sources of protein, vitamins and essential minerals in addition to carbohydrate. They are a source of supplementary protein to daily diets based on cereals and starchy food for people who cannot regularly afford animal protein. Peas and beans are well suited to diverse environments and fit in various cropping systems owing to their wide adaptability, low input requirements, fast growth, nitrogen fixing and weed smothering ability. Their cultivation enriches the soil by adding nitrogen, and improves the physical, chemical and biological soil properties. In order for subsistence smallholder farmers to generate income from peas and beans production, they need to assess market demands. Thus, detailed market surveys will have to be carried out. To ensure that the farmers understand the market demand, it is necessary to facilitate linking with traders who can provide market opportunities and information for the target households. Since traders need a guaranteed supply in the right quality and quantity, farmers could meet this demand by organising farmer based organisations (FBOs) and shipping collectively. Farmers will also need access to extension services such as training on production and improving quality, as well as ameliorating their postharvest handling techniques. Pest management at the production and storage stage will have an important role to play too. This service could be provided by plant doctors who offer diagnostics and advice at mobile clinics, as mentioned in the “National crop pests and diseases control project.”
(2) Objectives:	On a macro-level, the project will contribute to increasing South Sudan’s self-sufficiency and to reducing its dependency on imports. Moreover, it will contribute to improving the nutritional status of its population. On a micro-level, the project will assist in improving the livelihoods of target farmers, through helping them diversify and to develop additional sources of food, and potentially cash income. Linkages to the private sector (e.g. traders) will be fostered to support and nourish the private sector that is slowly developing in South Sudan. The project is going to take place in marginalized parts of the country to contribute to an equitable distribution of the benefits of CAMP implementation.
(3) Overall description including temporal and spatial extent of project:	The project will last for 5 years and is intended to kick-start individual farmer private sector initiatives. Target farmers are 4,000, selected with a special focus on gender equality (i.e. 2,000 female and 2,000 male farmers). Target areas will be the livelihood zones of Nile Sobat River, Western Flood Plains, Ironstone Plateau and Greenbelt. Project reporting, monitoring and evaluation will include production of gender disaggregated data as well as gender specific results.
(4) Component and activity structure:	Component 1: Baseline surveys for situation assessment Component 2: Enhancement of market linkages Component 3: Improvement of production and marketing skills

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Baseline surveys for situation assessment Activity 1.1: Assess current status and varieties of peas and beans grown in target areas and social aspects (e.g. tribal conflicts, internally displaced persons, returnees, vulnerable groups affected by unrest, poverty index, gender disparity, youth, HIV, etc.) Activity 1.2: Carry out market surveys to assess market demands Activity 1.3: Select target farmers in accordance with selection criteria developed by stakeholders Activity 1.4: Conduct baseline survey on target farmers (e.g. yield, area harvested,

Items	Information
	farming practices by gender, pest and diseases control, post-harvest handling and marketing) and their social aspects (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) Outputs: Varieties along with farmers' current production levels and market demand known, social aspects examined, 4000 target farmers (2000 females and 2000 males) selected with gender consideration, survey reports prepared Component 2: Enhancement of market linkages Activity 2.1: Link farmers to traders to facilitate gathering of market information, provide them with an outlet for their produce Activity 2.2: Facilitate establishment of farmer based organisations (FBOs) to realise collective shipping and stronger bargaining power Activity 2.3: Organize periodic roundtable discussions with representatives of FBOs and their buyers Outputs: linkages with traders established, farmer based organisations (FBOs) established, periodic meetings held with traders Component 3: Improvement of production and marketing skills Activity 3.1: Selection of appropriate varieties of peas and beans to be produced in collaboration with government research centres, traders and private agro-dealers Activity 3.2: Conduct training for AEOs and NGO staff on peas and beans production and marketing (e.g. line planting, use of fertiliser, effective weeding, pest and disease control, post-harvest handling, marketing, and gender) Activity 3.3: Train target farmers with a special emphasis on youth and women in improving their production and post-harvest handling and marketing skills Activity 3.4: Provide quality seeds of peas and beans to target farmers and provide routine extension services Activity 3.5: Link farmers with plant doctors if services are available Activity 3.6: Facilitate collective shipping by FBOs and communication with traders Activity 3.7:Carry out end of project surveys on target farmers to measure their achievements (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling and marketing) Outputs: appropriate three types of seed varieties selected and those seeds provided, AEOs and NGO staff trained, target farmers trained (two weeks in-field training for 4000 farmers), routine extension activities implemented, end of the project survey conducted

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• Agriculture Extension Officers • NGO staff • Local consultants • Staff of government research centres • Traders • Agro-dealers
(2) Description of beneficiaries within the framework of the project:	• Female and male subsistence peas and beans producers who do not attain food self-sufficiency in their households (IDPs and other vulnerable households are given special emphasis) • Trained AEOs and NGO staff

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of productivity, most of the target subsistence producers and some of their neighbours will achieve household food self-sufficiency. This situation might greatly contribute to improvement of food and nutrition security. Especially conditions of nutrition security would be improved since peas and beans are so nutritious. In addition benefits of the project will be shared fairly among the household members (e.g. adults female and male, and children).
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • If not carefully planned and implemented, this project could have a potentially negative social and environmental impact. A do no harm approach will help to mitigate the social risks that could arise from the selection of target areas and farming households in case selection is perceived as being unfair. Therefore, a detailed peace and conflict analysis has to be carried out at project inception. Its results should be the starting point for any	

Items	Information
	detailed project design and target group selection. Equally important is not to underestimate the potentially negative environmental consequences. Though peas and beans have a positive effect on soil recovery, fertilisers and pesticides have to be handled with care. Sophisticated extension advice on production and pest management will help to avoid potential damage of soils and water resources. (Positive) • If carefully planned this project can have both, positive social and environmental impacts; growing peas and beans contributes to food and especially nutrition security, plus provides an additional source of income; the positive social impacts of the project are expected to be numerous. Also in terms of environmental effects, the capacity of peas and beans to contribute to improving soils through nitrogen fixation is highly beneficial.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Income levels of target farmers • Amount and quality of peas and beans harvested and sold at local markets • Number of FBOs
(2) Measurable indicators and situation at the end point:	• Income levels of target farmers • Amount and quality of peas and beans harvested and sold at local and regional markets • Amount of collective shipping and its prices • Number of FBOs organised • Number of traders linked with FBOs
(3) Methods of measurement and sources of information:	Baseline and end of project surveys, CFSAM data, NBS census data
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be the responsible for monitoring and evaluation. The farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staffs at national level (senior inspector level, 5 staff) for project management, procurement, logistics, monitoring • Project staff at state level (one in-charge for each target state, total 10 staff)) • Extension agents (e.g. AEOs) (about 35 AEOs)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management (MSc or MA, 15-year experience) • One crop husbandry/extension expert (MSc or MA, 5-year experience) • One agriculture training and marketing expert (MSc, 5-year experience) • One social (including gender) and farmer survey expert (MSc or MA, 5-year experience) Local consultants for baseline and end of project surveys will be hired. NGOs for extension activities will be contracted. Traders will be involved to disseminate information on market demands for subsistence farmers.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited amount of available quality seeds • Limited capacity of AEOs and limited means of transport • Natural disasters (e.g. drought, flooding, and pests and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

Items	Information
(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by extension agents both AEOs and NGO staff. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO staff, salary and necessary costs would be required.

01.08 Subsistence farmer peas and beans production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**2,387**	**2,873**	**2,873**	**2,873**	**2,296**																					**13,301**	**3,325**	**90%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,192**	**2,870**	**2,870**	**2,870**	**2,293**																					**13,096**	**3,274**	**89%**
1 International consultant (project management)	378	378	378	378	378																					1,890	473	13%
2 International consultant (crop/husbandry/extension)	454	454	454	454	454																					2,268	567	15%
3 International consultant (agricultural training/marketing)	302	302	302	302	302																					1,512	378	10%
4 International consultant (social/farmer survey)	756	756	756	756	756																					3,780	945	26%
5 Local consultant (baseline/endline survey)	302				403																					706	176	5%
6 NGOs		980	980	980																						2,940	735	20%
4 Implementation of staff training	**182**																									**182**	**46**	**1%**
1 Training for 35 AEOs (per diem)	147																									147	37	1%
2 Training for 35 AEOs (transportation)	35																									35	9	0%
5 Implementation of research, studies and surveys	**13**	**3**	**3**	**3**	**3**																					**23**	**6**	**0%**
1 Fuels for baseline survey by AEOs	13																									13	3	0%
2 Fuels for meeting with trader supported by AEOs		3	3	3	3																					11	3	0%
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**486**	**486**	**486**	**6**																					**1,462**	**366**	**10%**
1 Provision of cash and/or in-kind subsidies		**480**	**480**	**480**																						**1,440**	**360**	**10%**
1 Improved seeds for 4000 farmers		480	480	480																						1,440	360	10%
2 Provision of training services to the private sector		**6**	**6**	**6**	**6**																					**22**	**6**	**0%**
1 Meeting with trader (transportation)		6	6	6	6																					22	6	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**2,387**	**3,358**	**3,358**	**3,358**	**2,301**																					**14,763**		**100%**
Total (USD '000)	**597**	**840**	**840**	**840**	**575**																						**3,691**	
% to total	**16%**	**23%**	**23%**	**23%**	**16%**																					**100%**		

Public sector project | Private sector project

Routine work by government | Routine work by private sector

2.4.9 Subsistence farmer groundnut production and value addition project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Subsistence farmer groundnut production and value addition project				
(3) Project ID:	0 1 . 0 9	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 16,045,000		USD 4,011,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	03	MAF-CO	Directorate of Cooperative development	Table 2-6
	12	MAF-PE	Directorate of Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev. – Extension and training	Table 2-12
	205	SP-CR	Service delivery/infra. dev. – Provision of credit	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	X
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	X
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	X
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Groundnut is a very important cash crop in South Sudan, which is also a main staple and is grown by many households throughout the country. Groundnut production in South Sudan is practised mainly by smallholder farmers. Field sizes average 2 feddan. Yields of groundnut are much below potential. It is estimated that 500kg/feddan (1.2Mt/ha) is a good yield for groundnut in reasonable rain fed conditions. This can be as low as 200kg/feddan (less than 0.5Mt/ha) in poor rainfed conditions. Groundnut is planted at the beginning of the rainy season and harvested after four months. In the Greenbelt, and possibly the Ironstone Plateau, it can be planted and harvested twice a year. The selection of specific soil types is more important in groundnut production than in most other crops because of the direct influence of soil type on harvest losses. Weed control and clear space between the rows of groundnut allows efficient use of a hoe to harvest. When the groundnut is removed from soil at harvest, moisture content usually exceeds 40%. Thus proper post-harvest handling, especially drying, is crucial to ensure safe storage of the groundnut for further utilization. Current consumption of groundnut is mainly as a paste (peanut butter), and also as a roasted nut, but so far oil extraction is not done locally. The margins for the farm-gate product (unshelled groundnut) are fairly small. Sales prices are relatively high for groundnut due to high input costs. Especially, labour costs are almost double costs for cassava or maize. Costs for labour, seeds and tools for groundnut leave small margins. In low cost production, i.e. with no or little seed purchases, and no fertilizer applied, cultivation may even result in losses. Hence, increasing production levels through ensuring increased access to and use of higher yielding seed varieties and fertilizers, and better tools, and equipment is crucial to ensuring profitability of production. Prices are strongly dependent on the variety. The groundnut cultivar being used generally is the White Beauty. It is popular for its hardiness and apparent tolerance to soil types and conditions, but it is neither the best with regard to yield levels, nor is it the best for oil production. Higher priced varieties (e.g. Red Beauty) are more prone to disease, and more difficult to cultivate which requires training for farmers. Trade in groundnut is dominated by many small traders. The crop is bulked by the traders and transported in large trucks in the shell to urban areas. Shelled nuts of good quality fetch substantially higher prices than unshelled. Traders margins are around 10-15%. Wholesale traders import large quantities of groundnut to South Sudan from Sudan; only small amounts of groundnut are imported from Uganda. The market for unshelled and shelled groundnut is strong, but it is not likely that it will grow substantially. The main potential lies in value addition through producing paste, and especially in import substitution through local extraction of groundnut oil. The residue of extraction, the cake can be sold and used as high-quality animal and poultry feeds. First, the project will address the issue of productivity (vertical expansion) through better farming methods and use of higher yielding seed varieties. This requires training and access to better tools and equipment and higher yielding seed varieties. Secondly, the project will focus on value-addition through processing. Therefore, the project assumes that a micro-finance institution will be giving out small loans to Farmer Based Organisations (FBOs) to acquire processing equipment, e.g. shellers, mincer, groundnut paste makers, and oil expellers/pressers to enable farmers to benefit from value addition. Thirdly, the project will address the challenge of market access. It will link producers with traders of groundnut products for human consumption as well as animal feed. Note: contents of justification are mainly cited form “GIZ. May 2011. Appraisal analysis and selection of agro-based value chains in South Sudan”
(2) Objectives:	This project aims at achieving economic growth and reducing food insecurity by increasing income levels of farmers through adding value, i.e. groundnut processing. It aims at contributing to commercialising small holder farming in South Sudan.
(3) Overall description including temporal and spatial extent of project:	The project will cover the groundnut producing areas that allow for two harvests, i.e. the Greenbelt and Ironstone Plateau. The project will target 3000 (about 1,500 females and 1,500 males) subsistence groundnut farmers with the involvement of at least 20 small agro-dealers and 10 groundnut traders. Substantial cooperation potential exists: other DPs have been working on establishing farmer based organisations (FBOs) and supporting these groups to increase their groundnut production levels in the Greenbelt.

Items	Information
	In principle, the project consists of 3 components. 1. Support to the formation of FBOs (farmer groups, associations, cooperatives), 2. Support to raising productivity, 3. Introduction of simple processing methods for groundnut and improvement of access to markets. Established farmer groups, who have in the past received assistance from DPs and through the support, already managed to increase yields to a reasonable level (i.e. around 500kg/feddan), will not be beneficiaries of the activities carried out under component 1.
(4) Component structure:	Component 1: Support to the formation/promotion of farmer based organisations (farmer groups, association, cooperatives) Component 2: Support to increasing productivity Component 3: Introduction of simple processing methods for groundnut and improvement of access to markets

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Support to the formation/promotion of FBOs (farmer groups, association, cooperatives) Activity 1.1: Develop criteria for selecting farmers (already engaged in groundnut production, similar land size and yields, similar socio-economic status, physical proximity to each other and to markets, at least 50% women, 50% youths, etc.) Activity 1.2: Conduct social assessment in the target areas to ensure selection of participants does not increase the risk of conflict and gender disparity (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) Activity 1.3: Carry out survey to select potential members of groups/associations/ cooperatives Outputs 1.2, 1.3: survey reports prepared Activity 1.4: Organise meeting with potential members to discuss approach and objectives of the project and obtain commitment to participation Outputs: 100 meetings held (1 day meeting, need transport cost for participants) Activity 1.5: Assists groups in setting up an organisational structure and (in case existing farmer groups opt for becoming a cooperative or registered association) with the registration process by Cooperative Offices (COs) Outputs: 100-150 farmer groups organised, 10 COs trained Component 2: Support to increasing productivity Activity 2.1: Carry-out baseline survey on target FBOs (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling, processing and marketing) Outputs: Survey report prepared Activity 2.2: Conduct training for Agriculture Extension Officers (AEOs) on groundnut production methods, soil management, weed control, pests and diseases control and post-harvest handling, processing and marketing Outputs: 30 AEOs trained and able to assist groundnut farmers Activity 2.3: Provide training for FBO representatives (Training of Trainers on production methods, soil management, weed control, pests and diseases control and post-harvest handling through on-farm training) Outputs: 300 representatives (about 150 females and 150 males) of groundnut farmers trained Activity 2.4: Provide training to FBO members by trained farmers with support of AEOs Outputs: 2700 farmers trained Activity 2.5: Provide improved varieties' seeds Outputs: 3000 farmers received improved seeds Activity 2.6: Conduct follow-up activities by AEOs Outputs: bi-weekly monitoring conducted for 100-150 groups by 30 AEOs Activity 2.7: Carry-out surveys to assess yield levels by farmers and AEOs Outputs: Survey reports prepared to measure impact of project Component 3: Introduction of simple processing methods for groundnut and improvement of access to markets Activity 3.1: Carry-out market surveys to assess demand for and prices of groundnut processed products (un-shelled, paste, roasted and oil extraction) Outputs: survey reports prepared including groundnut products with the most value added Activity 3.2: Provide training to enable FBOs to select processing methods based on expected return on investment or to enhance linkages with small local processors Outputs: 300 representatives (about 150 females and 150 males) of groundnut farmers able to select value added products Activity 3.3: Facilitate access to micro-finance institutions providing small loans to FBOs Outputs: some FBOs obtain loans

Items	Information
	Activity 3.4: Facilitate access to processing equipment Outputs: Processing equipment purchased by FBOs Activity 3.5: Provide training on operation and maintenance of processing machines Outputs: 100 (about 50 females and 50 males) FBO representatives able to use processing machines Activity 3.6: Provide training on quality control (including sanitation), packaging and transport of final products Outputs: 100 (about 50 females and 50 males) FBO representatives producing quality value added products Activity 3.7: Facilitate establishment of linkages with small processors and traders Outputs: Traders and processors linked with FBOs who can sell their products Activity 3.8: Carry out survey to assess volumes of groundnut processed and produce sold Outputs: Survey reports prepared to measure impact of project

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Government: AEOs, COs, training centre staff, target state and county government officials, and national government officials Private sector: agro-dealers, processors, and traders Others: DP hired consultants (local and international)
(2) Description of beneficiaries within the framework of the project:	Subsistence groundnut producers and their family members FBO representatives in terms of business management skills development AEOs and COs capacitated by training courses Traders of groundnut and processed products (roasted and paste groundnut, and oil extraction)

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Increased productivity and introduction of simple processing methods leads to increased income and thereby contributes to food and nutrition security through diet diversity
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The project's potentially negative effect on the environment through mono-cropping will be mitigated by encouraging intercropping with cassava • The selection of beneficiaries might cause social tensions, therefore selection criteria are based on do-no-harm principles; Peace and conflict assessments are carried out, covering all target areas to make sure that social tensions are not aggravated by the project's interventions. (Positive) • The additional income generated through the project will reduce food insecurity and contribute positively to nutrition outcomes as it provides access to food previously not consumed, thereby increasing diet diversity.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Average yields of 250kg/feddan (0.6Mt/ha) at household level are not sufficient for groundnut production to be a profitable business; low levels of yields and lack of collective action prevent farmers from making the required investments for embarking on processing.
(2) Measurable indicators and situation at the end point:	Yields of groundnut grown have increased to 500kg/feddan (1.2Mt/ha); Basic processing is carried-out and sufficient produce is sold to render operations profitable
(3) Methods of measurement and sources of information:	Surveys carried-out within component 1, 2 and 3, CFSAM and NHBS data
(4) Responsible parties for the monitoring and evaluation:	FBOs, AEOs, COs, target county and state government officials, experts of DP

2.7 Required human resources

(1) Principle of human resources management:	Oversight by public sector (state government), implementation jointly by DP and private sector The government does not need to increase the number of AEOs but tries to improve their efficiency of service delivery by providing means of transport (bicycle or motorbike) and technical training, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions,	• Project manager (one Director or Deputy Director) at MAFCRD • Project staff at national level (senior inspector level, 2 staff) for project management,

Items	Information
grades and numbers):	procurement, logistics, monitoring • Project staff at state level (2 in-charge for each target state, total 6 staff) • AEOs (30 staff) and COs (10 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • 1. One project management (Master degree, 15-years experience) • 2. One groundnut production expert (MSc or MA, 10-years experience) • 3. One extension and training expert (MSc or MA, 5-years experience) • 4. One value-chain development (MSc or MA, 5-years experience) Local consultants for baseline and end-line surveys Private agro-dealers, processors, traders

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be high due to the following reasons. • Outbreak of pests and diseases of groundnut • Limited amount of available quality seeds • Insecurity of target areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of AEOs who deliver inputs • Limited capacity of AEOs and limited means of transport • Natural disasters (e.g. drought and flooding) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	In case the current situation of instability and insecurity does not improve, project implementation is at risk. Risks will then be manifested in various problems: • Farming activities disrupted • Infrastructure still dilapidated and access to markets by roads limited • Access to input inexistent/limited In addition selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by AEOs. The follow-up activities will be done by AEOs as a routine work with minimum cost (fuel for motorbike and some inputs).

01.09 Subsistence farmer groundnut production and value addition project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,086**	**2,611**	**2,439**	**1,794**	**1,358**	**755**	**544**	**372**	**361**	**346**																**13,665**	**3,416**	**85%**
1 Deployment of government staff		**15**	**15**	**15**	**15**		**15**	**15**	**15**	**15**																**122**	**30**	**1%**
1 Supervision, Monitoring trip (per diem)		7	7	7	7		7	7	7	7																58	14	0%
2 Supervision, Monitoring trip (transportation)		8	8	8	8		8	8	8	8																64	16	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**3,026**	**2,383**	**2,383**	**1,750**	**1,328**	**695**	**317**	**317**	**317**	**317**																**12,832**	**3,208**	**80%**
1 International consultant (project management)	900	720	720	540	270	90	90	90	90	90																3,600	900	22%
2 International consultant (groundnuts production)	756	756	756	605	454	302	227	227	227	227																4,536	1,134	28%
3 International consultant (extension and training)	605	454	454	302	302	151																				2,268	567	14%
4 International consultant (value-chain development)	605	454	454	302	302	151																				2,268	567	14%
5 Local consultant (baseline survey)	160																									160	40	1%
4 Implementation of staff training	**60**	**208**				**60**	**208**																			**536**	**134**	**3%**
1 Meetings with candidate participants of FBOs (transportation)	60					60																				120	30	1%
2 Training for 20 COs at Yei (per diem)		42					42																			84	21	1%
3 Training for 20 COs at Yei (transportation)		10					10																			20	5	0%
4 Trainings for 30 AEOs on groundnuts production (per diem)		126					126																			252	63	2%
5 Trainings for 30 AEOs on groundnuts production (transportation)		30					30																			60	15	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector		**4**	**40**	**29**	**14**		**4**	**40**	**29**	**14**																**176**	**44**	**1%**
1 Fuels for COs for assistance of FBOs formation		4					4																			9	2	0%
2 Fuels for AEOs for field training			12					12																		23	6	0%
3 Fuels for AEOs for follow up, monitoring and assessment			29	29				29	29																	115	29	1%
4 Fuels for AEOs for assessment survey for value-added					14					14																29	7	0%
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**900**	**290**				**900**	**290**																		**2,380**	**595**	**15%**
1 Provision of cash and/or in-kind subsidies			**210**					**210**																		**420**	**105**	**3%**
1 Improved seed of groundnuts for 3000 farmers (2 times)			210					210																		420	105	3%
2 Provision of training services to the private sector		**900**	**80**				**900**	**80**																		**1,960**	**490**	**12%**
1 Trainings for 300 FBOs on groundnuts production (per diem)		840					840																			1,680	420	10%
2 Trainings for 300 FBOs on groundnuts production (transportation)		60					60																			120	30	1%
3 Training for 100 FBOs on quality control (per diem)			60					60																		120	30	1%
4 Training for 100 FBOs on quality control (transportation)			20					20																		40	10	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**3,086**	**3,511**	**2,729**	**1,794**	**1,358**	**755**	**1,444**	**662**	**361**	**346**																**16,045**		**100%**
Total (USD '000)	**771**	**878**	**682**	**448**	**339**	**189**	**361**	**166**	**90**	**87**																	**4,011**	
% to total	**19%**	**22%**	**17%**	**11%**	**8%**	**5%**	**9%**	**4%**	**2%**	**2%**																**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

2.4.10 Enhancement of animal power utilisation project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Enhancement of animal power utilisation project				
(3) Project ID:	0 1 . 1 0	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 8,233,000		USD 2,058,000	Note: Not including recurrent cost	

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA7	Mechanisation and animal power	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev.-Extension and training	Table 2-12

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The use of mechanization on farms has the possibility of increased efficiency, decreased labor, maximization of land use, and a potential of increased economic return. There are two main types of mechanization for farms. These are mechanization through the use of machines (tractors, implements, etc.) and mechanization through the use of draft animal power. In South Sudan mechanization use on farmland, both machine and draft animal, is severely underutilized. Developing countries all over the world suffer from underutilization of mechanization on farmland. The biggest reason is the high cost associated with mechanization, the lack of adequate training, lack of experienced mechanics to provide routine maintenance repair on equipment, and an unavailable replacement part supply chain. Tractors cost tens of thousands of dollars and even used tractors will cost $10,000 or more. Then there is the extra cost of purchasing implements to be utilized with tractors. Implements include mechanized cultivators, plows, harrows, seeders, fertilizer spreaders, and tank sprayers. These implements add additional thousands of dollars to the costs associated with tractor mechanization. Another major cost with tractors is fuel. Due to these high costs farmers across the globe utilize the same type of mechanization that has been used for thousands of years. That mechanization is draft animal power. Draft animal power is substantially less expensive that tractor power. Animals not only are less expensive than tractors but they also can utilize sustainable crops, rangeland, and grasses for feed instead of having to utilize diesel fuel as is the case with tractors. Animals are a much more environmentally friendly and sustainable source of mechanization. Animals do not require “spare parts” and the implements and equipment used in draft animal power is low maintenance and does not require highly trained mechanics. Furthermore, draft animal manure is utilized as fertilizer to improve soil fertility. Roads are rare in South Sudan. For tractors to be transported from farm to farm good roads are needed. Oxen don’t need good roads for travelling. This is another important benefit for subsistence farmers in South Sudan. Draft animal equipment is readily available from many countries in Africa including Kenya, Nigeria, Zimbabwe, Namibia, and Egypt. Animals utilized in draft power include horses, oxen, and mules. In South Sudan the most common animal used in farm mechanization is the ox (oxen is plural for ox). Oxen are cattle that have been trained as draft animals. They are generally castrated male cattle which are also known as steers or bullocks. South Sudan has one of the highest cattle populations in Africa. Finding cattle to utilize as draft animals is definitely not a constraint in South Sudan. In addition to providing draft power, cattle will provide meat and milk for farmers. There is a concept known as conservation agriculture technology that is growing in popularity. The United Nations Food and Agriculture Organization (FAO) strongly promotes this concept as it has great advantages for small land owner farmers. FAO states that conservation agriculture improves the livelihoods of farmers through the application of 3 principles: minimal soil disturbance; permanent soil cover; crop rotations. Conservation agriculture used in conjunction with animal power mechanization has the potential to greatly decrease capital investment yet improve the economic conditions of small land owner farmers in South Sudan.
(2) Objectives:	The objectives of this project include: • Increasing awareness of draft animal power advantages for South Sudanese farmers. • Provide technical assistance to farmers through training programs taught by competent agricultural extension officers (AEOs). After training is provided, routine follow up technical assistance would be provided by extension specialists. • Provide training to farmers in the area of conservation agriculture technology.
(3) Overall description including temporal and spatial extent of project:	According to the CAMP Situation Analysis Report (December 2013) in Lakes State, ox ploughing was introduced by NGOs and rapidly adopted compared to other states since the soil type (sandy soil) is suitable for ox ploughing. Also in the Situation Analysis Report it was stated that in April 2013 a plough suitable for ox power imported from Kenya cost 950 SSP. Indeed this is a substantial difference in the cost of a tractor costing tens of thousands of dollars. The success in Lakes State should be advertised in other states and training courses offered by extension specialists to help those farmers wanting to utilize animal draft power. The Ministry of Agriculture must adopt policies that are conducive for the import of draft animal equipment. Difficult import customs procedures and high taxes for equipment dealers will have an adverse effect on the adoption of animal draft power. The CAMP livestock subsector has a project that enhances existing demonstration farms (Enhancement of demonstration farms). One of the demonstration and training aspects of these farms could be the use of animal draft power for tilling, harrowing, and seeding. This animal power utilization project provides great linkage potential with the livestock subsector through demonstration farms, veterinary services, meat production, and milk production.

Items	Information
(4) Component structure:	Component 1: Assessment and increase awareness Component 2: Creation of draft animal producer associations Component 3: Training and program development

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:

Component 1: Assessment and increase awareness

Activity 1.1: An assessment team consisting of international and national specialists will conduct a 6 month assessment of the utilization of farm mechanization using animal power as well as the interest of subsistence farmers in adopting animal power technology. During the time the assessment is being conducted this same team will create awareness in other states of the success had in Lakes State. A list of groups interested in forming draft animal producer associations will also be recorded for later use.

Outputs: Up to date knowledge of farm mechanization using animal power. List of farmers interested in this.

The assessment team will consist of the following:

- 1- international assessment consultant
- 2- MAFCRD extension officers with experience in farm mechanization
- This assessment team will take 6 months to gather data, analyse results, and publish an assessment document. During these same 6 months an awareness campaign concerning animal draft power will be conducted by the assessment team with a recorded list of those individuals interested in starting producer associations. The assessment and awareness campaign will take place in all 10 states.

Component 2: Creation of draft animal producer associations

Activity 2.1: A team consisting of international and national specialists will take the recorded list of interested farmers provided by the assessment team and work to form registered draft animal producer associations.

Outputs: Registered draft animal producer associations. At least 2 trips will be made to each state by the association development team (20 trips total). The association development team will consist of the following people:

- 1- international consultant specializing in producer association development.
- 2- MAFCRD extension officers with experience in farm mechanization
- 10- AEOs in states (1 per state).
- This output will take 6 months to complete. A state extension specialist would only be utilized when the main association team visits the state where that particular state specialist is assigned.

Component 3: Training and program development

Activity 3.1: A training team consisting of international and national consultants will create training curriculum on the following subjects: advantages and disadvantages of animal draft power; type of equipment used in animal draft mechanization; methods of ploughing, harrowing, and seeding utilizing animal draft power; draft animal nutrition; draft animal health care; fattening of calves from draft animals; sanitary milking procedures for draft animals; utilizing conservation agriculture technology in conjunction with animal draft power; creating by-laws for producer associations; producer association operating procedures; and utilizing producer associations to better economic returns.

Outputs: Farmers trained in the use of draft animals and organised in producer associations.

The training team will consist of the following

- 1- international producer association consultant
- 1- international draft animal consultant
- 1- international livestock consultant
- 2- MAFCRD extension officers with experience in farm mechanization
- 10- AEOs in states
- Approximately 50 AEOs at county level. These AEOs at county level would only be utilized when trainings are taking place in the county or adjoining counties where they are assigned and/or reside.
- The team national team consisting of the 3 international consultants and 2 MAFCRD officers will take 3 months to create the training curriculum. Once the training curriculum is developed then training will take place for each of the newly developed draft animal producer associations. It is expected that there will be at least 1 draft animal producer association in each state.

Approximate training schedule:

- Approximately 50 farmers per state including 1 AEO at state level and 5 AEOs at county level, total would be approximately 56 people per state. Initial training would take place for 5 days, 8 hours per day. The initial training would take

Items	Information
	place once in each state. After all the states have received the initial training, a second training phase would take place again consisting of 5 days, 8 hours per day for each of the 10 states. The first state trained during the initial training would be the same state where the second phase of training would begin. • Total training time for both initial and second phase training would be 6 months. • Once the AEOs at state and county levels are trained by the international and national team they would then be expected to provide follow up training and routine technical assistance to farmers.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers would be international consultants with experience in conducting surveys and/or assessments; organizing producer associations; extensive experience with draft animal technology, and livestock experience. From the public sector national MAFCRD extension officers with extensive experience in farm mechanization would be utilized along with AEOs at state and county levels.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are subsistence farmers who will benefit from the low cost, decreased labour, and possible increased yields of utilizing animal draft power. Secondary beneficiaries are equipment dealers and farm input suppliers that would benefit from increased sales of draft animal implements and equipment.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Subsistence farmers with no access to tractor mechanization will benefit from the low capital investment, sustainability, decreased labour, increased yield, and household food security that can be realized through utilizing animal draft power.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • No predicted negative outcome from this project. (Positive) • Increased capacity for small land holder farmers to increase yields, increase incomes, and provide household food security through the use of animal draft power.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Inadequate data on farmers utilizing animal draft power.
(2) Measurable indicators and situation at the end point:	Number of farmers trained and adopting animal draft power.
(3) Methods of measurement and sources of information:	Registered producer association records, training attendance sheets, annual reports from state and county AEOs.
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension services- Department of Agricultural Mechanization and Department of Extension Services

2.7 Required human resources

(1) Principle of human resources management:	International consultants with at least a Master's degree would be needed for providing technical assistance in the form of conducting assessments, organizing producer associations, draft animal technology, and livestock production. Mid-career level MAFCRD extension officers at the national level and entry level to mid-level state and county level would be needed at the state and local levels.
(2) Required human resources in the public sector (Positions, grades and numbers):	Public sector human resources would consist of the following: • 2- MAFCRD officers with experience in farm mechanization and extension work (mid-level specialists) • 10- AEOs in states (entry or mid-level specialists) • Approximately 50 AEOs at county level (entry or mid-level specialists)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- international producer association consultant. 1 year assignment • 1- international draft animal consultant. 1 year assignment • 1- international livestock consultant. 1 year assignment • 1- international assessment consultant. 6 month assignment

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project is medium due to the risk of training cattle to be draft animals (risk of being dragged, kicked, or gored). • Farmers reluctant to use livestock as draft animals due to their cultural norms	

Items	Information
	• Unsuitable soil types for ox plough • Insecurity (armed insurgence and ethnic clashes) at project sites and/or nearby areas • Unavailable animal traction implements and a few skilled welders for repairing the implements • Gender disparity (negative cultural and customary practices)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Once demonstration farms in South Sudan are functioning, a section of each demonstration farm should exhibit animal draft power technology. AEOs should share the information with Community Health Animal Workers (CHAW) should ask for technical support from them.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2- MAFCRD officers with experience in farm mechanization and extension work (mid-level specialists) • 10- state AEOs (entry or mid-level specialists) • Approximately 50 AEOs at county level (entry or mid-level specialists) Other on-going expenses: • Laptops for each worker • Transportation allowance for workers to provide routine technical assistance to farmers in their assigned states and counties. • Communication allowances (cell phone and internet) • Routine office supplies and maintenance

01.10 Enhancement of animal power utilisation project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**4,419**	**952**	**89**	**89**	**89**	**583**	**89**	**89**	**89**	**525**																**7,013**	**1,753**	**85%**
1 Deployment of government staff	**141**	**28**																								**169**	**42**	**2%**
1 Assessment survey (per diem)	38																									38	9	0%
2 Assessment survey (transportation)	18																									18	5	0%
3 Association formulation trip (per diem)	22																									22	5	0%
4 Association formulation trip (transportation)	36																									36	9	0%
5 Trainings at states (per diem)	19	19																								38	9	0%
6 Trainings at states (transportation)	9	9																								18	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**4,212**	**864**				**432**				**432**																**5,940**	**1,485**	**72%**
1 International consultant (producer association)	1,512	504				252				252																2,520	630	31%
2 International consultant (draft animal)	1,080	180				90				90																1,440	360	17%
3 International consultant (livestock)	1,080	180				90				90																1,440	360	17%
4 International consultant (assessment)	540																									540	135	7%
4 Implementation of staff training	**60**	**60**				**60**																				**180**	**45**	**2%**
1 Trainings for 60 AEOs at states (per diem)	50	50				50																				150	38	2%
2 Trainings for 60 AEOs at states (transportation)	10	10				10																				30	8	0%
5 Implementation of research, studies and surveys	**6**					**2**				**4**																**12**	**3**	**0%**
1 Fuels for assessment survey	4									4																8	2	0%
2 Fuels for association formulation	2					2																				4	1	0%
6 Delivery of extension and training services to the private sector			**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**																**72**	**18**	**1%**
1 Fuels for training by AEOs			9	9	9	9	9	9	9	9																72	18	1%
7 Operation and maintenance			**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**																**640**	**160**	**8%**
1 Fuels and consumables for supervision and monitoring			80	80	80	80	80	80	80	80																640	160	8%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**305**	**305**				**305**	**305**																			**1,220**	**305**	**15%**
1 Provision of cash and/or in-kind subsidies	**300**	**300**				**300**	**300**																			**1,200**	**300**	**15%**
1 Plough for producer association	300	300				300	300																			1,200	300	15%
2 Provision of training services to the private sector	**5**	**5**				**5**	**5**																			**20**	**5**	**0%**
1 Trainings for 500 farmers at states (venue)	5	5				5	5																			20	5	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**4,724**	**1,257**	**89**	**89**	**89**	**888**	**394**	**89**	**89**	**525**																**8,233**		**100%**
Total (USD '000)	**1,181**	**314**	**22**	**22**	**22**	**222**	**99**	**22**	**22**	**131**																	**2,058**	
% to total	**57%**	**15%**	**1%**	**1%**	**1%**	**11%**	**5%**	**1%**	**1%**	**6%**																**100%**		

Public sector project | Private sector project

Routine work by government | Routine work by private sector

2.4.11 Promotion of integrated farming for risk reduction project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop								
(2) Project name:	Promotion of integrated farming for risk reduction project								
(3) Project ID:	0	1	.	1	1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2015/16		Ending FY:	2019/20		Duration (years):	5	
(5) Total investment:	SSP 21,693,000			USD 5,423,000			Note: Not including recurrent cost		
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx								

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:	CR.SA9		Production, research and management	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development – Extension and training	Table 2-12

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Integrated farming is an approach to integrate crop, livestock, fisheries, and forestry to increase yields, reduce risks of diseases, strengthen coping strategy, improve sustainability of farming, and reduce costs for chemical fertilisers and feeding for livestock. Integrated farming also helps farmers to increase their income sources if they diversify farming activities such as keeping livestock and fish. It requires wider knowledge and advanced skills for farming. It requires more management skills as well, but there are many considerable positive aspects. In South Sudan, many farmers keep small ruminants, livestock, and cows depending on their financial capacity and availability of lands. It means that there is a potential for farmers to improve their farming practice to more integrated way. However, knowledge and skills of farmers for integration of farming is limited. The majority of farmers in South Sudan are subsistence level with 1-3 feddans of land. Their primary crops grown are staple crops and limited amount of vegetables. Their volume of yield is limited and it needs to be increased. There could be several different ways to realise it, but integrated farming could be one of them to increase their yields and improve their profit level. Integrated farming could diversity income sources and it would reduce risks of seasonal food shortage. Thus, knowledge and skills integrated farming implementable in a limited size of farms with low cost would be helpful for the majority of the farmers. Detailed methods and items for integration would be varied by areas based on characteristics of livelihood zones and farming practices as well as potentials. Thus, assessment needs to be conducted to identify the most effective methods considering available resources, climate conditions, financial and technical capacity of farmers in each area. Provision of training would be required for the concerned government officers and other service providers to promote integrated farming across the country.
(2) Objectives:	The objective of the project is to improve efficiency of farming and to reduce risks through promotion of integrated farming.
(3) Overall description including temporal and spatial extent of project:	In the beginning of the project, assessments to confirm needs and to identify effective methods for integrated farming based on characteristics of areas, livelihood zones, farming practices, and potentials need to be conducted. It needs to be conducted within 5 months and results should be shared among the concerned people. Strategies and detailed plans need to be formulated with recommended methods for each geographical areas. These plans and strategies would be a basis to implement activities according to the results of the assessments and discussions. Methods of integrated farming should pay attention to risk reduction besides increase of yields and profitability. For example, in the northern parts of South Sudan, utilisation of livestock would be crucial to reduce risks in case of food shortages. Plans and strategies developed through this component should be introduced among the service providers such as officers of MAFCRD, state government, agricultural extension officers (AEOs), community development officers (CDOs), and cooperative officers (COs). Activities for this component are expected to be implemented by the early parts of the second year. Preparation and provision of training would be conducted from the early parts of the second year to the end of the third year. The project would not conduct a large scale construction. Thus, existing infrastructure and/or group efforts may be required for some farmers to develop a required infrastructure to practice effective integrated farming. Activities for these components would be completed by the end of the fourth year. Service providers would provide technical supports for farmers to practice integrated farming. Monitoring system will be established and conducted till the end of the project. The monitoring system needs to be incorporated in the government routine activities and budget also needs to be secured by the end of the project.
(4) Component and activity structure:	Component 1: Conduct baseline survey to confirm needs and discover effective approaches for integrated farming by areas and livelihood zones for development of strategy and plans for implementing integrated farming Component 2: Prepare and provide training for concerned government officers, community based extension workers, (CBEWs), and NGO staff Component 3: Selection of core farmers and capacity building for them Component 4: Support implementing integrated farming

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Conduct baseline survey to confirm needs and discover effective approaches for integrated farming by areas and livelihood zones for development of

Items	Information
	strategy and plans for implementing integrated farming Activity 1.1: Conduct baseline survey includes assessment of needs, current situations, and effective approaches for integrated farming Outputs: Baseline survey report Activity 1.2: Identify the most effective integrated farming practices in each area and livelihood zone Outputs: The most effective integrated farming practices by area and livelihood zone identified Activity 1.3: Analyse results of the baseline survey and develop a strategy and a plan for implementing integrated farming Outputs: Strategies and plans developed to implement integrated farming Component 2: Prepare and provide training for concerned government officers, community based extension workers, (CBEWs), and NGO staff Activity 2.1: Develop course contents and materials for integrated farming Outputs: Training contents and materials developed, trainers practiced for training, 5 NGO trainers will be invited from different states. 2 trainers from 8 government training centres will be invited. 2 trainers from AMADI Training Centre in Western Equatoria state, and 2 trainers from Marial Lou Livestock Training Centre in Warrap state, 2 trainers from Kagelu Forestry Training Centre in Yei, 2 trainers from Padak Fisheries Training Centre in Bor will be invited. 1 trainer from Yei Agricultural Training Centre will also be invited. Activity 2.2 : Provide training for concerned government officers of national, state, county, payam officers, AEOs, CDOs, COs and Outputs: Trained government officers, AEOs, CDOs, and COs Activity 2.3: Provide training for CBEWs and NGO staff Outputs: Trained CBEWs, and NGO staff Component 3: Selection of core farmers and capacity building for them Activity 3.1: Develop criteria to select farmers who are willing to practice integrated farming Outputs: Criteria to select farmers Activity 3.2: Conduct social impact assessment on target sites to mitigate any negative impacts by selecting farmers and/or farmers' groups (e.g., tribal conflicts, land tenure issue, gender disparities, exclusion of youth, increase of HIV, etc.) Outputs: Social impact assessment report Activity 3.3: Select prospective farmers and/or farmers groups based on the criteria and hold meetings with them to explain about the project Outputs: 3,000 prospective farmers who understand the project purpose, activities, and outcomes through involvement with it Activity 3.4: Select core farmers and/or representatives of farmers' groups, associations, and/or cooperatives who are willing to cooperate with this project to organise appropriate forms of groups Outputs: Selected 1,000 targeted core farmers (Tribal balance and gender ratio is considered.) Activity 3.5: Provide training to selected core farmers about organizing a group, association and/or cooperative as well as fund or loan seeking and management skills Outputs: Trained 1,000 core farmers about establishment of farmer's group and fund management (These 1,000 core farmers are responsible for sharing information which they will learn with their group members and/or other farmers.) Activity 3.6: Provide training to selected core farmers about integrated farming Outputs: Trained 1,000 core farmers about integrated farming (These 1,000 core farmers are responsible for sharing information which they will learn with their group members and/or other farmers.) Component 4: Support implementing integrated farming Activity 4.1: Conduct follow up visit by AEOs, CDOs, COs, or CBEWs to provide consultation on integrated farming practice by farmers Outputs: 1,000 core farmers visited and obtained technical assistance by responsible AEOs, CDOs, COs, or CBEWs Activity 4.2: Provide technical support to seek and obtain loan and/or fund for farmers and/or a farmers' group to invest for integrated farming Outputs: Supported farmers to find a loan or a fund for their own integrated farming Activity 4.3: Conduct end of project survey Outputs : End of project survey report

2.3 Service providers and beneficiaries

(1) Description of service providers within the	Directorate of Agriculture Production and Extension Services, state ministries of agriculture, AEOs, CDOs, COs, and CBEWs, Directorate of Forestry at MAFCRD, and

Items	Information
framework of the project:	related Directorate of Ministry of Livestock and Fisheries Industries (MLFI)
(2) Description of beneficiaries within the framework of the project:	Farmers will be the major beneficiaries. Staff of MAFCRD, officers of state ministries of agriculture, AEOs, CDOs, COs, and CBEWs will also be beneficiaries because their knowledge and skills about integrated farming will be improved.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Integrated farming is understood well by farmers and other stakeholders. Effective integrated farming suitable for the natural and environmental conditions in an area is practiced by farmers. Integrated farming would improve sustainability of farming and increase income sources. It would strengthen farmers' capacity to improve their yields as well as income levels. It would also enhance farmers' resilience for seasonal food shortage.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) N/A

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Integrated farming requires additional labour and some elements could require intensive labour. In South Sudan, Human resources are available across the country, but many labour forces are not accustomed to work intensively. At the same time, integrated farming should be efficiently done with intensive practice to increase a profit level. The most of the small scale subsistence farmers own and operate their farming with 1-3 feddans of farmland without hiring assistance due to high labour cost. Therefore, situations about labour forces and smallholders' farming practice may hinder promotion of integrated farming. Thus, methods of integrated farming with lighter labour intensiveness should be recommended. • If some farmers and/or farmers' groups decided to develop some infrastructure such as fishponds, it may affect the surrounding environment negatively. Keeping either livestock, small ruminants, or cows could affect the surrounding environment negatively as well. (Positive) • Integrated farming could enhance sustainability of farming. It could increases income sources and to improve yields. Owning and utilising livestock and small ruminants such as goats and sheep could enhance farmers' resilience to seasonal food shortages especially in northern parts of the country since there are not many alternatives exist for survival. Utilisation of manures and excrements as a fertiliser could reduce waste and cost.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Farmers' general knowledge and practice about integrated farming • Knowledge and skill levels about integrated farming by government officers includes AEOs, CDOs, and COs • Cases of integrated farming undertaken by NGOs
(2) Measurable indicators and situation at the end point:	• Farmers' knowledge and results of practice about integrated farming with technical support through the project • Knowledge and skill levels of government officers includes AEOs, CDOs, and COs about integrated farming • Knowledge and skill levels of CBEWs and NGOs about integrated farming • Number of integrated farming undertaken through the project • Successful cases of integrated farming and common factors behind them categorised by type of farmers and geographical areas
(3) Methods of measurement and sources of information:	Baseline survey report, social impact survey report, project records, training records, end of project survey report
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension Services, and state ministries of agriculture

2.7 Required human resources

(1) Principle of human resources management:	Service providers need to understand well about integrated farming and they should also have appropriate skills to provide technical support to farmers. Farmers also need to commit to practice integrated farming even though it requires more labour, land, and resources. Officers from the Directorate of Forestry of MAFCRD, and Ministry of Livestock and Fisheries Industries should support the project technically.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 4 or 5) • Project staff from MAFCRD (two staff, one staff from the Directorate of Agricultural Production and Extension Services, one staff from Directorate of Cooperative

Items	Information
	Development) for project detailed design, conduct of needs assessment, project implementation and management, logistics, and monitoring, etc. • Senior inspector of extension and inspector of extension, grade 7 and 9, of State Ministry of Agriculture work with MAFCRD to implement the project as state focal points. • Training staff of government training centres will provide necessary training.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project manager (Master's degree, 15-year experience): One • Integrated farming/ crop/ horticulture specialist (BA or BSc or higher degrees, 10-years experience or more): One • Livestock specialist (BA or BSc, 10-years experience or more): One • Forestry specialist (BA or BSc, 10-years experience or more): One • Fisheries specialist (BA or BSc, 10-years experience or more): One • Farmers' organisation/agricultural extensions/ (BA or BSc, 10-years experience or more): One • Training/project coordinator (BA or BSc in Agriculture desirable, 3-year experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	• Unfavourable weather conditions (late season, little rainfall, droughts, floods) • Outbreaks of pests and diseases • Possible difficulties to find sufficient numbers of farmers who can commit • Possible difficulties for farmers to secure funds to invest in procuring necessary materials and developing infrastructure • Insecurity (armed insurgence and ethnic clashes) at project sites and/or nearby areas	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is related to other subsectors such as forestry, livestock, and fisheries. Thus, communication with officers from Directorate of Forestry, MAFCRD, and concerned Directorates of MLFI to obtain technical support will be important to provide technically correct services. Intensity of integrated farming activities would be a critical point to increase outputs and income. Thus the most effective methods of integrated farming needs to be considered and developed by farmers' types, market needs, and characteristics of the livelihood zones. Availability of fund will be one of the most critical challenges for most of the target farmers to start and expand integrated farming. Hence, the project would need to support government service providers to provide technical support to the farmers to obtain a loan or a fund for implementing integrated farming.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Monitoring needs to be conducted to assess the current situation during and after the project period. Cost for monitoring activities should be internalised in a budget for the project. Periodically, officers from Directorate of Forestry, MAFCRD, and officers from concerned Directorates of MLFI should participate in monitoring to assess activity implementations and provide technical support to target farmers.

01.11 Promotion of integrated farming for risk reduction project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**4,937**	**9,075**	**2,010**	**1,685**	**1,913**																					**19,620**	**4,905**	**90%**
1 Deployment of government staff	**84**		**38**		**41**																					**162**	**41**	**1%**
1 Baseline survey (per diem)	57																									57	14	0%
2 Baseline survey (transportation)	27																									27	7	0%
3 Social impact assessment survey (per diem)			23																							23	6	0%
4 Social impact assessment survey (transportation)			15																							15	4	0%
5 End line survey (per diem)					27																					27	7	0%
6 End line survey (transportation)					14																					14	4	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**4,806**	**3,820**	**1,955**	**1,415**	**1,595**																					**13,590**	**3,398**	**63%**
1 International consultant (project manager)	1,260	756	378	378	378																					3,150	788	15%
2 International consultant (integrated farming/crop/horticulture)	900	720	540	270	270																					2,700	675	12%
3 International consultant (livestock)	450	450	180	90	180																					1,350	338	6%
4 International consultant (forest)	450	450	180	90	180																					1,350	338	6%
5 International consultant (fisheries)	450	450	180	90	180																					1,350	338	6%
6 International consultant (farmers' organization/agricultural extensio	540	540	270	270	180																					1,800	450	8%
7 International consultant (training/project coordinator)	756	454	227	227	227																					1,890	473	9%
4 Implementation of staff training	**40**	**5,255**																								**5,295**	**1,324**	**24%**
1 Meeting for identification of integrated farming (per diem)	12																									12	3	0%
2 Meeting for identification of integrated farming (transportation)	9																									9	2	0%
3 Meeting for identification of integrated farming (per diem)	18																									18	5	0%
4 Workshop for development of training (per diem)		169																								169	42	1%
5 Workshop for development of training (transportation)		75																								75	19	0%
6 Workshop for development of training (per diem)		11																								11	3	0%
7 Trainings for 1,200 government officers (per diem)		2,000																								2,000	500	9%
8 Trainings for 1,200 government officers (transportation)		200																								200	50	1%
9 Trainings for 2,100 CBEWs (per diem)		2,400																								2,400	600	11%
10 Trainings for 2,100 CBEWs (transportation)		400																								400	100	2%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**8**		**18**	**270**	**278**																					**573**	**143**	**3%**
1 Fuels for baseline survey	8																									8	2	0%
2 Fuels for social impact assessment			8																							8	2	0%
3 Fuels for one day meeting for prospective farmers			7																							7	2	0%
4 Fuels for one day meeting for core farmers			3																							3	1	0%
5 Fuels for follow up selected core farmers				270	270																					540	135	2%
6 Fuels for end line survey					8																					8	2	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												

01.11 Promotion of integrated farming for risk reduction project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
7 Procurement of equipment																												
3 Subsidies, equity and loans		**113**	**1,960**																							**2,073**	**518**	**10%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector		**113**	**1,960**																							**2,073**	**518**	**10%**
1 Trainings for NGO staff (per diem)		97																								97	24	0%
2 Trainings for NGO staff (transportation)		16																								16	4	0%
3 One day meeting for prospective farmers (transportation)			120																							120	30	1%
4 One day meeting for core farmers (transportation)			40																							40	10	0%
5 Trainings for core farmers (per diem)			1,400																							1,400	350	6%
6 Trainings for core farmers (transportation)			400																							400	100	2%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**4,937**	**9,188**	**3,970**	**1,685**	**1,913**																					**21,693**		**100%**
Total (USD '000)	**1,234**	**2,297**	**993**	**421**	**478**																						**5,423**	
% to total	**23%**	**42%**	**18%**	**8%**	**9%**																					**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.12 Farmers organisation support project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Farmers organisation support project				
(3) Project ID:	0 1 . 1 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2019/20	Duration (years): 5	
(5) Total investment:	SSP 14,049,000		USD 3,512,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA11	Farmer organisation	Table 2-3
(2) Government organisation:	03	MAF-CO	Directorate of Cooperative Development	Table 2-6
	12	MAF-PE	Directorate of Agricultural Production and Extension	Table 2-6
(3) Activity types:	301	PS-PR	Private sector - Production	Table 2-12
	203	SP-EX	Service delivery/infra.dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	X

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The majority of South Sudanese people (about 85%) live in rural areas and they depend on agriculture for their livelihoods and as the main source of income. Smallholder farmers represent the majority of farmers. They have limited resources, practice subsistence farming and cultivate less than one hectare. Consequently agricultural production and productivity remain very low. There is a high incidence of poverty and food insecurity in most rural areas of South Sudan, especially among the smallholder farmer's households. Farmer's organisations such as farmer groups, associations, and formally registered cooperatives can play a vital role in driving agricultural transformation. Group farming can help farmers to increase their profits by facilitating access to markets and credit, reducing transaction costs through realising economies of scale, fostering peer-learning and increasing negotiating power. Even though some farmers in South Sudan are organized into large and small groups, their effectiveness for agricultural development and food security is still very poor. Many factors contribute to the weakness of these organisations: • Limited organisational and technical management skills • Limited participation of the majority of farmers in the organisations • Poor coordination mechanisms among members of these organisations • Limited leadership and management skills • Poor/weak business skills and business acumen • Limited government extension services delivery • Poor access to financial services • Poor access to markets • Poor market information The current crisis which started in December 2013 has also brought another challenge: most farmer organisations in Upper Nile and Unity states have been seriously affected by the violence and ensuing displacement. Apart from the physical damages, the persistent violence these communities experience has psychological implications. Years of conflict have created distrust among and inside communities. To achieve food security and reduce poverty in rural areas, one of the most important activities is to strengthen famer groups by assisting them in rebuilding trust and supporting the organisational, managerial, technical and business skills of farmers groups through provision of regular extension services and advice. Because of the significant importance of these organisations for transforming agriculture, reducing rural poverty, and improving food security, government and DPs should join hands in supporting these organisations. They have to embark on trust-building activities and increasing farmers' capacity through training. Training needs pertain to: organisational development and managerial/leadership skills, financial record and bookkeeping, business plan development, developing business acumen, processing market information, agricultural production and post-harvest handling, pest management and support for formal registration as cooperatives.
(2) Objectives:	This project aims to: • Engage in trust-building activities to enable the emergence of strong farmer groups • Assist farmer groups in strengthening their organisational capacity and in the formal registration process for cooperatives if desired by members • Enhance business acumen and skills in order to support farmer groups to run their operations as businesses, get access to markets and credit, hereby enabling investment • Contribute to rural economic growth and poverty reduction through the generation of additional income and employment opportunities • Conduct training to support productivity gains through improved knowledge in agricultural practices, pest management and post-harvest handling
(3) Overall description including temporal and spatial extent of project:	This project will cover most of the rural areas of the 10 states of south Sudan, where the majority of smallholder farmers are based. It will focus on strengthening the organisational, technical and business skills of smallholder farmer groups. It will start in 2015 and cover 5 years by 2020. The project will encourage the participation of women to provide them with income opportunities, intended to gradually improve the socio-economic status of women.

Items	Information
	Since the sustainability of agriculture in general depends on the inclusion of youth, special attention will be paid to encouraging them to join. The attractiveness of agriculture for the youth is largely determined by the business and job opportunities. Thus, national media campaigns will publicise the business opportunities to attract innovative youth.
(4) Component and activity structure:	Component 1: Identification of target group and selection of beneficiaries Component 2: Capacity development for FBOs Component 3: Strengthening of government-farmer based organisations (FBOs) relations

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Identification of target group and selection of beneficiaries Activity 1.1: Carry out baseline surveys on existing farmer groups and social assessment with a special focus on tribal conflicts, land tenure, gender disparity, youth and environment issues Outputs: baseline studies in all 10 states; numbers, formal status, socio-economic situation of existing farmer organisations known Activity 1.2: Conduct training for cooperative officers (COs) Outputs: 5 COs per state (i.e. total 50 COs) trained on organisational development and managerial/leadership skills, financial record and bookkeeping, business plan development, marketing, gender and support for formal registration as cooperatives. Activity 1.2: Conduct workshops for participatory selection of beneficiaries Outputs: 3 workshops in each of the 10 states where at least 10 FBOs per state (minimum of 20 member households) have been selected in a participatory manner. Individual farmers capable and willing to form new groups identified and supported to create new organisations. A focus will be put on encouraging women's participation. Activity 1.3: Carry out inception meetings with representatives of target FBOs Outputs: In all 10 states, representatives of at least 10 FBOs are well-informed about the project activities and schedule, and their obligations. Activity 1.4: Identify or establish an executive board in each FBOs Outputs: Each FBO has an executive board and list of board members is submitted. Activity 1.5: Conduct training for FBO members to establish an M&E system Outputs: COs has trained 2 members per FBO and mechanisms of M&E have been installed in FBOs Component 2: Capacity development for FBOs Activity 2.1: Design and carry out trust-building workshops Outputs: each FBO has received at least 1 (depending on necessity) trust-building exercise. Activity 2.2: Conduct training for agriculture extension officers (AEOs) and NGO staff Outputs: 5 AEOs and 5 NGO staff per state (i.e. total 50 AEOs and 50 NGO staff) trained on organisational development and managerial/leadership skills, financial record and bookkeeping, business plan development, marketing, gender, agricultural production and post-harvest handling, and pest management. Activity 2.3: Conduct training of trainers (TOT) for FBO representatives (leaders) Outputs: 5 representatives per FBO (total more than 500) trained by COs and AEOs in collaboration with NGO staff. Activity 2.4: Conduct training for FBO members by trained leaders of FBOs Outputs: All target FBOs (more than 100) conduct training for their members, especially on financial record and bookkeeping, business plan development, marketing, gender, agricultural production and post-harvest handling, and pest management. A focus will be put on encouraging women's participation. Activity 2.5: Carry out a market survey to understand business environment in the FBO's areas and hold a business forum with stakeholders to establish strong linkages Outputs: Market survey carried out by each FBO with assistance of AEOs and NGOs; hold business forum with traders, agro-dealers, institutional buyers and financial institutions. Component 3: Strengthening of government-farmer based organisations (FBOs) relations Activity 3.1: Support FBOs to prepare and officially register as cooperatives Outputs: all interested FBOs are supported in the preparation for and formal registration as cooperatives Activity 3.2: Initiate public-private dialogue Outputs: in each state capital periodic meetings between FBO representatives and state government officers take place to discuss issues. (one day quarterly meeting held in each state) Activity 3.3: Develop programmes to attract youth to agribusiness Outputs: FBO representatives work together with state media representatives on the development of media campaigns (state radio) that seek to attract youth to agribusiness; leaflets and posters prepared. Activity 3.4: Conduct routine follow up and an end of project survey

Items	Information
	Outputs: Periodic follow up is made by COs on organisational aspects and by AEOs and NGO staff on agronomic and business aspects. End of project surveys are conducted and able to clarified the results of the project.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Officers of national and state Ministries of Agriculture, AEOs, COs, representatives of FBOs as trainers for their members, traders, agro-dealers, institutional buyers and financial institutions
(2) Description of beneficiaries within the framework of the project:	Existing and newly set-up FBOs; special attention will be put on encouraging women and youth participation, AEOs, COs

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Strong FBOs can play a vital role in transforming agriculture. The expected impact is that by way of professionalising their operations, they contribute to economic growth and to an enabling environment for small and medium scale business operations
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Attention has to be paid to avoid potential negative social effects (especially conflict over land), environmental degradation through inappropriate land clearing/reclaiming activities and excessive use of chemical fertilizers or pesticides. It is therefore strongly recommended to carry out a peace and conflict assessment as well as an environmental assessment as soon as potential target areas and beneficiaries have been identified. (Positive) • The project will have great social and economic impact on smallholder farmers; it will generate income for most smallholder household and job opportunities, especially for youth and women.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Number, socio-economic and formal status of existing FBOs.
(2) Measurable indicators and situation at the end point:	Number, socio-economic and formal status of existing FBOs, their sales volume, number of FBOs registered as cooperatives
(3) Methods of measurement and sources of information:	Baseline survey, M&E reports, end of project survey
(4) Responsible parties for the monitoring and evaluation:	M&E officer in FBOs, AEOs, COs, NGO staff and officials of state and national Ministries of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	Qualified and trained personnel; areas of expertise: agriculture, business development, conflict mediation and trust building, media
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (two in-charges for each target state, total 20 staff) • AEOs (50 staff) • COs (50 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management and organisational management expert (Master degree, 15-years experience) • One crop husbandry/extension expert (MSc or MA, 5-years experience) • One business establishment expert (MSc or MA, 5-years experience) • One social (including gender) and farmer survey expert (MSc or MA, 5-years experience) • One media expert (MSc or MA, 5-years experience) Local consultants for baseline and end of project surveys will be hired. 10 NGOs for extension activities are contracted. Traders, agro-dealers, institutional buyers and financial institutions will be involved to accelerate FBOs' business activities.

Items	Information

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Informal taxation and harassment of government officials • Weak legal framework • Unfavourable conditions of access roads to reach beneficiaries • Poor public services (e.g. electricity, water supply and communication) • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Limited capacity of AEOs/COs and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Anti-corruption should be emphasised so as not to discourage business operations by FBOs. Participation of women and youth should be encouraged.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	AEOs and COs are expected to regularly visit FBOs that cannot pay for services of private service providers

01.12 Farmers organisation support project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**1,817**	**2,713**	**2,214**	**1,722**	**2,887**																					**11,353**	**2,838**	**81%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)			**120**	**20**	**20**																					**160**	**40**	**1%**
1 Printing posters			100																							100	25	1%
2 Broadcast			20	20	20																					60	15	0%
3 Procurement of professional services (contracted)	**1,667**	**2,075**	**2,075**	**1,682**	**2,853**																					**10,352**	**2,588**	**74%**
1 International consultant (project management)	360	270	270	180	270																					1,350	338	10%
2 International consultant (crop/husbandry/extension)	227	151	76	76	227																					756	189	5%
3 International consultant (business establishment)	454	302	151	151	454																					1,512	378	11%
4 International consultant (social and farmer survey)	227	151	76	76	227																					756	189	5%
5 International consultant (media)			302		76																					378	94	3%
6 Local consultant (baseline and endline survey)	400				400																					800	200	6%
7 NGOs for extension activities		1,200	1,200	1,200	1,200																					4,800	1,200	34%
4 Implementation of staff training	**150**	**600**																								**750**	**188**	**5%**
1 Training for COs at states (venue)	50																									50	13	0%
2 Training for COs at states (transportation)	100																									100	25	1%
3 AEOs (and NGO) training at states (per diem)		500																								500	125	4%
4 AEOs (and NGO) training at states (transportation)		100																								100	25	1%
5 Implementation of research, studies and surveys		**14**	**14**	**14**	**14**																					**58**	**14**	**0%**
1 Fuels for follow up by COs		14	14	14	14																					58	14	0%
6 Delivery of extension and training services to the private sector		**24**	**5**	**5**																						**34**	**8**	**0%**
1 Fuels for supporting market survey		5	5	5																						14	4	0%
2 Fuels for supporting registration (by COs)		19																								19	5	0%
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**480**	**1,296**	**170**	**170**	**580**																					**2,696**	**674**	**19%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector	**480**	**1,296**	**170**	**170**	**580**																					**2,696**	**674**	**19%**
1 Workshops for participatory selection (venue)	375																									375	94	3%
2 Inception meetings (venue)	45																									45	11	0%
3 Inception meetings (transportation)	60																									60	15	0%
4 Representative training (per diem)		240																								240	60	2%
5 Representative training (transportation)		40																								40	10	0%
6 Trust building workshop (per diem)		180																								180	45	1%
7 Trust building workshop (transportation)		40																								40	10	0%
8 (AEOs and) NGO training at states (per diem)		60																								60	15	0%
9 (AEOs and) NGO training at states (transportation)		6																								6	2	0%

01.12 Farmers organisation support project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to total
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	
Project duration																												
10 TOT training at states (per diem)		480			480																					960	240	7%
11 TOT training at states (transportation)		80			80																					160	40	1%
12 Market survey forum (venue)		150	150	150																						450	113	3%
13 Periodical meeting between FBOs and state officers (venue)		20	20	20	20																					80	20	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**2,297**	**4,009**	**2,384**	**1,892**	**3,467**																					**14,049**		**100%**
Total (USD '000)	**574**	**1,002**	**596**	**473**	**867**																						**3,512**	
% to total	**16%**	**29%**	**17%**	**13%**	**25%**																					**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.13 Promotion of market oriented farming project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop						
(2) Project name:	Promotion of market oriented farming project						
(3) Project ID:	0 1 . 1 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development					
(4) Start and ending fiscal year:	Starting FY: 2017/18		Ending FY: 2031/32		Duration (years): 15		
(5) Total investment:	SSP 4,674,000		USD 1,169,000		Note: Not including recurrent cost		

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA6	Horticultural crop production	Table 2-3
(2) Government organisation:	03	MAF-CO	Directorate of Cooperative Development	Table 2-6
	08	MAF-RD	Directorate of Rural Development	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra.dev.- Extension and training	Table 2-12

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	X
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	X
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Despite South Sudan's substantial agricultural development potential thanks to abundant natural resources and favourable climate and soil conditions, poverty and food insecurity levels remain high. More food is sourced through markets than from own production nearly everywhere in the country, with households relying on markets throughout the year. Except for consistent surplus production in the 'Greenbelt' (especially Western Equatoria), all other states have cereal deficits and three states only reach a self-sufficiency rate of 40%. Consequently, demand for food is predominantly satisfied by imports, mainly originating from neighbouring Uganda and Kenya. Solutions have to be developed for overcoming the multi-faceted causes for low input-low output farming systems and the resulting low levels of subsistence and undersupply at markets. A lack of market incentives, risk-aversion of resource-poor farmers, lack of reliable and trusted market linkages, as well as insufficient and inadequate technical, organisational and business skills and competencies for intensifying and/or expanding areas under cultivation, are just some of the reasons that induce smallholders to remain locked in farming systems focused on low input–low output subsistence agriculture instead of producing for markets. Even worse, while sustainable market access is an important precondition for production growth, signals of undersupply in deficit areas are not communicated to potential food production surplus areas to trigger local production and value addition. Resulting unproductive small-scale farming and inefficient production-to-market linkages make investments into production, trade and processing a risky venture. This is compounded by the continuous risk of insecurity. While it is beyond the scope of individual projects, establishing security is the one most important preconditions for making agriculture work for the poor. Operating in an environment that hinders market-oriented business development and having to go without adequate education, training, advisory, information and financial services, impedes small-scale farmers to increase productivity and sell their produce at local markets. Access to markets is further impeded by inexistent or poor roads. The project will support predominantly subsistence farmers to improve their efficiency in production, storage, and marketing and to establish viable production-to-market linkages for food staples. While the starting point is to support farmers/farmer groups to overcome challenges in production, solutions for improved market access have to be developed in parallel considering that pushing products to markets from the supply side is less successful than production responding to a pull from the market side through demand from buyers.
(2) Objectives:	500 farmer based organizations (FBOs) and micro, small and medium enterprises (MSMEs) increase the availability of marketable (safe and price-wise competitive) produce relevant to food security, with special consideration for gender and youth aspects. They will develop their capacity to understand, manage and reduce business risks and by doing so become more resilient to risks and shocks. The livelihood approach ensures that both food and nutrition security are improved.
(3) Overall description including temporal and spatial extent of project:	The project will be implemented nation-wide. It will not focus on a particular commodity, but be limited to staple crops. The project will cover 3 phases, lasting for 15 years and start in 2017. The project will support private service providers and especially small farmers to adopt managerial, technical and organisational innovations necessary for achieving sustainable change. Public and private service providers will be trained and supported to make quality services (financial and non-financial) available to farmers which will in turn support them in upgrading their operations. This project contributes to the broad objective of commercialising smallholder agriculture in South Sudan.
(4) Component and activity structure:	Component 1: Increase availability and quality of non-financial services to farmers and MSMEs Small farmers and MSMEs have access to quality non-financial services and increase their capacity, including operators at selected warehouse locations who adopt good practices for quality assurance to reduce losses and improve food safety (to ensure prevention of fungal toxins and contamination by human pathogens as well as avoiding or minimizing pesticides residues) along the entire value chain (pre- and post-harvest). Component 2: Increase availability and quality of financial services to farmers Small farmers and MSMEs have access to finance and invest in their operations, using innovative business skills and technologies for upgrading existing/developing

Items	Information
	new business models (e.g. processing, transport, storage). Component 3: Strengthen capacity of FBOs through organisational development to provide services to its members Existing/emerging FBOs are strengthened (organisational development) to provide services to members, helping them to establish profitable and reliable business linkages. Component 4: Provide direct access to training to farmers Small-scale farmers adopt technical and business innovations to increase productivity and production in resource-friendly and sustainable ways for subsistence and surplus sales. Component 5: Enhance access to information Small farmers and MSMEs are knowledgeable of market demand and prices; and, start-up MSMEs (including FBOs) set up profitable businesses along value chains (farming, trading, processing, transport and/ or other operational services)

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Increase availability and quality of non-financial services to farmers and MSMEs Activity 1.1: Carry-out capacity assessments of private service providers by outsourced contractors Outputs 1.1: Assessment report Activity 1.2: Select those with potential to provide services to farmers Activity 1.3: Train service providers to be able to provide extension services, including warehouse management, post-harvest handling practices and Farming as a Business/ Business Development Services (BDS), etc. Outputs 1.3:10 trained service providers in each state (total 100) Activity 1.4: Train service providers to become Plant Wise “Plant doctors” to enable them to set up clinics in the project area and provide pest management advisory services at production and storage level Outputs 1.4: 5 trained service providers (plant doctors) in each state (total 50) Component 2: Increase availability and quality of financial services to farmers Activity 2.1: Identify banks and/or financial service providers capable and willing to develop financial products for farmers Activity 2.2: Develop improved financing mechanisms by staff at selected financial institutions (e.g. Equity Bank) Outputs 2: improved financial schemes developed by consultants Component 3: Strengthen capacity of FBOs through organisational development to provide services to its members Activity 3.1: Train Cooperative Officers (COs) to conduct training for FBOs Activity 3.2: Assist farmers to build FBOs that establish long-term relationships with buyers and can access pre-finance arrangement Activity 3.3: Assist farmers to build FBOs that are creditworthy and can manage loans and/or qualify for asset financing and other innovative financial products Activity 3.4: Assist farmers to build FBOs that can deliver (demand-oriented) services to their members Outputs 3: 5 trained COs in each state (total 50), and 50 trained FBOs in each state (total 500) Component 4: Provide direct access to training to farmers Activity 4.1: Train Agricultural Extension Officers (AEOs) to conduct training for FBOs Activity 4.2: Deliver direct training to farmers/FBOs: Farmer Field Schools (FFS) on sustainable farming methods (including diversification of crops and improvement of soil conservation practices), utilisation of improved seeds and fertilizers as well as pest management methods Activity 4.3: Organise training on financial management Outputs 4: 10 trained AEOs in each state (total 100), and 50 trained FBOs in each state (total 500) Component 5: Enhance access to information Activity 5.1: State governments place and manage simple price information boards at market sites Activity 5.2: State governments set up and run SMS services with information on prices to which farmers can subscribe Outputs 5: 500 FBOs to be subscribers of SMS services (every two days information services)

2.3 Service providers and beneficiaries

(1) Description of service providers within the	• Private organisations (e.g. producer organisations such as farmer associations and cooperatives, trader organisations);

Items	Information
framework of the project:	• Financial service providers (e.g. Equity Bank); • Companies (e.g. input suppliers or buyers providing embedded services to beneficiaries); and/ or non-governmental organisations (NGO) Note of caution: When employing NGOs, special care needs to be taken not to crowd-out informal actors that make up the majority of the nascent private-sector through well-meant but ill-informed approaches (unintended negative impact of development measures).
(2) Description of beneficiaries within the framework of the project:	Target groups (final beneficiaries) are (potentially) market-oriented small-scale farmers, who usually support households of 6 to 7 members and cultivate an area of 0.8 ha on average. Some farmers are members of (often clan or village-based) FBOs, such as producer groups, associations or cooperatives. Further target groups are existing or start-up private MSMEs operating storage or processing facilities or trade businesses. Women play important roles in agricultural production, wholesale and retail trade and in village-level processing. Women are hence critical for the move away from humanitarian to development aid, towards business-oriented approaches and education for better balanced nutrition for food security. But gender disparity is pronounced with women having greater problems in accessing information, extension and training, land in general and land titles in particular, as well as cash income from sales of commodities and financial services. The project hence has to address the specific challenges of women in turning traditional low input – low output farming into more viable subsistence and more profitable market-oriented surplus production. At the same time, capacity has to be built of downstream female-led micro-enterprises to adopt trading and processing 'as a business' practices.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through being able to market surplus, farmers generate additional income and hence reduce their food insecurity. Additional cash to buy foodstuffs contributes to nutrition security and enhances the value of nutrition through diet diversity. Producing in order to substitute imports contributes to the country's food self-sufficiency; by gaining greater access to resources women are empowered, which in turn leads to higher levels of nutritional status and education of children. Supporting MSMEs along the value chain to establish profitable businesses generates rural non-farm employment opportunities. They can be seen as conflict mitigating, especially when formerly idle youths in conflict-prone areas find employment.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • All measures need to be planned and implemented in a conflict-sensible way ('do no harm' through e.g. participatory planning at community level and equal opportunities for participation of returnees and long-time residents). • Potential risks that need to be addressed upfront include increased use of unfamiliar and sometimes potentially dangerous pesticides. This risk needs specific regulation of input suppliers, regulation and licensing of pesticide imports (an approved list) and for input suppliers to be sensitized to supply personal protective equipment and provide appropriate advice, verbally if necessary for illiterate clients. (Positive) • Famers and MSMEs will be trained in climate-smart production and processing methods to ensure sustainable use of natural resources and prevent any pollution of land, water, air. • Many FBO members will gain knowledge on entrepreneurship and this helps to accelerate income growth and agricultural transformation.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Very little local produce is sold on markets. Most food is imported from Uganda or Kenya, depending on the location.
(2) Measurable indicators and situation at the end point:	Farmers report producing marketable surpluses and selling it at local markets. Locally produced food can be found at least during and shortly after harvest season at most markets throughout the country.
(3) Methods of measurement and sources of information:	Interviews with farmers and surveys at randomly selected market sites.
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agricultural Production and Extension Services), Ministry of Commerce, together with State Ministries of Agriculture and Commerce

Items	Information

2.7 Required human resources

(1) Principle of human resources management:	• The government does not need to increase the number of AEOs and COs but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation. Their capacity development support will be conducted through "strengthening of extension service delivery project". • Some resources are drawn from the nascent private sector, the intention being to build up a number of reliable private service providers that will in the long-run be able to offer their services on the market, becoming profitable businesses themselves.
(2) Required human resources in the public sector (Positions, grades and numbers):	Ministries at national and state level provide coordination, oversight and monitoring. Component 5 is managed at the state level: 1 Project Manager at national level, 1 focal point per ministry at state level, i.e. 11 persons
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Number and qualification of technical staff to be employed for project implementation will be decided by implementing DP; Private sector actors: agro-input dealers, FBOs, Equity Bank, further private service providers, to be selected under component 1

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Conflicts between sedentary farmers and pastoralists • Gender disparity (negative cultural and customary practices) • Limited capacity of AEOs/COs and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Based on necessity: follow-up coaching of private service providers Depending on capacity of farmers to pay for services, a need to subsidise services from private providers for a limited duration after project completion might arise Management of price boards and SMS services

01.13 Promotion of market oriented farming project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**677**	**99**	**99**	**113**	**63**	**158**	**162**	**212**	**63**	**63**	**158**	**162**	**212**	**63**	**63**									**2,364**	**591**	**51%**
1 Deployment of government staff			**95**	**99**	**99**	**50**		**95**	**99**	**149**			**95**	**99**	**149**											**1,026**	**257**	**22%**
1 Training for service providers at states(per diem)			27					27					27													81	20	2%
2 Training for service providers at states (transportation)			18					18					18													54	14	1%
3 Training for service providers at states(per diem)			41	41				41	41				41	41												243	61	5%
4 Training for service providers at states (transportation)			9	9				9	9				9	9												54	14	1%
5 Training for cooperative officers at states(per diem)				41	41				41	41				41	41											243	61	5%
6 Training for cooperative officers at states(transportation)				9	9				9	9				9	9											54	14	1%
7 Training for AEOs at states(per diem)					41	41				81					81											243	61	5%
8 Training for AEOs at states(transportation)					9	9				18					18											54	14	1%
2 Procurement of administrative services (contracted)			**120**																							**120**	**30**	**3%**
1 Development of SMS services			120																							120	30	3%
3 Procurement of professional services (contracted)			**462**																							**462**	**116**	**10%**
1 Local consultant (capacity assessments of service providers)			160																							160	40	3%
2 Local consultant (financial scheme development)			302																							302	76	6%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**63**	**63**	**63**	**63**	**63**	**63**	**63**	**63**	**63**	**63**	**63**	**63**									**756**	**189**	**16%**
1 Fuels for FFS						63	63	63	63	63	63	63	63	63	63	63	63									756	189	16%
2 Construction of infrastructure and procurement of equipment			**300**																							**300**	**75**	**6%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities			**300**																							**300**	**75**	**6%**
1 Price information boards at 200 market places			300																							300	75	6%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans			**15**	**335**	**320**			**15**	**335**	**320**			**15**	**335**	**320**											**2,010**	**503**	**43%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector			**15**	**335**	**320**			**15**	**335**	**320**			**15**	**335**	**320**											**2,010**	**503**	**43%**
1 Training for 100 service providers (extension services) at states			10	10				10	10				10	10												60	15	1%
2 Training for 50 service providers (plant doctors) at states			5	5				5	5				5	5												30	8	1%
3 Training for 500 FBOs by COs at states (per diem)				280	280				280	280				280	280											1,680	420	36%
4 Training for 500 FBOs by COs at states (transportation)				40	40				40	40				40	40											240	60	5%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**992**	**434**	**419**	**113**	**63**	**173**	**497**	**532**	**63**	**63**	**173**	**497**	**532**	**63**	**63**									**4,674**		**100%**
Total (USD '000)			**248**	**109**	**105**	**28**	**16**	**43**	**124**	**133**	**16**	**16**	**43**	**124**	**133**	**16**	**16**										**1,169**	
% to total			**21%**	**9%**	**9%**	**2%**	**1%**	**4%**	**11%**	**11%**	**1%**	**1%**	**4%**	**11%**	**11%**	**1%**	**1%**									**100%**		

Public sector project | Private sector project | Routine work by government | Routine work by private sector

2.4.14 Farmers and pastoralists conflict resolution project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop			
(2) Project name:	Farmers and pastoralists conflict resolution project			
(3) Project ID:	0 1 . 1 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2017/18	Ending FY: 2026/27	Duration (years): 10	
(5) Total investment:	SSP 13,307,000	USD 3,327,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA10	Production resource management	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	101	ID-LI	Institutional development - Legal and institutional development	Table 2-12
	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	X
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Conflict between farmers and pastoralists has become more prevalent and violent since the signing of the 2005 Comprehensive Peace Agreement (CPA) in South Sudan. Tribal conflict in South Sudan, particularly among pastoralist communities, is by no means a new phenomenon. Cattle raiding has been taking place for many generations. This is especially true between the tribes of Dinka, Murle, and Nuer. Cattle raids take place to increase the number of cattle which is a sign of wealth, used for marriage and dowry practices; they are also conducted by male youth as part of their transition from adolescence to manhood. Reprisals have been a part of life for generations between the Nuer, Dinka and Murle tribes. With the continued increase and prolonging of poverty there are many men in the pastoralist communities that lack the number of cattle or means necessary to pay the dowry for a wife. To rectify this they will simply embark on cattle raids in order to gain the number of cattle needed to pay the dowry. However, since the signing of the CPA there are a number of additional factors contributing to this violence instead of just social and cultural norms. There are certain states in South Sudan where conflict between pastoralists and farmers is more prevalent. These states are Jonglei, Northern Bahr el Ghazal, and Upper Nile State. Conflict in these states can also be directly correlated with the fact that these areas also have the majority of people facing severe food insecurity. An estimated 1.7 million people in South Sudan have been food insecure in the last ten years, the majority (up to 40 percent) from Jonglei, Northern Bahr el Ghazal and Upper Nile states (FAO 2010). Food insecurity is mainly related to conflict over natural resources and cattle raiding, the influx of returnees, floods and drought (FAO 2010). The inhabitants of these areas are caught in a poverty trap, trying to survive pursuing livelihoods that are vulnerable to environmental shifts that drive violent conflict. Pastoralists during the rainy season find plenty of grazing land for their livestock in their normal tribal areas (boundaries). However during the dry season these same pastoralists are forced to drive their herds to areas known as “toiche” pastures. These are pastures sustained by the swamp and water areas fed by the White Nile and Sudd (permanent swamp). In the dry season these toiche and swamp areas have permanent water and green grass, perfect for grazing livestock. Unfortunately these are also the same areas where farmers permanently reside because of the abundant water and rich soil that can be used for planting and watering crops. As these pastoralist herders “invade” these areas with their herds, the crops that are planted are trampled and destroyed, grazed, or the cropland is simply taken over from the resident farmers by stronger, better armed pastoralists. Tribal conflict also comes into play because pastoralists from one tribe have gone outside their common boundaries and have encroached on the areas of other tribes. Environmental changes such as prolonged drought are increasing the necessity of migration and reducing the availability of contested resources. In turn this increases the frequency that tribes with long standing feuds and grievances come into contact with each other, resulting in increased conflict.
(2) Objectives:	• Government of South Sudan with assistance from the United Nations and other foreign intermediaries will fund, train, and activate a police force to provide security in the conflict areas. • Address the need for water access points within tribal boundaries to help reduce migration of herds during the dry season. • Provide training programs to pastoralists and farmers on improved rangeland management, modern grazing systems, improved forage crop production, and conflict resolution.
(3) Overall description including temporal and spatial extent of project:	Putting an end to long standing tribal enmities will be an enormous task. At times the pastoralist groups doing the cattle raiding are better armed than the police force and even some military units. There have been attempts in the past to disarm certain tribes but this was done unequally with some tribes having their weapons taken away while others kept their’s. The tribes with no weapons were then attacked frequently so that they procured more weapons and revenge attacks occurred on all fronts. The first step to ending this conflict is that all tribes involved in these conflicts are disarmed. The second step is a well-funded, well-trained police force that provides strict security in these conflict areas. The government of South Sudan must take immediate steps to implement this disarming and security provision process. Otherwise the violence will continue to spiral out of control. After security has been restored and there is law and order, training for pastoralists and farmers on better rangeland management, grazing systems, increased crop production, and conflict resolution can take place. Another important step will be the construction of livestock water catchment and water access areas within the traditional tribal/pastoralist boundaries. This will enable pastoralists to keep their herds in their traditional grazing lands instead of having to migrate to water sources where conflict will occur. This project profile provides a direct linkage with another CAMP project profile from the livestock subsector. A component for this project profile comes directly from the livestock subsector. Another short term option is fencing. Quality fencing around cropland and crop plots will

Items	Information
	help deter cattle and other livestock from coming in and trampling and eating valuable crops. Fencing will work as long as the pastoralist and farmer are on good terms. Fencing will not deter gun violence and raiding parties.
(4) Component structure:	Component 1: Increase awareness (disarmament and security provisions) Component 2:Training Component 3: Design and construct livestock watering facilities (linked with livestock subsector) Component 4: Fencing

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:

Component 1: Increase awareness (disarmament and security provisions)

Activity 1.1: For this project to proceed a government task force must be formed from the highest levels of the military and police forces. Funds must be allocated to increase the number of trained police that can be sent to these conflict areas to provide security and start a mediated disarmament process. If this first step does not occur then this project cannot proceed to the subsequent components.

Outputs: A government task team will be organized with assistance from the United Nations; funding from both the government and donor agencies will be supplied to recruit, train, and activate a strong police force in the conflict areas. It is important to note that the police force must consist of a thorough mix of tribal backgrounds so that favouritism does not occur. Costing for this component should not take place for the CAMP project as it is the responsibility of the military and police levels of government instead of the Ministry of Agriculture.

Component 2: Training

Activity 2.1: Once security is restored in the conflict areas a team consisting of international and national specialists will conduct a series of training workshops to both pastoralists and farmers. For pastoralists they will receive training in improved range management, modern grazing systems, forage crop production to supplement natural grasses during the dry season, construction and maintenance of water catchment areas, animal health, and conflict resolution. For farmers they will receive training on improved crop production techniques, forage crop production (to sell forage crops to pastoralists during the dry season), utilizing areas for crop production outside of valuable water areas, and conflict resolution.

Outputs: At least 4 training trips will be made to each of the 3 states affected most by the conflict (Jonglei, Northern Bahr el Ghazal, and Upper Nile states) by the specialist training team (12 trips total). The specialist training team will consist of the following people:

- 1- international consultant specializing in rangeland management and livestock production.
- 1- international consultant specializing in hydrology and water catchment construction (could be same consultant that is utilized in livestock project profile).
- 1- international consultant specializing in crop husbandry/extension.
- 1- international consultant specializing in social (including gender) surveys and conflict resolution
- 2- MAFCRD agricultural extension officers
- 6- MAFCRD state agricultural extension officers (2 for each of the 3 states)
- The training schedule would consist of the team going to the field and conducting 1 week of training (8 hours per day, 5 days per week). This same training schedule would take place 3 additional times as “follow up” training. This output would take approximately 1 year to complete including the development of training curriculum. The state extension officers would only be utilized when the main training team visits the state where those particular state officers are assigned.

Component 3: Design and construct livestock watering facilities

This component will be part of the CAMP livestock project “Development of livestock water catchment and watering areas”. A summary of this project follows.

The project team will visit existing water catchment areas (locally called haffirs) throughout South Sudan to determine successes and failures. It will conduct extensive field visits to interview tribal leaders, county CAHWs, state government officers, and other community leaders to determine politically viable areas for constructing water catchments. It will locate livestock watering facilities according to the following criteria: livestock migratory routes, areas with high livestock populations, areas with suitable soil types for haffirs, areas that have a history of conflict with watering livestock etc.

The project will design and implement haffirs with appropriate specifications

Items	Information
	(catchment, borehole wells; solar, or wind mill powered). It is proposed to start with at least 9 haffirs. It is estimated that construction could take at least 1 year and possibly longer. The project will also assist in the formation water association groups around the locale of the new haffirs. These groups will receive training on the proper use, maintenance, conflict resolution, and importance of clean water for livestock. Component 4: Fencing Activity 4.1: Fencing acts as a deterrent for cattle and other livestock wanting to enter cropland. There are many different types of fencing. Permanent fencing includes posts with either 3 strands or 4 strands of wire. Other permanent fencing that is expensive is rock wall fencing, pipe fencing, and fencing created by bushes and trees planted in close proximity. Temporary fencing includes electric fencing. There are many types of electric fence chargers that do not require electricity. The charger can be attached to a car battery or is charged through solar power. One or 2 strands of high tensile wire is then stretched and attached to either metal poles with "insulators" to hold the wire on the posts or fiberglass posts. One electric fence charger can provide a charge for many kilometres of fencing. Outputs: A technical assistance team consisting of international and national consultants will choose 10 pilot farms (1 in each state) to conduct demonstration fencing. This team will purchase and construct the fencing on these farms and then use the fencing demonstrations as training for other farmers. Two types of fencing will be constructed on each farm. The first type will be permanent fencing consisting of wood or metal posts pounded into the ground and then 4 strands of barbed wire stretched between the posts to serve as the actual fencing. The second type of fencing will be temporary electric fencing. Metal "t-posts" or fiberglass posts will be purchased and then high tensile wire will be attached to the posts. An electric fence charger with either a car battery or solar power will be used to "electrify" the fence. The fencing team will consist of the following: • 1- international consultant specializing in rangeland management and livestock production. • 2- MAFCRD agricultural extension officers • 20- MAFCRD or MLFI state agricultural extension officers (2 for each of the 10 states) • The team would work with each farmer to construct the fencing. The length of fence will depend on the size of the farm. It is estimated that it will take at least 2 weeks at each farm to construct both types of fencing. At least 5 additional workers/labourers would need to be hired for each farm to help with construction. Once the fencing is complete the fencing team would return to conduct training for additional farmers. Each training session would only need to last 1 day at each farm for a total of 10 days. • Approximate cost of fencing: • Electric fence chargers cost $150 US dollars each x 10 chargers. In addition high tensile wire electric fencing is approximately $3.50 USD/meter • Permanent barbed wire (4 strand) fencing is approximately $5.00 USD/meter

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers would be a well-trained police force, international consultants with experience in rangeland management, livestock production, and hydrology. From the public sector national MAFCRD agricultural extension officers with extensive experience of pastoralist and water issues would be needed.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are pastoralists and farmers that feel secure in pursuing their livelihoods. Secondary beneficiaries are women and children in conflict areas who will be protected and safe once the violence ceases. Their quality of life will greatly improve.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The end to violence, thousands of deaths, and destruction of communities as a result of conflict between pastoralists and farmers. With pastoralists and farmers being secure they will increase their production, increase their income, and contribute to the overall food security of South Sudan.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society

Items	Information
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • This project will be very dangerous and any consultant or staff working in these areas will be at great risk until security is restored. (Positive) • Ending the conflicts between pastoralists and farmers will greatly improve the quality of life of families in the areas that have been affected. Thousands of lives will be spared and agricultural production in these areas will increase.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Recorded number of conflicts, deaths, and cattle stolen
(2) Measurable indicators and situation at the end point:	Recorded number of conflicts, deaths, and cattle stolen (hopefully much reduced), fenced areas, number of trained police officers, number of water points constructed
(3) Methods of measurement and sources of information:	Government of South Sudan statistics, United Nations statistics, NGO statistics
(4) Responsible parties for the monitoring and evaluation:	Government of South Sudan - national and state police forces, United Nations, selected NGOs.

2.7 Required human resources

(1) Principle of human resources management:	International consultants with at least a Master's degree would be needed for providing technical assistance in the form of rangeland management, livestock production, and hydrology. Senior level MAFCRD extension officers at the national level and entry level to mid-level state extension officers would be needed at the state and local levels.
(2) Required human resources in the public sector (Positions, grades and numbers):	Public sector human resources would consist of the following: • 2- MAFCRD agricultural extension officers • 20- state agricultural extension officers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • 1. One project management and rangeland management expert (Master degree, 15-years experience) • 2. One crop husbandry/extension expert (MSc or MA, 5-years experience) • 3. One livestock production expert (MSc, 5-years experience) • 4. One hydrologist/irrigational engineer (MSc, 5-years experience) • 5. One social (including gender) survey and conflict resolution expert (BSc or BA, 5-years experience)

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project is high due to the risk of ongoing violence and insecurity. Consultants and staff would be at great risk if security is not restored. • Incomplete disarmament • Attacks by pastoralists due to grudges • Conflicts or tensions among pastoralists, and between pastoralists and settled farmers • Unfavourable conditions of access roads to reach beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of material delivery due to inappropriate timing of budget disbursement and unfavourable road conditions • Natural disasters (e.g. drought, and flooding) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	None of the agricultural components of this project can take place until security is restored in the conflict areas by the government of South Sudan.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2- MAFCRD agricultural extension officers (senior level) • 20- state extension specialists (entry or mid-level specialists) Other on-going expenses: • Laptops for each worker • Transportation allowance for workers to provide routine technical assistance to farmers in their assigned states and counties. • Communication allowances (cell phone and internet) • Routine office supplies and maintenance

01.14 Farmers and pastoralists conflict resolution project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**4,023**	**3,781**	**1,941**	**40**	**40**	**40**	**40**	**40**	**40**	**40**														**10,025**	**2,506**	**75%**
1 Deployment of government staff			**61**	**3**																						**64**	**16**	**0%**
1 Trainings at the most 3 affected states (per diem)			50																							50	13	0%
2 Trainings at the most 3 affected states (transportation)			8																							8	2	0%
3 Fencing & training trip to 10 states (per diem)			1	1																						2	0	0%
4 Fencing & training trip to 10 states (transportation)			2	2																						4	1	0%
2 Procurement of administrative services (contracted)			**31**	**11**																						**41**	**10**	**0%**
1 Casual labour for fencing			11	11																						21	5	0%
2 Transportation of material for fence			20																							20	5	0%
3 Procurement of professional services (contracted)			**3,877**	**3,726**	**1,901**																					**9,504**	**2,376**	**71%**
1 International consultant (project management, range management)			1,080	1,080	540																					2,700	675	20%
2 International consultant (crop/husbandry/extension)			907	907	454																					2,268	567	17%
3 International consultant (livestock)			907	907	454																					2,268	567	17%
4 International consultant (social survey/conflict resolution)			605	454	454																					1,512	378	11%
5 International consultant (hydrology/irrigation)			378	378																						756	189	6%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector			**14**	**1**																						**15**	**4**	**0%**
1 Fuels for trainings at the 3 most affected states			13																							13	3	0%
2 Fuels for fencing & training			1	1																						2	1	0%
7 Operation and maintenance			**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**														**400**	**100**	**3%**
1 Fuels, consumables for monitoring & supervision at states			40	40	40	40	40	40	40	40	40	40														400	100	3%
2 Construction of infrastructure and procurement of equipment			**1,094**			**1,094**			**1,094**																	**3,282**	**821**	**25%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities			**1,094**			**1,094**			**1,094**																	**3,282**	**821**	**25%**
1 Demonstration fencing (permanent type) at 10 sites			640			640			640																	1,920	480	14%
2 Demonstration fencing (temporary electric type) at 10 sites			454			454			454																	1,362	341	10%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**5,117**	**3,781**	**1,941**	**1,134**	**40**	**40**	**1,134**	**40**	**40**	**40**														**13,307**		**100%**
Total (USD '000)			**1,279**	**945**	**485**	**284**	**10**	**10**	**284**	**10**	**10**	**10**															**3,327**	
% to total			**38%**	**28%**	**15%**	**9%**	**0%**	**0%**	**9%**	**0%**	**0%**	**0%**														**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

2.4.15 Strengthening of extension service delivery project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Strengthening of extension service delivery project				
(3) Project ID:	0 1 . 1 5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2016/17		Ending FY: 2025/26		Duration (years): 10
(5) Total investment:	SSP 30,612,000		USD 7,653,000		Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra.dev.- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Farmers need correct knowledge about many aspects of farming to improve their effectiveness and to improve yields. Agricultural extension officers play a key role in raising productivity by offering technical advice, helping farmers to identify problems and opportunities, and sharing information and skills with farmers. However, extension activities are minimally provided across the country by the government. Only in some areas, are there agricultural extension officers (AEOs) at county offices. Most areas do not have any extension officers. There are not sufficient AEOs hired or deployed at county and/or payam levels which is where they should be working. Many AEOs do not have transport and have minimal budget for their activities. Therefore, these AEOs cannot visit communities periodically. They accompany NGO extension workers when they have activities in a community. It is important that extension officers help farmers to improve their knowledge and skills by providing correct and up to date information so that farmers can improve their livelihoods. However, many extension officers cannot deliver appropriate services to farmers. This is because: the knowledge level of AEOs is sometimes inadequate and outdated; and, they have limited education and/or training opportunities about extension work. NGO extension workers are better qualified and many have a bachelor's degree in agriculture and/or extension services. To improve the quality of agricultural extension services, the capacity of extension officers must be improved, The project will support effective transport, necessary equipment for extension services, and appropriate training to improve the knowledge and skills of AEOs about agriculture and extension work. Furthermore, there have been volunteer extension workers called community based extension workers (CBEW). They are nominated farmers who disseminate information about farming skills. In theory the AEOs support CBEWs to provide extension services at the boma level. It is effective to assign core farmers to be CBEWs to implement extension activities, rather than the AEOs visit all the communities. However, there are few active CBEWs. Reasons for this are: limited technical support by AEOs, no opportunities to update their knowledge, no means of transport and limited funds for activities. Since the number of AEOs is limited to provide service at the boma level, it is effective to have CBEWs who are familiar with the communities to reach directly to farmers. Hence, the project will also increase numbers and strengthen the capacity of CBEWs.
(2) Objectives:	The aims of the project to enhance the capacity of both AEOs and selected farmers as community based extension workers (CBEWs).
(3) Overall description including temporal and spatial extent of project:	This project will focus on strengthening extension service delivery through enhancing the capacity of government extension officers. The operation of the extension system will also be strengthened. The project will cover all ten states of South Sudan. The "Extension system reform and efficient service delivery" project focuses on reform of the agricultural extension system. It will review the current extension system with the aim of developing a more efficient system. Current government extension officers, such as AEOs, will be identified and reassigned to appropriate locations. This project focuses on providing training to these AEOs. Collaboration between AEOs and NGOs extension workers will be established, but training will not be provided to NGO extension workers. Firstly, activities would focus on strengthening existing AEOs. Provision of training to AEOs would continue throughout this project. The project "Extension system reform and efficient service delivery" should have identified available AEOs and deployed them. However, if this has not happened (project not approved/funded etc.), this project will perform these activities, including collecting relevant information (current AEOs locations and positions, ability and skill levels, educational background, tribe, age, past experience, etc.). This project will train these AEOs, so coordination between the 2 projects will be critical for project implementation. Training for AEOs will first be held at CTC Yei; as new training centres are constructed and operational under the "Establishment of training institution infrastructure" project, AEOs will be trained at their closest centre. After training the existing AEOs, CBEWs will be selected and trained. The selection process will inform potential CBEWs of terms of references, benefits etc. Training for CBEWs will be held where most cost effective. It is possible that new training centres will be available and training could be conducted there.

Items	Information
	Lastly, the project will assist the newly trained AEOs and CBEWs to provide extension services. Appropriate transport, necessary equipment, and materials for extension work will be provided to AEOs and CBEWs. The AEOs will start providing extension services first; as CBEWs are trained they will also become operational. AEOs will visit boma offices to supervise and provide technical support to CBEWs as part of their routine work. As a part of the extension approach, CBEWs will develop experimental plots at boma offices with support from AEOs. CBEWs will use them to demonstrate agricultural skills and experimental crops. Communities will be able to see the benefits and their leaders will be asked to share it with people in their communities. The AEOs will also visit with community leaders to support CBEWs. CBEWs will have the opportunity to experiment with agricultural inputs, improved varieties of seed, fertilizers, etc. at the project's expense. Farmer to farmer visits could be arranged by community leaders. Information and topics will be based on the interests and needs of the communities. Field trips could be arranged to learn from actual farms. The project would cover costs for these activities. Underperforming CBEWs will be replaced.
(4) Component structure:	Component 1: Capacity development of AEOs Capacity development and strengthening how extension services are delivered are the major activities. Component 2: Capacity development of CBEWs Capacity development of CBEWs and their incorporation into the extension service delivery system are the major activities. Component 3: Implementation of extension activities with technical support Extension work will be improved with the enhanced capacity of AEOs and CBEWs by following the strengthened extension service delivery system

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Capacity development of AEOs Activity 1-1: Conduct needs assessment and situation analysis about AEOs in terms of knowledge, skills, equipment, numbers, locations, and facility Outputs: Needs assessment and situation analysis reports include availability of AEOs in all locations (The "Extension system reform and efficient service delivery" project may provide this information) Activity 1.2: Clarify and/or confirm roles, responsibilities, duties, and set up standards about knowledge and skill levels for AEOs at state, county, and payam levels; develop supervising and reporting systems for extension activities Outputs: Documents on TORs for AEOs and expected duties, and on how services will be delivered (1 person with extension and/or training experience from 5 different NGOs will also be invited.) Activity 1-3: Develop detailed training plan, training materials, manuals, other materials, Outputs: Detailed training curriculums with schedules, training materials, manuals, and other materials such as leaflets and crop calendars (5 teaching staff from CTC Yei and 3 teaching staff from YATC will be invited. 1 person with extension and/or training experience from 5 different NGOs will also be invited from Juba and Yei.) Activity 1-4: Provide training for AEOs Outputs: Trained AEOs (Actual existing and available numbers of AEOs are uncertain, but 291 AEOs are supposed to be available nationwide. Theoretically training should be carried out for 291 AEOs, but it could be more or less. Training will be conducted at CTC Yei, but if other training centres were available they would be used.) Activity 1-5: Procure and provide transport and necessary equipment Outputs: Trained AEOs with means of transport (motorcycles) and necessary equipment (Theoretically speaking, 291 motorcycles, 291 farm tools and other extension materials are procured and provided, but it could be more or less.) Activity 1-6: Provide in-service training for AEOs every 3 years Outputs: AEOs with updated knowledge and skills about farming and agricultural extension (In-service training will be provided by the closest training centres.) Activity 1-7: Provide induction training to newly assigned AEOs according to the standard knowledge and training curriculum for AEOs Outputs: Trained newly assigned AEOs (Every year, some AEOs might retire. New AEOs must be recruited to fill vacant positions. Induction training will be held every year. The training centre to provide it will be rotated every year.)

Items	Information
	Component 2: Capacity development of CBEWs Activity 2.1: Conduct needs assessment and situation analysis about CBEWs in terms of knowledge, skills, equipment, methods of selection, current numbers and activities of CBEWs deployed in bomas, available facilities in each boma Outputs: Needs assessment and situation analysis report about CBEWs Activity 2.2: Re-define roles, responsibilities, duties, and required knowledge for CBEWs Outputs: Documents on roles, responsibilities, duties, and required knowledge and skills for CBEWs, list of current CBEWs (if any exist); challenges and possible solutions Activity 2.3: Develop a training plan with schedules, training materials, manuals, other materials to deliver effective extension activities Outputs: Training curriculums with schedules, training materials, manuals (5 teaching staff from CTC Yei and 3 teaching staff from YATC will be invited . 1 person with extension and/or training experience from 5 different NGOs will also be invited from Juba and Yei.) Activity 2.4: Select farmers based on discussions with communities at each boma and appoint them as CBEWs Outputs: Selected CBEWs with signed document signalling understanding of TORs (duties etc.) (Up to 2 CBEWs could be selected per boma depending on decisions by the surrounding communities. The current estimate of number of bomas is 2,097, so maximum total numbers of CBEWs could be 4,194. Activity 2.5: Conduct training for CBEWs and provide means of transport and equipment Outputs: Trained CBEWs with means of transport and equipment including farm tools (Maximum 4,194 CBEWs will be trained at state capitals. One training session can accept 50 CBEWs maximum. If there are 2 CBEWs in a boma, the division of duties will be clearly defined in meetings with community leaders. Training will be conducted by staff of CTC Yei and new training centres (established under another project), either at the training centre or rented space at the state capital, depending on cost effectiveness. Component 3: Implementation of extension activities with technical support Activity 3.1: Trained AEOs and CBEWs start engaging in extension work Outputs: Improved extension service delivery with wider coverage, including demonstration plots, farmer field schools, farmer to farmer visits, state-wide annual agricultural show Activity 3.2: Establish experimental plots in compound of boma offices or an appropriate location Outputs: Experimental plots to be utilised in each boma for demonstration purposes (At least 20 community leaders in each boma are expected to attend information sharing sessions every 3 weeks. Activity 3.3: Organise farmer to farmer visits and field visits with lectures Outputs: Farmers with increased knowledge about improved and/or new farming skills or information Activity 3.4: Establish radio extension program in each state Outputs: Radio extension programs (Weekly 30 minutes agricultural extension radio shows planned and organised by the state Ministry of Agriculture. Each state will develop their own radio programmes through the local radio station.) Activity 3.5: Hold periodical meetings of AEOs and CBEWs Outputs: Agenda and minutes of meetings, written reports from all the AEOs, oral reports from all CBEWs, shared challenges and suggested solutions (Hold a 2 day meeting at state level twice a year inviting only AEOs and some successful CBEWs to the state capital for annual reviews. Hold a 1.5 day meeting at county level 4 times a year inviting all the AEOs and CBEWs in that county to submit reports.) Activity 3.6: Monitor and evaluate extension service delivery and its impact to provide feedback Outputs: Monitoring and evaluation report, improved work by AEOs, CBEWs, and state government staff with suggestions for improvement (M & E will be conducted 1 time a year for 9 years by this project.)

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• Directorate of Agriculture Production and Extension Services of MAFCRD will be responsible for providing technical and financial support for the project. • Ministry of Agriculture in the state, county, and payam governments are responsible for planning for capacity development of AEOs and CBEWs and organising training activities. • AEOs and CBEWs are service providers of extension work for farmers.

Items	Information
	• Crop Training Centre Yei (CTC Yei) will play a key role in providing training for AEOs and CBEWs. • Yei Agricultural Training Centre (YATC) will provide support in the planning stage at meetings and workshops. • NGO extension workers will be invited for meetings and workshops in the planning stage. They might also be requested to be instructors if necessary for some training sessions. Moreover, NGO extension workers will work closely with AEOs and CBEWs to enhance the quality and impact of extension services.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries of the project are AEOs and CBEWs. Indirect beneficiaries are staff of Directorate of Agriculture Production and Extension Services of MAFCRD, and staff of the Ministry of Agriculture in state, county, payam government offices. Farmers also receive improved extension services by AEOs and CBEWs.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The AEOs will have improved skills and knowledge. They will be able to deliver better quality extension services to farmers. CBEWs will improve their skills for extension service delivery to farmers in their areas. Service delivery of extension will be more systematic in a wider area.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Negative environmental impacts are considered to be minimal because the project focuses mainly on training on extension service delivery. Even if motorcycles were provided to all the AEOs, environmental impact from the use of them is limited. If offices at county and/or payam levels were constructed to deploy AEOs, these offices would be small (constructed under a different project). Provided means of transport for CBEWs are bicycles. Therefore, negative environmental impacts will be minimal. (Positive) • Enhancing the capacity of AEOs and CBEWs, including better transport, would have a significant impact on improving farming practices which would lead to increased yields and profits for farmers.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Total number of AEOs in the government list (291) • Number of AEOs engage in field activities for extension service delivery • Knowledge and skill levels of AEOs • Number of active CBEWs • Knowledge and skill levels of CBEWs
(2) Measurable indicators and situation at the end point:	• 291 trained AEOs • 291 AEOs engage in field activities for extension service delivery • Improved knowledge and skill levels of AEOs plus capability to supervise and support CBEWs as well as work with farmers • 4,194 trained and active CBEWs • Outreach to 85,000 farmers • Number of farmers who adopted new knowledge and skills • Number of farmers who improved efficiency, increased their yields, profits, and/or solved issues such as pests and diseases • Number of regular reports submitted to each level of government
(3) Methods of measurement and sources of information:	• Needs assessment and situation analysis reports • Government list of AEOs and CBEWs • Training records • Project reports • Monitoring and evaluation reports • Regular reports submitted by AEOs, observation of field conditions • Observation of farming practices • Interviews of AEOs, CBEWs, and farmers
(4) Responsible parties for the monitoring and evaluation:	MAFCRD, Directorate of Agricultural Production & Extension Services, AEOs, Department of Extension of the state Ministry of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	• Total numbers of AEOs do not need to be increased. • State government offices play an important role to manage delivery of extension services. Thus, key staff of the state Ministry of Agriculture should attend all the training

Items	Information
	for this project. • Trainers at CTC Yei need to support the project so as to plan and provide training as well as support other trainers at the new training centres. • Needs assessment and situation analysis will be outsourced to local NGO and/or local consultants for effective project implementation. • CBEWs will work on a voluntary basis, but necessary costs for transport and accommodation should be provided when meetings are held away from the boma or when extension activities are organised, such as field visits. When CBEWs are selected, duties and responsibilities of CBEWs should be clarified and understood by community leaders and CBEWs, with written agreement. If a CBEW fails to fulfil his/her responsibilities, he/she would be replaced by another person. • Up to 2 CBEWs could be selected per boma to reflect the complex situations in communities (gender, youth, tribe etc.)
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3 or 4) • Project staff from MAFCRD (three staff, two from the Directorate of Agricultural Production and Extension Services, one staff from Agricultural Education and Training) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • Director of extension and senior inspector of extension, grade 7 and inspector of extension, grade 8 from the state governments. These project staff from the state Ministry of Agriculture work with MAFCRD to implement the project.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of : • Project management (Master's degree, 15-years experience): One • Agricultural extension specialist (BA or BSc, 10-years experience or more): One • Agronomy expert (BSc or BA, 8-years experience or more): One • Education and training expert (BA, 5-years experience or more): One • Project coordinator (BA in Agriculture desirable, 3-years experience or more): One • Training for AEOs and CBEWs will be provided by CTC Yei and other government training centres (BA or more in Agricultural discipline, 10-year experience or more for extension and/or training on extension). CTC Yei and other government training centres could use either their permanent teaching staff or hire temporary teaching staff from other organizations. • Needs assessment and situation analysis in 10 states will also be outsourced to local NGOs and/or local consultants

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered. • Difficult to secure sufficient numbers of AEOs to train and supervise CBEWs • Difficult to find sufficient numbers of CBEWs • Selection of CBEWs needs to be carefully conducted considering the complex situation in the bomas (gender, youth, tribe etc.) • Possibly difficult to find funding sources to implement the "Extension system reform and efficient service delivery" project • Insecurity and conflicts at some target sites	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• This project is closely related to the "Extension system reform and efficient service delivery" project. The project deals with extension system reform including re-organisation of existing AEOs. Thus, total numbers of AEOs could be reduced depending on the results of the project which would affect numbers needing training, procurement of transport and equipment, as well as timing. Therefore, close communication with this project's staff needs to be made on a regular basis. • CBEWs would be replaced if he/she does not provide extension services according to their TORs. Communities have the right to select and replace CBEWs based on their performance. • Many other training courses are planned in the different projects under the crop subsector. This training will also be provided to AEOs. Coordinating training schedules for AEOs will be important.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Field work supervision by AEOs, regular reports, meetings among AEOs and CBEWs, monitoring and evaluation, all routinely conducted.

01.15 Strengthening of extension service delivery project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project		**3,124**	**2,844**	**1,817**	**1,215**	**1,032**	**3,124**	**2,844**	**1,817**	**1,215**	**1,032**															**20,066**	**5,016**	**66%**
1 Deployment of government staff		**51**				**51**	**51**				**51**															**205**	**51**	**1%**
1 Survey for situation analysis to states (per diem)		24					24																			49	12	0%
2 Survey for situation analysis to states (transportation)		27					27																			54	14	0%
3 Survey for M&E system development (per diem)						24					24															49	12	0%
4 Survey for M&E system development (transportation)						27					27															54	14	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)		**2,887**	**2,045**	**1,022**	**421**	**842**	**2,887**	**2,045**	**1,022**	**421**	**842**															**14,436**	**3,609**	**47%**
1 International consultant (project management)		720	540	270	90	180	720	540	270	90	180															3,600	900	12%
2 International consultant (extension)		720	540	270	90	180	720	540	270	90	180															3,600	900	12%
3 International consultant (institutional development)		540	360	180	90	180	540	360	180	90	180															2,700	675	9%
4 International consultant (education and training)		454	302	151	76	151	454	302	151	76	151															2,268	567	7%
5 International consultant (project coordination)		454	302	151	76	151	454	302	151	76	151															2,268	567	7%
4 Implementation of staff training		**186**	**800**	**744**	**744**	**88**	**186**	**800**	**744**	**744**	**88**															**5,121**	**1,280**	**17%**
1 Meeting for development of TORs		8					8																			15	4	0%
2 Inter-department meeting (venue)		45					45																			90	23	0%
3 Inter-department meeting (per diem)		63					63																			126	32	0%
4 Inter-department meeting (transportation)		70					70																			140	35	0%
5 Development of curriculums for CDOs&COs (per diem)			36					36																		72	18	0%
6 Development of curriculums for CDOs&COs (transportation)			20					20																		40	10	0%
7 CDOs&COs trainings at state training centres (per diem)			710	710	710			710	710	710																4,259	1,065	14%
8 CDOs&COs trainings at state training centres (transportation)			34	34	34			34	34	34																203	51	1%
9 CDOs&COs induction trainings (per diem)						84					84															168	42	1%
10 CDOs&COs induction trainings (transportation)						4					4															8	2	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance				**51**	**51**	**51**			**51**	**51**	**51**															**304**	**76**	**1%**
1 Maintenance of motorbikes (for CDOs)				25	25	25			25	25	25															151	38	0%
2 Maintenance of motorbikes (for COs)				26	26	26			26	26	26															153	38	1%
2 Construction of infrastructure and procurement of equipment			**1,758**	**1,758**	**1,758**			**1,758**	**1,758**	**1,758**																**10,546**	**2,636**	**34%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles			**1,690**	**1,690**	**1,690**			**1,690**	**1,690**	**1,690**																**10,140**	**2,535**	**33%**
1 Motorbikes for 252 CDOs			840	840	840			840	840	840																5,040	1,260	16%
2 Motorbikes for 255 COs			850	850	850			850	850	850																5,100	1,275	17%
7 Procurement of equipment			**68**	**68**	**68**			**68**	**68**	**68**																**406**	**101**	**1%**
1 Equipment for CDOs			34	34	34			34	34	34																202	50	1%
2 Equipment for COs			34	34	34			34	34	34																204	51	1%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												

01.15 Strengthening of extension service delivery project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)		**3,124**	**4,602**	**3,574**	**2,973**	**1,032**	**3,124**	**4,602**	**3,574**	**2,973**	**1,032**															**30,612**		**100%**
Total (USD '000)		**781**	**1,150**	**894**	**743**	**258**	**781**	**1,150**	**894**	**743**	**258**																**7,653**	
% to total		**10%**	**15%**	**12%**	**10%**	**3%**	**10%**	**15%**	**12%**	**10%**	**3%**															**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.16 Strengthening and establishment of training institution infrastructure project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Strengthening and establishment of training institution infrastructure project				
(3) Project ID:	0 1 . 1 6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2017/18		Ending FY: 2026/27	Duration (years):	10
(5) Total investment:	SSP 77,368,000		USD 19,342,000	Note: Not including recurrent cost	

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	10	MAF-ET	Directorate of Agricultural Education and Training	Table 2-6
(3) Activity types:	210	SP-SI	Service delivery/infra.dev.-Social infrastructure development	Table 2-12

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information
Part 2: Project description	
2.1 Project justification, objectives, overall description and component structure	
(1) Justification:	Although there are several government training centres in South Sudan, there are many challenges that training centres and potential trainees are facing. The first challenge is the limited number of training centres offering courses about crop production and extension skills as well as the unstable financial condition of the Crop Training Centre Yei (CTC Yei). The second challenge is due to the limited number of training centres which are unevenly located geographically. There are 5 major government training centres in South Sudan. These training centres specialize in subsector areas such as crop production, forestry, livestock, and fisheries to offer subsector specific courses and classes. CTC Yei is the only government training centre that offers training courses related to agricultural extension and crop production. The centre offers a 3 months agribusiness extension course which is provided only once a year. Some other tailored courses are organised based on demands. Some courses are carried out by NGOs and CTC Yei provides only its facility to them. CTC Yei consists of several one floor buildings that have been used as classrooms. A dining room and dormitory halls are available for more than one hundred people. As far as space and facilities are concerned, CTC Yei has enough capacity to provide more training courses. However, it has been difficult for CTC Yei to retain sufficient qualified teaching staff due to its unstable financial situation. This problem should be addressed to enable CTC Yei to provide more training courses with higher quality. CTC Yei is located in Yei County, in the south of Central Equatoria State (CES). It is 6 to 7 hours away from Juba by road. There is another agricultural training centre called Yei Agricultural Training Centre (YATC). This centre is operated by an NGO and funded by a Norwegian government agency. The centre offers a broad range of agricultural training courses, and is located in Yei County, the same location as CTC Yei. This situation limits training opportunities for potential trainees from different parts of the country due to the distance to the existing training centres. Information about the training centres, available courses, costs, and the reputation about the centres is less available to them. State government officials are also less familiar with these two training centres because of the distances. Those officials not based close to Yei have fewer opportunities for training than those close to Yei. Therefore, considering the need for skills and knowledge about crop production and extension, the available training centres are too few. The availability of government training centres that could offer training courses about crop production and extension skills needs to be increased across the country.
(2) Objectives:	Objective of the project is to increase the number of training centres which provide courses about crop production and extension skills and to improve access for potential trainees not living close to Yei. Newly established training centres would have appropriate staff and sufficient equipment to provide a sufficient number of required training courses. At the same time, the existing training centre, CTC Yei should be strengthened so as to improve its capacity to provide training in crop production and extension.
(3) Overall description including temporal and spatial extent of project:	In the early part of the project, a detailed assessment of agricultural training needs would be conducted in each major town. Potential sites and buildings, the capacity of state governments to support the establishment and operation of training centres, and accessibility for trainees from surrounding areas would also be examined. The current situation of CTC Yei would be studied: number and contents of courses, number of trainees, facilities, equipment, trainers, annual budget and funding sources. These results will be discussed with the staff of the Directorate of Agricultural Education and Training, MAFCRD. Detailed plans to strengthen CTC Yei will be developed and implemented. Financial sources must be secured to operate the centre and recruit more teaching staff to meet expected demands for training. In the second part of this project, detailed construction/implementation plans are developed for the new training centres. It is expected that 7 new centres will be established. As construction proceeds, necessary equipment and furniture will be procured. New directors and required numbers of staff for newly established training centre will be recruited with clear terms of reference (TORs). The vision, mission, rules and annual operating plan will be developed. The newly recruited teaching staff will be trained. In consultation with state ministries, new training courses will be identified. The state

Items	Information
	ministries will select trainees for the new training centres.
(4) Component structure:	Component 1: Assessment of CTC Yei and needs for training courses in other states; plan to establish new training centres; upgrade CTC Yei Component 2: Construct and equip new training centres

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment of CTC Yei and needs for training courses in other states; plan to establish new training centres; upgrade CTC Yei Activity 1.1: Identify needs of strengthening CTC Yei and establishing agricultural training centres in other locations through interviews and site visits Outputs: Needs assessment and situation analysis report about agricultural training (Facilities for new training centres are expected to be constructed at the same compound and/or on the same land where new agricultural research centres will be constructed under the "Development of research institution infrastructure" project. Sites will mainly be selected by this project, but it would be best to jointly assess potential construction sites. Activity 1.2: Define roles and strategies; develop detailed plans for strengthening CTC Yei and the new training centres, taking account of training needs identified in other CAMP projects Outputs: Detailed plans including: operation plan, funding mechanisms, teaching quality, improvement and/or availability of curriculums and class contents, construction plan for new training centres (includes EIA), refurbishment plan for CTC Yei (includes EIA), necessary equipment and teaching materials for all planned courses (existing and new). Activity 1.3: Clarify required amount of funds and secure its source to hire new staff for CTC Yei, and maintain it and its activities Output: Clarified government budget allocation and execution process, secured source of funds and necessary amounts Activity 1.4: Refurbish CTC Yei Output: CTC Yei with improved facilities Activity 1.5: Improve teaching quality Output: CTC Yei staff are better able to teach trainees Activity 1.6: Procure necessary teaching materials Output: CTC Yei have suitable teaching materials Activity 1.7: Recruit and train new teaching staff for CTC Yei Output: Additional teaching staff at CTC Yei able to teach more trainees and courses Activity 1.8: Prepare and practice to teach new training courses Output: New training courses available for trainees Activity 1.9: Monitor and evaluate operation, management of the centre and quality of classes of CTC Yei Output: Monitoring and evaluation reports showing the impact of this project Component 2: Construct and equip new training centres Activity 2.1: Develop construction plan including EIA and select contractor to construct new training centres at selected sites Output: Detailed construction plan; selected contractor, EIA report Activity 2.2: Implement construction and monitor it Output: Constructed buildings and facilities (Agricultural training centres will be constructed on the same compound and/or on the same land as the agricultural research centres so as to strengthen the relationship between research and training functions. Activity 2.3: Recruit required staff Output: Newly employed staff start work at new training Activity 2.4: Train newly employed teaching staff Output: Teaching staff instructing the standardized curriculum with a high quality of Activity 2.5: Develop vision, mission, rules, collaboration system, detailed annual plans including training curriculums and training contents for all new training centres Outputs: Vision, mission, rules, collaboration among the training centres, annual plan, training curriculum and materials Activity 2.6: Procure necessary equipment for field practice and laboratories, furniture and teaching materials Output: Properly equipped training centres Activity 2.7: Prepare for starting the centres' activities Output: Brochures of the centres, training plans, list of trainees, schedule sheet for training. New training courses identified (in consultation with state ministries), Trainees selected by state ministries Activity 2.8: Monitor and evaluate quality of training courses at every centre Output: Monitoring and evaluation reports, used to improve

2.3 Service providers and beneficiaries

(1) Description of service	Directorate of Agricultural Education and Training of MAFCRD provides technical and

Items	Information
providers within the framework of the project:	financial support. Director and staff of CTC Yei support the project team fully. State government officers and other project staff plan and select government staff such as extension officers and other trainees to be trained.
(2) Description of beneficiaries within the framework of the project:	Government agricultural extension officers, community development officers, cooperative officers, other government officers related to agriculture, community based extension workers, NGO extension workers, selected core farmers, staff of MAFCRD

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Strengthened functions of CTC Yei with more courses and better quality of training classes • New agricultural training centres with necessary equipment and trained teaching staff • Improved and/or standardised curriculums, class contents, and teaching skills • Increased number of trainees • More effective and efficient agricultural extension services provided to farmers by trainees graduating from the centres • Improved collaboration among the agricultural training centres
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Constructing new buildings for establishing 7 training centres will create some negative environmental impacts. For example, upon constructing buildings and facilities, large areas of land clearance might be necessary. • Staff and students will use water in the dormitories and dining hall. Therefore, development of guidelines to minimize environmental impacts is suggested. (Positive) • Strengthening CTC Yei and the creation of more training opportunities through establishing new training centres will have a positive impact for improving quality and availability of agricultural extension services.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of available and implemented classes at CTC Yei • 9 teaching staff working at CTC Yei
(2) Measurable indicators and situation at the end point:	• Number of agricultural training centres (7 new ones, 8 in total) • Number of available and implemented classes at CTC Yei and other new training centres • Number of teaching staff at CTC Yei and other established training centres (sex disaggregated) • Amount of budget and number of funding source for CTC Yei and other new training centres
(3) Methods of measurement and sources of information:	Records of training centres, reports from the training centres to MAFCRD, monitoring and evaluation report, other project reports
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agricultural Education and Training of MAFCRD, state Ministries of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	Capacity building will be the basic principle in the project, but some activities are outsourced to outside experts since the project period is limited. Cooperative relationships with the state government officers are important for smooth project implementation. Number of administration staff for the CTC Yei should remain the same.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one senior staff from the Directorate of Agricultural Education and Training) • Project staff (three staff, one from the Directorate of Agricultural Education and Training, one from the Directorate of Planning, and one from Directorate of Agriculture Production and Extension Services) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • State government staff, when their state is selected for establishment of a training centre, will cooperate and support project implementation
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Education and training (BA, 5-years experience or more): One • Agronomy (BSc or BA, 10-years experience or more): One • Project coordinator (BA in Education or Agriculture, 3-years experience or more): One • Trainers to train new teaching staff and improve teaching quality (BA, 7 years experience or more, expected to be outsourced locally or nationally): Two

Items	Information

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered. • Difficulties of finding sufficiently large and accessible lands in each selected location to establish new training centres • Difficulties of clarifying and/or securing government budget allocation and execution to strengthen CTC Yei and establish new training centres • Difficulties of finding sufficient qualified teaching staff • Difficult to find appropriate construction companies in a timely manner • Insecurity and conflicts at target sites and interview sites • Unfavourable road conditions to implement the project	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• Selection of the locations to establish new training centres will be carried out by the "Development of research institution infrastructure" project, but it should be jointly conducted with this project as much as possible, in order to find the most appropriate locations with sufficient land. If it is difficult to conduct the needs assessment jointly, close communication between the staff of these two projects will help. • Securing budget to operate all the training centres is critical to maintain the impact of the project in the long term. Staff salaries and general operation costs of the training centres are provided from the government budget, but cost recovery efforts need to be made by all the training centres. • Facilities for the training centre in Yambio are planned to be shared with the agricultural vocational training centre planned for Yambio, but the facilities are constructed by this project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic monitoring on training courses at all the training centres should be conducted by the Directorate of Agricultural Education and Training of MAFCRD jointly with staff of the training centres. Directorate of Agricultural Education and Training of MAFCRD should make certain that the quality and variety of training courses meets the needs of trainees in the long term.

01.16 Strengthening and establishment of training institution infrastructure project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**4,442**	**3,522**	**3,283**	**329**	**329**	**329**	**329**	**329**	**329**	**450**														**13,672**	**3,418**	**18%**
1 Deployment of government staff			**325**	**88**	**29**	**29**	**29**	**29**	**29**	**29**	**29**	**29**														**641**	**160**	**1%**
1 Assessment survey (per diem)			57																							57	14	0%
2 Assessment survey (transportation)			27																							27	7	0%
3 Workshop for detail planning (per diem)			45																							45	11	0%
4 Workshop for detail planning (transportation)			30																							30	8	0%
5 Workshop for curriculum development (per diem)			32																							32	8	0%
6 Workshop for curriculum development (transportation)			21																							21	5	0%
7 Monitoring & evaluation of centres (per diem)					14	14	14	14	14	14	14	14														108	27	0%
8 Monitoring & evaluation of centres (transportation)					15	15	15	15	15	15	15	15														120	30	0%
9 Workshop for detail construction plan (per diem)			54																							54	14	0%
10 Workshop for detail construction plan (transportation)			60																							60	15	0%
11 Meeting for vision, mission, etc. for new centres (per diem)				18																						18	5	0%
12 Meeting for vision, mission, etc. for new centres (transportation)				20																						20	5	0%
13 Meeting for development of curriculum for new centres (per diem)				30																						30	8	0%
14 Meeting for development of curriculum for new centres (transportation)				20																						20	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)			**3,854**	**3,434**	**3,254**	**301**	**301**	**301**	**301**	**301**	**301**	**421**														**12,768**	**3,192**	**17%**
1 International consultant (project management)			1,080	1,080	1,080	180	180	180	180	180	180	180														4,500	1,125	6%
2 International consultant (education and training)			907	907	907	38	38	38	38	38	38	76														3,024	756	4%
3 International consultant (agronomy)			540	540	360	45	45	45	45	45	45	90														1,800	450	2%
4 International consultant (project coordination)			907	907	907	38	38	38	38	38	38	76														3,024	756	4%
5 Local expert (trainer to teaching staff)			420																							420	105	1%
4 Implementation of staff training			**263**																							**263**	**66**	**0%**
1 Training session for new teaching staff (per diem)			158																							158	39	0%
2 Training session for new teaching staff (transportation)			105																							105	26	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment			**33,137**	**30,559**																						**63,696**	**15,924**	**82%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings			**31,247**	**30,047**																						**61,294**	**15,324**	**79%**
1 Repair of facilities in CTC Yei			1,200																							1,200	300	2%
2 Construction of 7 new training institution facilities			30,047	30,047																						60,094	15,024	78%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles			**1,400**																							**1,400**	**350**	**2%**
1 vehicles for new training institutions			1,400																							1,400	350	2%
7 Procurement of equipment			**490**	**512**																						**1,002**	**251**	**1%**
1 Training equipment for CTC Yei				22																						22	6	0%
2 Training equipment for new centres			490	490																						980	245	1%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												

01.16 Strengthening and establishment of training institution infrastructure project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			37,579	34,082	3,283	329	329	329	329	329	329	450														77,368		100%
Total (USD '000)			9,395	8,520	821	82	82	82	82	82	82	112															19,342	
% to total			49%	44%	4%	0%	0%	0%	0%	0%	0%	1%														100%		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.17 Enhancement of private sector agro-input providers project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop		
(2) Project name:	Enhancement of private sector agro-input providers project		
(3) Project ID:	0 1 . 1 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2018/19	Ending FY: 2027/28	Duration (years): 10
(5) Total investment:	SSP 20,710,000	USD 5,178,000	Note: Not including recurrent cost
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx		

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA8	Agricultural inputs	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	303	PS-TR	Private sector- Trade	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Although South Sudan has high potential in its agriculture, yields and efficiency of production are lower than other countries in the region. According to the CAMP Situation Analysis (SAR), most farmers surveyed spend little on inputs such as fertilisers, pesticides, and quality seeds. This was mainly because it was costly and it would be difficult to make a profit, if they used agricultural inputs. This tendency was seen across the country in the SAR. Most farmers have not used either fertilisers or pesticides, so if they could use them, there would be a high possibility to increase yields and to reduce the risk for crops to be damaged by pests. However, there are no standards or regulations about appropriate use for fertilisers and pesticides. Most farmers, even extension officers, have little knowledge about how to use fertilisers and pesticides. Lack of standards and regulations increase the risks of finding low quality and/or adulterated fertilisers and pesticides in the markets. The number of agro-input providers is also limited. They are only found in five out of the ten states according to the SAR. This situation restricts the opportunities for farmers to have access to safe and quality fertilisers and pesticides at affordable prices. Accessibility and price are critical factors for farmers to determine whether they use fertilisers and pesticides or not. This needs to be improved through this project. Additionally, the difficult business environment for agro-input providers hampers business opportunities for both current and potential agro-input providers. The government needs to provide tax exemptions and lower interest rates for loans. Weak purchasing power is another obstacle for agro-input providers to overcome. Establishment of local, regional, and/or national associations of agro-input providers would help the members to purchase agricultural inputs in bulk with lower costs. Technical support to establish associations would strengthen the business capacity of agro-input providers. Limited information, about existing domestic importers, foreign agro-input providers, and manufacturers of agricultural inputs, restrains business opportunities for agro-input providers. Linking these actors would enhance business opportunities and create new value chains for trading agricultural inputs. Correct information about how to use fertilisers and pesticides safely will be essential to promote the use of agricultural inputs by farmers. Thus, training will be provided to agro-input providers and Agricultural Extension Workers (AEOs), Community Development Officers (CDOs), Cooperative Officers (COs), and NGO staff so that they can inform farmers and Community Based Extension Workers (CBEWs) about the correct use of fertilisers and pesticides.
(2) Objectives:	• Increased number of domestic private sector agro-input providers • Better business capacity of agro-input providers • Conducive business environment for potential and existing agro-input providers
(3) Overall description including temporal and spatial extent of project:	Creating a conducive business environment for agro-input providers and building the capacity of existing and potential private sector agro-input providers will be critical aspects of the project so as to enhance the availability of agro-inputs in South Sudan. The development of legislation (laws, standards and regulations) about fertiliser and pesticide use will be carried out in the first six months of the project. Parliamentary approval etc. may take time, but the project should support this. Project activities will continue based on the draft legislation. The new legislation will first be applied to major cash crops and staple crops so as to increase yields with the use of fertilisers and pesticides; other crops will follow. Legislation to improve the business environment for agro-input providers will be developed in the first and second years of the project. Again parliamentary approval etc. will take time and the project will support this. Preparation and provision of training on the correct use of fertilisers and pesticides, as well as business management, will be implemented in the third year. Training sessions will be carried out every year for current and potential agro-input providers. These training sessions will be provided by the government agriculture training centres at various locations. Thus, staff at the training centres need to be trained to deliver the sessions. Strengthening linkages between stakeholders, such as domestic agro-input providers, foreign agro-input providers, foreign manufacturers and importers of agro-inputs, is an important activity. Holding forums involving current and potential domestic providers would

Items	Information
	create business opportunities. Forums including domestic and foreign providers are planned to be held towards the end of the third year of the project. These forums will be held across the country depending on the progress of business development and availability of agro-input providers.
(4) Component and activity structure:	Component 1: Establishment of national standards and regulations about fertiliser and pesticide use Component 2: Establishment of conducive business environment for agro-input providers Component 3: Provision of training to potential and existing agro-input providers about starting and operating a business, and how to use fertilizers and pesticides Component 4: Strengthen and/or create linkages with domestic and foreign agro-input providers and manufacturers of agro-inputs

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs	Component 1: Establishment of national standards and regulations about fertiliser and pesticide use Activity 1.1: Conduct assessment on current situation of fertiliser and pesticide use across the country Outputs: Assessment report, confirmed current situation of fertiliser and pesticide use Activity 1.2: Conduct assessment on current situation of fertiliser and pesticide use in neighbouring countries (Kenya and Uganda) Outputs: Assessment report, current situation of fertiliser and pesticide use in nearby countries includes existing exporters of agro-inputs and manufacturers Activity 1.3: Develop draft legislation (national act, standards and regulations) and guidelines and manuals for fertiliser and pesticide use based on the results of the assessments Outputs: Draft legislation, guidelines, and manuals for fertiliser and pesticide use (Activities 1.3 and 1.4 need to be coordinated closely with "Establishment of a National Phytosanitary System project.". Legislation etc. for seeds will be developed by the "Quality standards and quality control for agricultural products project." One officer from state ministry of agriculture will be invited from each state. Rest of the participants will come from Juba. Core staff from the "Establishment of a National Phytosanitary System project" and "Quality standards and quality control for agricultural products project." will also be invited.) Activity 1.4: Support MAFCRD to submit draft legislation with guidelines and manuals for fertiliser and pesticide use to parliament for approval Outputs: Approved legislation, guidelines, and manuals for fertiliser and pesticide use (the new legislation will first be applied to major cash crops and staple crops so as to increase yields with the use of fertilisers and pesticides; other crops will follow.) Activity 1.5: Distribute legislation, guidelines, and manuals for fertiliser and pesticide use to concerned people Outputs: Commonly understood and accepted legislation, guidelines, and manuals for fertiliser and pesticide use by government officers of MAFCRD, state Ministry of Agriculture and AEOs, CDOs, COs, and CBEWs as well as aid organisations and agro-input providers Component 2: Establishment of conducive business environment for agro-input providers Activity 2.1: Conduct baseline survey on current number of agro-input providers and details of their business, business environment for agro-input providers, and existence of potential agro-input providers Outputs: Baseline survey report including numbers and other detailed information about existing and potential agro-input providers Activity 2.2: Support developing and passing a bill to provide tax exemptions to existing and newly established private sector agro-input providers for the first ten years of business Outputs: Tax exemptions for newly established private sector agro-input providers for the first ten years of business Activity 2.3: Support developing and passing a bill to make loans available to private sector agro-input providers at lower interest rates from a government bank for the first ten years of business Outputs: Lower interest rate loans available to private sector agro-input providers for the first ten years of business (these loans may be from the existing government bank - Agricultural Bank of South Sudan) Activity 2.4: Support formation of associations for agro-input providers Outputs: Established and functioning associations of agro-input providers (regional and/or state-wide) so as to purchase fertilisers and pesticides in bulk at lower prices Activity 2.5: Establish monitoring system for compliance with the act, standards, and regulations as well as the bills for tax exemption and credit system for private sector agro-input providers Outputs: Knowledge of compliance with the act, standards, regulations, tax

Items	Information
	exemptions and credit system related to fertilisers and pesticides, and agro-input providers Activity 2.6: Provide ongoing technical support to agro-input providers and established agro-input associations on business development and management, and fertiliser and pesticide use Outputs: Technically supported agro-input providers with up to date knowledge Component 3: Provision of training to potential and existing agro-input providers about starting and operating a business, and how to use fertilizers and pesticides Activity 3.1: Develop training plans, curriculums, training contents, and materials about appropriate ways to handle and use fertilisers and pesticides Outputs: Training plans, curriculums, contents and materials developed Activity 3.2: Conduct training for trainers about fertiliser and pesticide use Outputs: Trainers of the government training centres knowledgeable and able to provide training on fertiliser and pesticide use Activity 3.3: Provide training to current and potential agro-input providers about appropriate use of fertilisers and pesticides Outputs: Current and potential agro-input providers knowledgeable about appropriate use of fertilisers and pesticides (Training includes information about standards and regulations about fertiliser and pesticide use. This activity should be closely coordinated with "Establishment of a National Phytosanitary System project" to avoid duplication of the contents as well as maximising effects of training that each project will provide.) Activity 3.4: Provide training to AEOs, CDOs, COs, and NGO staff about appropriate use of fertilisers and pesticides Outputs: AEOs, CDOs, COs, and NGO staff knowledgeable about fertiliser and pesticide use (Training includes information about standards and regulations about fertiliser and pesticide use. Key information will be shared with CBEWs by AEOs, CDOs, and COs through their routine work.) Activity 3.5: Develop training plans, curriculums, training contents, and materials about business development and management Outputs: Training plans, curriculums, training contents, and materials Activity 3.6: Provide training to potential agro-input providers about business development and management Outputs: Potential agro-input providers knowledgeable about business development and management (Training includes information about bills about tax exemptions, lower interest rates of loans, and establishment of associations.) Component 4: Strengthen and/or create linkages with domestic and foreign agro providers and manufacturers of agro-inputs Activity 4.1: Develop a list of foreign exporters and manufacturers, and domestic importers of agro-inputs with their profiles Outputs: List of foreign exporters and manufacturers, and domestic importers of agro-inputs with their profiles Activity 4.2: Organise a forum for domestic agro-input providers and potential agro-input providers to exchange information about business management as well as opportunities Outputs: Information about business skills and opportunities provided to potential domestic agro-input providers by existing domestic agro-input providers Activity 4.3: Organise a forum to match foreign exporters, foreign manufacturers, domestic importers of agro-inputs, domestic agro-input providers and/or potential agro-input providers, and domestic seed growers to create business opportunities Outputs: Exchanged information about each other's business and contacts among participants (Establishing a business linkage between agro domestic agro-input providers and domestic seed growers will be important.) Activity 4.4: Conduct end of project survey to identify availability of fertilisers and pesticides as well as business situations of agro-input providers in 10 states Outputs: Survey report

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Agriculture Production and Extension Services, private sector agro-input providers, importers of agro-inputs
(2) Description of beneficiaries within the framework of the project:	Direct beneficiaries are private sector agro-input providers. Indirect beneficiaries are farmers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Regulatory framework and standards for fertiliser and pesticide use are clarified. • More agro-input providers are available across the country. • More agricultural inputs which meet standards will become available at markets with

Items	Information
	lower prices. • Linkages among agricultural agro-input providers, exporters, and manufacturers are strengthened and business opportunities are enhanced.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) Not applicable

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) No significant negative environmental impacts are expected because there is no construction planned through the project. No negative social impacts are expected either. However, if standards and regulations are not complied with, inappropriate use of pesticides (for example, excessive use) may cause negative environmental impacts to both soil and human bodies. (Positive) The project will help enhance business opportunities for domestic agro-input providers and improve the availability of fertilisers and pesticides. Improvement of accessibility of fertilisers and pesticides with lower prices would help farmers increase their yields and protect their crops from pests and diseases. Adopting standards and complying with the regulations for fertiliser and pesticide use would ensure their quality. An increase in production volumes of agricultural products would create opportunities for farmers to improve their incomes and enhance their business opportunities.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and varieties of fertilisers and pesticides available in South Sudan • Prices of available fertilisers and pesticides in South Sudan • Number and locations of existing agro-input providers in South Sudan
(2) Measurable indicators and situation at the end point:	• Existence of standards and regulations for fertilisers and pesticides • Number and varieties of fertilisers and pesticides available in South Sudan • Prices of available fertilisers and pesticides in South Sudan • Number and locations of existing agro-input providers in South Sudan • Knowledge level of agro-input providers and other concerned people about appropriate use of fertilisers and pesticides • Number and locations of associations for domestic agro-input providers
(3) Methods of measurement and sources of information:	Research report, survey report, training records, legislation, project reports, other government documents, other related project reports
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension Services, Directorate of Plant Protection, state Ministries of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	Capacity development of agro-input providers in business management and appropriate knowledge about agricultural products will be the key for the success of this project. Thus, finding potential and committed agro-input providers and supporting them will be crucial.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3 or 4) • Project staff from MAFCRD (three staff, one staff from the Directorate of Agricultural Production and Extension Services, one staff from Directorate of Plant Protection, one from the Directorate of Research) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • Senior inspector in the state Ministry of Agriculture (one from each state as a focal point) (These project staff from the state Ministry of Agriculture support the above project team to implement the project.)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Quality control about agro-inputs (BA or BSc, 10-years experience or more): One • Business development and trade (BA or BSc, 10-years experience or more): One • Training and project coordination (BA or BSc, 5-years experience or more): One Training will be provided by government training centres. Baseline and end of project survey in 10 states will be outsourced to local NGOs and/or local consultants

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	• Compliance with the standards and regulations will influence the availability of quality fertilisers and pesticides. Regulatory enforcement will be important to reduce the availability of non-standard fertilisers and pesticides at markets.	

Items	Information
	• Limited access to financial support from financial institutions for agro-input providers would constrain their business opportunities. • Lack of marketing and opportunities for bulk buying would keep prices high

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• This project is related to "Quality standards and quality control for agricultural products project." and "Establishment of a National Phytosanitary System project." Thus, it will be necessary to hold periodical meetings among the project staff of these three projects to have a collaborative relationship among them. It would be ideal to conduct monitoring and evaluation on fertiliser and pesticide use as well as identification of agro-input providers with the staff of these two projects. • Establishing a value chain linkage between domestic agro-input providers and domestic seed growers, which would be supported by the "Quality standards and quality control for agricultural products project", through the matching forum will be important to utilise existing resources to lower the cost and prices of agro-inputs. • Development of legislation (act and regulations) to submit to parliament will be critical for enforcement of standards developed. This must be done swiftly after collecting all the necessary information and discussing with the stakeholders.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Monitoring and evaluation on compliance with the regulations as well as identifying availability of fertilisers and pesticides which meet the standards should be routine activities during and after the completion of the project. Follow up on trained agro-input providers should also be a part of routine activities during and after the completion of the project to assess and support their business development. Hence, budget for these routine activities needs to be included as a budget item of the Directorate of Agriculture Production and Extension Services, the Directorate of Plant Protection, and state Ministries of Agriculture.

01.17 Enhancement of private sector agro-input providers project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project				**3,450**	**2,164**	**3,993**	**2,993**	**785**	**853**	**785**	**853**	**785**	**1,521**													**18,181**	**4,545**	**88%**
1 Deployment of government staff				**176**	**34**		**58**	**126**	**194**	**126**	**194**	**126**	**126**													**1,161**	**290**	**6%**
1 Assessment survey (per diem)				48																						48	12	0%
2 Assessment survey (transportation)				128																						128	32	1%
3 Meetings for establishment of associations (per diem)					16																					16	4	0%
4 Meetings for establishment of associations (transportation)					18																					18	5	0%
5 Technical support visit (per diem)							22	22	22	22	22	22	22													151	38	1%
6 Technical support visit (transportation)							36	36	36	36	36	36	36													252	63	1%
7 Organize forums for domestic traders at Juba (per diem)								16	16	16	16	16														81	20	0%
8 Organize forums for domestic traders at Juba (transportation)								18	18	18	18	18														90	23	0%
9 Organize forums for domestic traders at states (per diem)								16	16	16	16	16														81	20	0%
10 Organize forums at domestic traders states (transportation)								18	18	18	18	18														90	23	0%
11 Organize forums for foreign traders at Juba (per diem)									16		16		16													49	12	0%
12 Organize forums for foreign traders at Juba (transportation)									18		18		18													54	14	0%
13 Organize forums for foreign traders at states (per diem)									16		16		16													49	12	0%
14 Organize forums at foreign traders states (transportation)									18		18		18													54	14	0%
2 Procurement of administrative services (contracted)					**70**																					**70**	**18**	**0%**
1					70																					70	18	0%
3 Procurement of professional services (contracted)				**3,184**	**2,059**	**2,613**	**1,984**	**659**	**659**	**659**	**659**	**659**	**1,395**													**14,528**	**3,632**	**70%**
1 International consultant (project manager)				729	567	648	567	243	243	243	243	243	324													4,050	1,013	20%
2 International consultant (quality control about agro-inputs)				720	560	640	560	160	160	160	160	160	320													3,600	900	17%
3 International consultant (business development and trade)				810	630	720	630	180	180	180	180	180	360													4,050	1,013	20%
4 International consultant (training and project coordination)				605	302	605	227	76	76	76	76	76	151													2,268	567	11%
5 Local consultant (baseline and end line surveys)				320									240													560	140	3%
4 Implementation of staff training				**90**		**1,380**	**952**																			**2,422**	**606**	**12%**
1 Meetings for legislation, guideline and manuals (per diem)				90																						90	23	0%
2 Meetings for establishment of monitoring system (per diem)						8																				8	2	0%
3 Meetings for establishment of monitoring system (per diem)						6																				6	2	0%
4 Meetings for establishment of monitoring system (transportation)						9																				9	2	0%
5 Meetings for training plans (per diem)						4																				4	1	0%
6 Meetings for training plans (transportation)						4																				4	1	0%
7 Trainers training (per diem)						47																				47	12	0%
8 Trainers training (transportation)						12																				12	3	0%
9 Trainings for AEOs, CDOs, COs at CTC Yei (per diem)						264																				264	66	1%
10 Trainings for AEOs, CDOs, COs at CTC Yei (transportation)						72																				72	18	0%
11 Trainings for AEOs, CDOs, COs at states (per diem)						880	880																			1,760	440	9%
12 Trainings for AEOs, CDOs, COs at states (transportation)						72	72																			144	36	1%
13 Meeting for training plan on business development (per diem)						1																				1	0	
14 Meeting for training plan on business development (per diem)						1																				1	0	
15 Meeting for training plan on business development (transportation)						1																				1	0	
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												

01.17 Enhancement of private sector agro-input providers project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans						**235**	**60**	**150**	**625**	**150**	**625**	**150**	**535**													**2,530**	**632**	**12%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector						**235**	**60**	**150**	**625**	**150**	**625**	**150**	**535**													**2,530**	**632**	**12%**
1 Meetings for association of agro input providers						150																				150	38	1%
2 Trainings for agro-input providers						30	30	30	30	30	30	30	30													240	60	1%
3 Trainings for NGOs at states (per diem)						3																				3	1	0%
4 Trainings for NGOs at states (transportation)						22																				22	5	0%
5 Trainings for potential agro-input providers						30	30	30	30	30	30	30	30													240	60	1%
6 Forums for domestic traders (per diem)								90	90	90	90	90														450	113	2%
7 Forums for foreign traders (per diem)									75		75		75													225	56	1%
8 Forums for foreign traders (transportation)									400		400		400													1,200	300	6%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)				**3,450**	**2,164**	**4,228**	**3,053**	**935**	**1,478**	**935**	**1,478**	**935**	**2,056**													**20,710**		**100%**
Total (USD '000)				**862**	**541**	**1,057**	**763**	**234**	**370**	**234**	**370**	**234**	**514**														**5,178**	
% to total				**17%**	**10%**	**20%**	**15%**	**5%**	**7%**	**5%**	**7%**	**5%**	**10%**													**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.18 Enhancement of tractor hire service provider project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop							
(2) Project name:	Enhancement of tractor hire service providers project							
(3) Project ID:	0	1	.	1	8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY:	2017/18		Ending FY:	2026/27		Duration (years):	10
(5) Total investment:	SSP 8,936,000			USD 2,234,000			Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA4	Private sector projects and businesses	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services-	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev.- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	For commercial farming to progress and be successful in South Sudan, mechanization through the use of tractors and tractor implements is essential. Large scale farming can simply not take place without the availability of tractors. It is not feasible for every farmer in South Sudan to purchase a tractor because of the extremely high cost. However, farmers can contract with tractor service providers to do the farm work necessary. Tractor services provides a good service for both the private tractor owner who makes a living providing this service, and of course the farmer who benefits from growing and harvesting crops without needing expensive capital input. The major constraint facing South Sudan however is the low number of tractors. Agriculture production is increasing, thus increasing the demand for tractor services. The current number of tractors providing services in the country is not adequate. There are further constraints with mechanization in South Sudan. The tractors that do exist and provide services are not well maintained because of a lack of technical knowledge of the tractor owners and mechanics. Spare parts are also difficult to find and must be imported from surrounding countries which takes time. When utilizing tractor services time is important and waiting unproductive. The work needs to be done in a very short time frame, such as harvesting crops within a certain period. Tractors that break down and cannot receive spare parts quickly hurt the income of the farmer and the owner providing the tractor service. Tractors are not the only mechanized farm equipment lacking in South Sudan. A tractor is no good without the appropriate implements to complete the farm work. Implements include equipment that is attached to the back of the tractor and powered by the tractor using a power-take off (PTO) system. Examples of implements include cultivators, discs, harrows, seed drills, broadcast seeders, fertilizer spreaders, and large pesticide spray tanks. Implements are needed to plough the fields, then ploughed fields must be smoothed out with a harrow for seed bed preparation. Seed drills are needed to plant the seeds. Spray tanks are used to kill noxious weeds and harmful insects once the crops start to grow. Fertilizer spreaders spread fertilizer across the fields periodically throughout the year to improve soil fertility. There is an immediate need for public technical assistance in South Sudan for private sector tractor service providers, in the areas of tractor maintenance and repair, proper use of tractors and their implements for crop production, and linkages provided between tractor owners and spare parts dealers.
(2) Objectives:	• Provide in-depth training and technical assistance to tractor service providers and their employees in the areas of tractor and implement maintenance and repair. • Create tractor service provider associations to enable individuals to access parts and equipment with increased ease due to operating as a “cooperative” group instead of individuals • Identify potential private investors willing to start new tractor service businesses and provide linkages with the government and NGO’s for tax breaks and credit services. • Identify potential private sector individuals willing to start spare part supply chains in South Sudan and provide technical assistance for them in creating this business.
(3) Overall description including temporal and spatial extent of project:	Tractor service is a business and therefore led and developed by the private sector. The public sector will play an important role is providing technical assistance and training to the private sector utilizing international and national experts. The government will also play a key role in adopting policies that enable transparent and simple import processes for private sector individuals to bring in tractors, implements, and spare parts. The customs process must be simplified and high customs taxes eliminated. Also there must be tax break policies in place for those individuals wanting to start spare part businesses, tractor mechanic shops, and tractor/implement dealerships within the country. The government could be an enormous hindrance to commercial agriculture in South Sudan if they do not create a conducive, honest, and transparent system that welcomes private investment. MAFCRD extension officers in partnership with international consultants will need to conduct an in-depth survey of the current operational tractor service companies, skill level of tractor mechanics, where spare parts are being purchased, and what the government needs to do provide a more conducive atmosphere for this industry. While this assessment is taking place, promotion of tractor service business opportunities will take place and individuals interested in investing in this type of business will be recorded. Public sector experts both international and national will then work with these private investors and newly formed producer associations to enable the businesses to progress successfully.
(4) Component structure:	Component 1: Assessment and increase awareness Component 2: Creation of tractor service associations

Items	Information
	Component 3: Training, program development, and creation of linkages Component 4: Technical assistance for newly started tractor service businesses Component 5: Technical assistance for the establishment of private sector tractor spare parts supply chain

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:

Component 1: Assessment and increase awareness

Activity 1.1: An assessment team consisting of international and national specialists will conduct a 6 month assessment of the utilization of tractor service providers, skill level of mechanics working on tractors and equipment, types of implements available for tractor work, and where tractor owners are obtaining their spare parts. During the time the assessment is being conducted this same team will look to recruit private investors that are willing to start new tractor service business and/or spare part supply stores. Also a list of individuals interested in forming tractor service associations will also be recorded for later use.

Outputs: Up to date knowledge of the tractor service providers and their business. List of potential investors. The assessment team will consist of the following:

- 1- international assessment consultant
- 2- MAFCRD extension officers with experience in farm mechanization
- This assessment team will take 6 months to gather data, analyse results, and publish an assessment document. The assessment campaign will take place in all 10 states.

Component 2: Creation of tractor service associations

Activity 2.1: A team consisting of international and national specialists will take the recorded list of interested farmers provided by the assessment team and work to form government registered tractor service associations.

Outputs: Registered tractor service associations. At least 2 trips will be made to each state by the association development team (20 trips total). The association development team will consist of the following people:

- 1- international consultant specializing in producer association development.
- 1- international farm machinery consultant
- 2- MAFCRD extension officers with experience in farm mechanization
- 10- state agricultural extension officers (AEOs) (1 per state).
- This output will take 6 months to complete. A state extension specialist would only be utilized when the main association team visits the state where that particular state specialist is assigned.

Component 3: Training, program development, and creation of linkages

Activity 3.1: A training team consisting of international and national consultants will create training curriculum on the following subjects: creating by-laws for producer associations; producer association operating procedures; and utilizing producer associations for better economic returns; tractor and implement maintenance schedules, implements available for various stages of crop production, tractor safety, most common problems associated with tractors and implements and spare parts that should be stock-piled to address these problems, basic mechanical repairs for tractors and implements.

Outputs: Trained tractor service providers able to provide a timely, quality service.

The training team will consist of the following

- 1- international producer association consultant
- 1- international farm machinery consultant
- 2- MAFCRD extension officers with experience in farm mechanization
- 10- state AEOs
- Approximately 50 AEOs at county level. These county workers would only be utilized when training are taking place in the county or adjoining counties where they are assigned and/or reside.
- The team national team consisting of the 2 international consultants and 2 MAFCRD officers will take 3 months to create the training curriculum. Once the training curriculum is developed then training will take place for each of the newly developed tractor service provider associations. It is expected that there will be at least 1 tractor service association in each state.

Approximate training schedule:

- Approximately 50 farmers per state including 1 state extension specialist and 5 county workers, total would be approximately 56 people per state. Initial training would take place for 5 days, 8 hours per day. The initial training would take place once in each state. After all the states have received the initial training, a second training phase would take place again consisting of 5 days, 8 hours per day for each of the 10 states. The first state trained during the initial training would be the same state where the second phase of training would begin.

Items	Information
	• Total training time for both initial and second phase training would be 6 months. • Once the AEOs at state and county level are trained by the international and national team they would then be expected to provide follow up training and routine technical assistance to farmers. Component 4: Technical assistance for newly started tractor service businesses Activity 4.1: A team consisting of international and national consultants will work individually with private investors who have expressed interest in starting tractor service businesses. This team will also work privately with those tractor service providers that are already functioning. Outputs: New and current tractor service providers understand their business better. A team of the following individuals will work with interested private sector individuals: • 1- international agribusiness consultant with experience in farm machinery • 1- international farm machinery consultant • 2- MAFCRD extension officers with experience in farm mechanization This specialized training team would work directly with the individuals at their farms on in-depth training including business management, financial record keeping, marketing of their services, tractor and implement mechanical maintenance and repair, improved methods of crop production utilizing mechanization, and creating linkages with tractor and implement dealers in regional countries. The training team would travel to the individual's farm for "hands on" training. It is possible that a number of interested people in close proximity could travel to participate in training at just one location instead of the training team traveling to each individual location. This training would consist of 8 hours per day, 5 days per week for 4 weeks at each location. It is hard to predict how many private investors will come forward wanting to start this type of business. An anticipated training schedule would be 10 locations for a total of 40 weeks of training. Component 5: Technical assistance for the establishment of private sector tractor spare parts supply chain Activity 4.1: A team consisting of international and national consultants will work individually with those individuals (identified during the farm machinery assessment) wanting to start a spare parts supply chain business. Outputs: 5 new tractor dealerships. A team consisting of the following will work with at least 5 private sector individuals for a period of 1 year: • 1- international agribusiness consultant with experience in farm machinery • 1- international farm machinery consultant • 2- MAFCRD extension officers with experience in farm mechanization This team will provide technical assistance by helping to create linkages with the government, NGOs and regional supply companies in obtaining credit and import licenses to bring in tractors, implements, spare parts, and other farm machinery to sell in South Sudan. The team consisting of the 4 specialists and 5 private investors would travel to at least 3 regional countries in Africa to see how successful farm machinery stores operate. Each trip would consist of 1 week. Total would be 9 people for 3 total weeks in regional African countries.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers would be international consultants with experience in conducting surveys and/or assessments; organizing producer associations; extensive experience with tractors and farm machinery and overall agriculture experience. From the public sector national MAFCRD extension officers with extensive experience in farm mechanization would be utilized along with state and county extension workers.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are commercial farmers who will benefit from the availability of tractors and implements to plant and harvest their crops. Secondary beneficiaries are tractor service providers, equipment dealers and farm input suppliers that would benefit from increased business due to more farm machinery available and well trained individuals utilizing the machinery.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Commercial farmers with no access to tractor mechanization will benefit from tractor service providers for planting, harvesting, spraying, and fertilizing their crops. This available technology will increase yields for farmers thus increasing their income and create overall food security for the people of South Sudan.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society

Items	Information	
right):		c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Through the project, if more tractor hire services are available, more tractors would be operated on a normal road to move from a place to place. Hence, tractors may damage a road surface and/or become a cause of traffic accidents. More injuries during the tractor operation may occur, if the numbers of tractor hire services are larger. Additionally, if more tractors are used, there is a possibility that many trees are cut down to make land available for farming. It may cause significant negative environmental impacts. Therefore, appropriate land use plan needs to be developed before the numbers of the tractor hire services are increased. (Positive) • Increased capacity for commercial farmers to increase yields, increase incomes, and provide food security for South Sudan through the use of modern tractors and implements. The impacts on farmers are expected to be significantly positive.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Inadequate data on farmers utilizing tractors and implements.
(2) Measurable indicators and situation at the end point:	Number of trained tractor service providers starting new businesses.
(3) Methods of measurement and sources of information:	Registered producer association records, training attendance sheets, annual reports from state and county extension workers.
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension services- Department of Agricultural Mechanization and Department of Extension Services

2.7 Required human resources

(1) Principle of human resources management:	International consultants with at least a Master's degree would be needed for providing technical assistance in the form of conducting assessments, organizing producer associations, and farm machinery expertise. Mid-career level MAFCRD extension officers at the national level and entry level to mid-level state and county extension workers would be needed at the state and local levels.
(2) Required human resources in the public sector (Positions, grades and numbers):	Public sector human resources would consist of the following: • 2- MAFCRD officers with experience in farm mechanization and extension work (mid-level specialists) • 10- state AEOs (entry or mid-level specialists) • Approximately 50 AEOs at county level (entry or mid-level specialists)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- international producer association consultant. 1 year assignment • 1- international farm machinery consultant. 2 ½ year assignment • 1- international agribusiness consultant. 2 year assignment • 1- international assessment consultant. 6 month assignment

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project is high. Tractors and implements are dangerous equipment that kills hundreds of people each year in farm accidents. Tractor safety training will need to be conducted for all tractor service providers. • Possible difficulties to find sufficient numbers of private investors • Insecurity (armed insurgence and ethnic clashes) at project sites and/or nearby areas • Thefts of tractors and implements • Unavailable spare parts for tractor maintenance • Unfavourable conditions of access roads to reach beneficiaries' fields • Gender disparity (negative cultural and customary practices)	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This will be a private sector led project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2- MAFCRD officers with experience in farm mechanization and extension work (mid-level specialists) • 10- state AEOs (entry or mid-level specialists) • Approximately 50 AEOs at county level (entry or mid-level specialists) Other on-going expenses: • Laptops for each worker • Transportation allowance for workers to provide routine technical assistance to farmers in their assigned states and counties. • Communication allowances (cell phone and internet) • Routine office supplies and maintenance

Items	Information
	Please note: The above routine human resources and expenses are duplicated from the CAMP “Enhancement of animal power utilization” project. This will need to be taken into consideration for costing purposes.

01.18 Enhancement of tractor hire service providers project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**3,783**	**3,015**	**540**	**89**	**89**	**539**	**89**	**89**	**89**	**539**														**8,861**	**2,215**	**99%**
1 Deployment of government staff			**303**	**75**																						**378**	**94**	**4%**
1 Assessment survey (per diem)			38																							38	9	0%
2 Assessment survey (transportation)			18																							18	5	0%
3 Association formulation trip (per diem)			32																							32	8	0%
4 Association formulation trip (transportation)			36																							36	9	0%
5 Trainings at states (per diem)			19	19																						38	9	0%
6 Trainings at states (transportation)			9	9																						18	5	0%
7 Technical support to newly started tractor services (per diem)			42	42																						84	21	1%
8 Technical support to newly started tractor services (transportation)			5	5																						10	3	0%
9 Regional trip on tractor spare parts supply chain (per diem)			32																							32	8	0%
10 Regional trip on tractor spare parts supply chain (transportation)			72																							72	18	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)			**3,420**	**2,880**	**540**			**450**				**450**														**7,740**	**1,935**	**87%**
1 International consultant (producer association)			720	720				90				90														1,620	405	18%
2 International consultant (farm machinery)			1,080	1,080	540			180				180														3,060	765	34%
3 International consultant (agribusiness)			1,080	1,080				180				180														2,520	630	28%
4 International consultant (assessment)			540																							540	135	6%
4 Implementation of staff training			**60**	**60**																						**120**	**30**	**1%**
1 Trainings for 60 state & county officers at states (per diem)			50	50																						100	25	1%
2 Trainings for 60 state & county officers at states (transportation)			10	10																						20	5	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector						**9**	**9**	**9**	**9**	**9**	**9**	**9**														**63**	**16**	**1%**
1 Fuels for training by AEOs						9	9	9	9	9	9	9														63	16	1%
7 Operation and maintenance						**80**	**80**	**80**	**80**	**80**	**80**	**80**														**560**	**140**	**6%**
1 Fuels and consumables for follow up. monitoring						80	80	80	80	80	80	80														560	140	6%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans			**25**	**25**				**25**																		**75**	**19**	**1%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector			**25**	**25**				**25**																		**75**	**19**	**1%**
1 Trainings for 500 farmers at states (venue)			25	25				25																		75	19	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**3,808**	**3,040**	**540**	**89**	**89**	**564**	**89**	**89**	**89**	**539**														**8,936**		**100%**
Total (USD '000)			**952**	**760**	**135**	**22**	**22**	**141**	**22**	**22**	**22**	**135**															**2,234**	
% to total			**43%**	**34%**	**6%**	**1%**	**1%**	**6%**	**1%**	**1%**	**1%**	**6%**														**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.19 Tractor operator training project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop		
(2) Project name:	Tractor operator training project		
(3) Project ID:	0 1 . 1 9	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2017/18	Ending FY: 2026/27	Duration (years): 10
(5) Total investment:	SSP 18,987,000	USD 4,747,000	Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA7	Mechanisation and animal power	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	209	SP-EI	Service delivery/infra. dev.- Economic infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Tractors can enhance farming activities such as ploughing, sowing, and harvesting. Tractors could be used for many crops and many progressive farmers and commercial farmers try to expand the size of their farms, but due to unavailability of sufficient manpower, it is difficult to carry out. During the situation analysis of the CAMP conducted in 2013, it was found that existing tractor hire services have large numbers of customers waiting for ploughing at their farms. The demands for tractors seemed to be the same in all the states. Additionally, in some areas such as Renk, many large sized farms exist and the soil is suitable for tractor use. Thus, the potential for tractor use is high, but the number of available tractors is limited. Part of the reason for the limited number of businesses hiring tractors is the limited number of tractor operators. Also, the number of training institutions which could provide training about tractor operation is limited. Through the CAMP situation analysis, it was found that only one vocational training centre in Malakal and Yei Agricultural Training Centre (YATC) provide tractor operation training courses in the country. No other government agricultural training centre provides this training. Currently, some tractor operators in South Sudan are from Uganda where there are large numbers of tractor operators. Breakdowns of tractors restrict the availability of tractors. Breakdowns are due to inadequate maintenance skills, lack of spare parts, and poor farm conditions. In some forest covered areas, such as the Greenbelt zone, most farms are small in size and trees and tree stumps require more skill to avoid damage to the tractors. Moreover, unskilled tractor operators do not have sufficient knowledge about soil texture and moisture to judge the depth of ploughing. Therefore, improvement of the skills of tractor operators is necessary to reduce the numbers of breakdowns. Classes about basic repair should be included in tractor operation training. Furthermore, there is no national tractor driver's license or operating standards. The Ministry of Interior is trying to create a drivers' license for tractor operation, but it has not yet been implemented. This project should provide technical support to the concerned Directorate of the Ministry of Interior to adopt and/or develop the standards required to obtain a licence. Standardised training courses about tractor operation do not exist. Establishment of national standards for tractor operation and development of an operation manual are both needed. A new training curriculum should be developed taking into account the new standards and operation manual. Trainees who complete the tractor training course will obtain a national driver's license for tractor operation. Trainers for the tractor operation training courses need to be trained so they can provide these courses at government agricultural training centres.
(2) Objectives:	• Increase and improve knowledge and teaching skills of trainers for training tractor operators • Improve skill levels of tractor operators
(3) Overall description including temporal and spatial extent of project:	This project will cover the whole country since agriculture is the mainstay of the people of South Sudan. Firstly, past training for tractor operators and existing training curriculums will be investigated; safety will be considered. Standards for safe tractor operation and an operation manual will be developed to be used during and after training. Training curriculum will be developed from the tractor operation standards. Certificates would be issued for the trainees after the standardised training is completed. Trainers, who will instruct tractor operators, will be trained at the Crop Training Centre in Yei (CTC Yei). These courses will be instructed by trainers from YATC and/or a foreign country such as Uganda. They will then provide safe tractor operation courses at training centres across the country. They will use the standardised curriculum; courses will be composed of theoretical and practical components. Selected agricultural extension officers (AEOs) and community based extension workers (CBEWs) will attend the training. They will then be able to provide technical support and answer farmers' questions about tractor operation. Training will also be open to ordinary people at the agricultural training centres. The operation manuals will be distributed to all state, county and payam offices, agricultural extension officers (AEOs) and training centres. AEOs and CBEWs will use this material to raise awareness about safety standards, correct tractor operation, environmental impact etc. Additionally, the training curriculums will be shared with existing vocational training centres to standardise the contents and quality of tractor operation training. These activities will continue until the end of the project. Initially, government training centres will provide

Items	Information
	training to meet the high demand of tractor operation. However, the function of providing this training should be taken over by the private sector in the long term.
(4) Component and activity structure:	Component 1: Identify requirements for safe tractor operation, develop training curriculum, tractor operation standards and operation manual Component 2: Provide training of trainers (TOT) and procure tractors for training Component 3: Provide training for tractor operators

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Identify requirements for safe tractor operation, develop training curriculum, tractor operation standards and operation manual Activity 1.1: Review past training for tractor operators and existing training curriculums Outputs: Knowledge of current situation for training tractor operators Activity 1.2: Assess tractor use across the country Outputs: Report about tractor use including types of tractors used in different areas Activity 1.3: Develop operation standards, manual for tractor operation, and guidelines for environmental impact; provide technical support to the Ministry of Interior for development of driver's license Outputs: Tractor operation standards, manual for tractor operation as well as guideline to mitigate negative environmental impacts, national driver's license system Activity 1.4: Develop training curriculums of safe tractor operation for trainers as well as for normal trainees in line with the operation standards and operation manual Outputs: Training curriculums and materials for trainers and regular trainees Component 2: Provide training of trainers (TOT) and procure tractors for training Activity 2.1: Strengthen functions of CTC Yei so they can provide training on tractor operation; provide tractors with spare parts Outputs: CTC Yei ready to provide tractor operation training using new standardised curriculum Activity 2.2: Identify potential trainers and train them Outputs: Selected 16 teaching staff from government training centres and 5 teaching staff of vocational schools across the country (Each training centre nominates two trainers for tractor operation training. For the TOT, CTC Yei hosts the training, but teaching staff of CTC Yei should also attend the training to learn how to teach a tractor operation training course. Total numbers of participants are expected to be 21. Trainers will learn both electronic and manual type tractor operation.) Activity 2.3: Develop and provide safety videos and training materials, including written exams, to be given to trainers Outputs: Trained trainers with necessary materials to conduct training courses Activity 2.4: Procure and provide tractors to government agricultural training centres for tractor operator training Outputs: Agricultural training centres equipped with tractors Component 3: Provide training for tractor operators Activity 3.1: Provide tractor operation training to AEOs and CBEWs at training centres across the country (The training should include a practical field operation component. It will include instruction and practicals about daily maintenance and servicing, basic functional principles of tractors operation.) Outputs: 60 AEOs and 240 CBEWs trained about tractor operation Activity 3.2: Provide tractor operation training to potential tractor operators at training centres across the country Outputs: 1,000 people are trained as tractor operators and obtain licenses Activity 3.3: Provide operation manuals and guidelines based on operation standards to state, county, payam government offices as well as to AEOs. Outputs: Operation manuals and guidelines of tractor referred to and used by government officers and AEOs. Activity 3.4: Share the training curriculums of tractor operation with existing vocational training school to promote standardisation of contents and quality of the tractor training course. Outputs: 5 vocational training schools with improved training curriculums of tractor operation using the standard curriculum. Activity 3.5: Set an appropriate tuition fee to collect from trainees so as to recover the cost to provide training for tractor operation Outputs: Tractor operation training run on a cost recovery basis Activity 3.6: Assess the impact of the tractor operation training, including: safety issues and changes in harvest volumes and profit levels of farmers who used tractor services Outputs: Report on situation after the tractor operation training

2.3 Service providers and beneficiaries

Items	Information
(1) Description of service providers within the framework of the project:	Directorate of Agriculture Production and Extension Services of MAFCRD, government agricultural training centres, state Ministries of Agriculture, AEOs, and CBEWs
(2) Description of beneficiaries within the framework of the project:	Direct beneficiaries are tractor operators. Indirect beneficiaries are trainers for tractor operation training course, AEOs, and CBEWs. Other indirect beneficiaries are farmers who want to farm with tractors and tractor services operators.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• National tractor operation standards are known and accepted by farmers. • More trained trainers who can provide tractor operation training course are available. • More trained tractor operators based on the national standards are available. • Tractor operation and training contents for tractor operation are standardised. • The number of tractor breakdowns is reduced. • The quantity of harvest is increased compared to the time prior to the project starts. • The number of injuries and death caused by tractor operation is reduced.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Through the project, if more tractor operators are available, the possibility of more tractor hire businesses and services is increased. Then, more tractors would run on normal roads to move from place to place; tractors may damage road surfaces and/or cause traffic accidents. More injuries during tractor operation may occur, if the number of tractor operators is larger. Additionally, if more tractors are used, there is a possibility that more trees are cut down to make land available for farming. All this may cause significant negative environmental impacts. Thus, an appropriate land use plan needs to be developed. Also, when the national standards for tractor operation are developed, guidelines to mitigate negative environmental impacts also need to be developed. (Positive) • If more tractor operators become available, the efficiency of farming should be improved. Larger scale farming could also become possible for farmers. These factors could contribute to increased production volumes and/or reduce production costs. More training opportunities for potential tractor operators may provide more job opportunities in the agricultural sector. These are positive impacts that should be considered.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Limited numbers of available tractor operators • No government agricultural training centres provide a training course about tractor operation
(2) Measurable indicators and situation at the end point:	• Established national standards for tractor operation acknowledged by the public • Commonly used manuals and guidelines for tractor operation • Standardised training curriculum and materials about tractor operation • 1,000 trained tractor operators with licenses • Trained 60 AEOs and 240 CBEWs on tractor operation with licenses • Improved operation and maintenance for tractors • Increased volume of harvest of the farmers who used tractor services
(3) Methods of measurement and sources of information:	Training records, project reports and documents, assessment reports, available documents of MAFCRD
(4) Responsible parties for the monitoring and evaluation:	MAFCRD, Directorate of Agriculture Production and Extension Services

2.7 Required human resources

(1) Principle of human resources management:	It is a national project, but support from the state Ministry of Agriculture would be necessary for some activities. Thus, a focal person for this project should be nominated by each state office.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3) • Project staff from MAFCRD (two staff from the Directorate of Agricultural Production and Extension Services, Department of Agricultural Mechanization; the Department of Agricultural Extension Services should provide qualified staff; one senior and one junior inspectors in grades 7 and 9) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • Staff at State Ministry to support project activities in the target areas
(3) Required human resources in the private sector including	Consultants in the field of: • Project manager (Master's degree or more, 15 years' experience): One

Items	Information
consultants (positions, qualification and numbers):	• Agricultural mechanisation engineer (BSc. Mechanization, 5 years' experience or more): One • Agricultural extension specialist (BSc. or BA, 5 years' experience or more): One • Training/Project coordination (BA. or BSc, 3 years' experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	L	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered. • Possibly difficult for trained tractor operators to find employment opportunities • Insecurity and conflicts at some target sites	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is related to the situation of the tractor hiring business which is planned to be strengthened by the "Enhancement of tractor hire service providers" project. Even if large numbers of tractor operators were trained, if the tractor hire business is not well developed, there would be insufficient opportunities for the trained tractor operators to use their skills. Also, availability of spare parts in the country could adversely affect opportunities for tractor operators. To maximise impact of the project, it is important that trained operators are close to tractor hire businesses. Close coordination with the above mentioned project as well as other related projects such as the "Establishment of Tractor assembly plant" project would be important. Cost recovery efforts are necessary after the training courses are set up and functioning well in the government training centres. Appropriates fee should be set and collected to achieve cost recovery, especially since demand is expected to be high. Later, the function of training tractor operators will be moved from the government institutions to the private sector. Thus, during the project period, opportunities for the private sector to start training tractor operators will be sought; cost recovery efforts would encourage the private sector to take this over in the future.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Regular technical support by the AEOs and CBEWs will be necessary to solve farmers' problems and answer their questions. They will share information and knowledge about tractor operation with farmers during and after the project period. Information about the tractor operation should be included in one of the regular reporting items from CBEWs and AEOs for the project team to identify problems and follow up.

01.19 Tractor operator training project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**2,735**	**3,294**	**2,803**	**1,599**	**411**	**411**	**411**	**246**	**285**	**491**														**12,687**	**3,172**	**67%**
1 Deployment of government staff			**40**								**40**															**79**	**20**	**0%**
1 Need assessment survey (per diem)			22																							22	5	0%
2 Need assessment survey (transportation)			18																							18	5	0%
3 Performance assessment survey (per diem)											22															22	5	0%
4 Performance assessment survey (transportation)											18															18	5	0%
2 Procurement of administrative services (contracted)			**96**																							**96**	**24**	**1%**
1 Printing of operation manuals and guideline			96																							96	24	1%
3 Procurement of professional services (contracted)			**2,376**	**2,376**	**1,885**	**1,599**	**411**	**411**	**411**	**246**	**246**	**491**														**10,452**	**2,613**	**55%**
1 International consultant (project management)			900	900	720	630	180	180	180	90	90	180														4,050	1,013	21%
2 International consultant (agricultural mechanisation)			320	320	240	240	80	80	40	80	80	120														1,600	400	8%
3 International consultant (extension)			400	400	320	200			40			40														1,400	350	7%
4 International consultant (training/project coordination)			756	756	605	529	151	151	151	76	76	151														3,402	850	18%
4 Implementation of staff training			**223**	**918**	**918**																					**2,059**	**515**	**11%**
1 Meeting with stakeholders for development of operation standard			3																							3	1	0%
2 Meeting for development of curriculum (venue)			3																							3	1	0%
3 Meeting for development of curriculum (per diem)			3																							3	1	0%
4 Meeting for development of curriculum (transportation)			2																							2	1	0%
5 Tractor trainers training (per diem)			176																							176	44	1%
6 Tractor trainers training (transportation)			21																							21	5	0%
7 Tractor training for AEOs and CBEWs (per diem)				840	840																					1,680	420	9%
8 Tractor training for AEOs and CBEWs (transportation)				18	18																					36	9	0%
9 Tractor training for AEOs and CBEWs (transportation)				60	60																					120	30	1%
10 Meeting with vocational centres (per diem)			6																							6	2	0%
11 Meeting with vocational centres (transportation)			10																							10	3	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment			**800**	**4,800**																						**5,600**	**1,400**	**29%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment			**800**	**4,800**																						**5,600**	**1,400**	**29%**
1 Tractor with spar part to CTC Yei			800																							800	200	4%
2 Tractors to 6 new agricultural training centres				4,800																						4,800	1,200	25%
3 Subsidies, equity and loans					**100**	**100**	**100**	**100**	**100**	**100**	**100**															**700**	**175**	**4%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector					**100**	**100**	**100**	**100**	**100**	**100**	**100**															**700**	**175**	**4%**
1 Tractor operator training for 1000 people					100	100	100	100	100	100	100															700	175	4%
3 Equity investments																												
4 Provision of loans																												

01.19 Tractor operator training project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			3,535	8,094	2,903	1,699	511	511	511	346	385	491														18,987		100%
Total (USD '000)			884	2,024	726	425	128	128	128	86	96	123															4,747	
% to total			19%	43%	15%	9%	3%	3%	3%	2%	2%	3%														100%		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.20 Urban and peri-urban vegetable production and marketing project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Urban and peri-urban vegetable production and marketing project				
(3) Project ID:	0 1 . 2 0	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2017/18		Ending FY: 2026/27	Duration (years): 10	
(5) Total investment:	SSP 12,783,000		USD 3,196,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA6	Horticultural crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev.- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

Urban and peri-urban agriculture (UPA) can be considered in South Sudan as so far largely an untapped source of employment and income. UPA has the potential to improve the food security and nutrition of disadvantaged urban residents, including IDPs. Together with investments in irrigation facilities, it can also provide a steady source of income. Selling to institutional, up market buyers, such as hotels, restaurants, hospitals, UN camps, etc. may even generate a mark-up of around 10%, but the hospitality industry is a market which is only accessible to well-developed producer groups who can deal with the requirements in terms of quality and quantity. Less advanced producers will not be able to access this high-value market segment, but by being able to sell vegetables at local markets, they will increase their income, and hence be more resilient against external shocks.

Currently, the country imports about 90% of its fruits and vegetables from neighbouring countries. In Juba, an average of 12 trucks full of horticultural crops (mainly onions, tomatoes, Irish potatoes, banana, cabbages, and green peppers) enters the main market at Konyokonyo daily. It is estimated that 44,640 metric tons of horticultural crops are supplied to Juba per year with estimated value of about SSP 223.2 million (USD 75 million)/year.

UPA has a comparative advantage over rural farming due to its proximity to urban consumers and lower, if any, transport and cooling costs. Refrigeration is particularly important to reduce post-harvest losses for perishable products such as vegetables, but represents a major cost factor in South Sudan where electricity is scarce. Post-harvest losses can also be reduced through proper (uncooled) storage and packaging.

This project will focus on low cost methods to:

- increase the production of vegetables through encouraging urban and peri-urban residents to farm in their backyards if available and on idle communal land; and improving agro-economic practices: use of (organic) fertilizers, change producers' attitude to a more business-like approach, encourage collective business plan writing of producer groups
- introduce irrigation for year-round supply
- reduce post-harvest losses through piloting with appropriate packaging
- link producer groups and agro-input providers with Banks (e.g. Agricultural Bank or Cooperative Bank) to access subsidized inputs and equipment
- increase access to markets through linking groups to buyers
- move from spot-market to longer term seller-buyer relationships (i.e. meet the requirement of institutional buyers in terms of quality and quantity)

Constraints to be addressed are:

- General lack of data on UPA in South Sudan
- Inefficient agricultural knowledge and skills amongst urban and peri-urban farmers and a lack of (access to) knowledge
- Inexistent agricultural extension services at city-level
- Lack of access to inputs (quality seeds, tools, etc.)
- Lack of access to water (and pumping and irrigation equipment) during dry seasons
- Lack of access to credit
- Lack of proper post-harvest handling techniques/ equipment
- Lack of access to profitable markets

The project deliberately does not focus on specific vegetables, but will rely on market assessments of major target markets (all state capitals apart from Unity and Upper Nile) to determine demand and select those horticultural products that are most suitable to meet the demand under given agronomic conditions. Due to their ubiquity, it is assumed that tomatoes will play an important role in all states; reducing the enormous amount of post-harvest losses (up to 30%), caused by transporting tomatoes in jerry cans, will be addressed through developing appropriate packaging for transport.

To increase the sustainability of the project and to nurture the still nascent private sector, the project will work with and in support of the private sector. Agro-dealers will have a role to play in providing quality seeds. They will be supported to ensure that quality seeds (planting materials) reach the farmers accordingly. The selection of types and varieties of seeds recommended to farmers by extension agents will be based on the products identified by the above-mentioned market assessments. Farmers will be provided with vouchers for subsidized seeds which they can redeem at the agro-dealer shops.

All state capitals offer a favourable environment for production of horticultural crops

Items	Information
	throughout the year using irrigation. Small-scale irrigation practices include using watering cans, treadle pumps and sometimes motorized pumps. Currently, there seems to be a limited supply of irrigation pumps. Local agro-dealers should be encouraged to access loans so that irrigation water pumps (10-20 HP/ treadle pumps) will be available in the local market for the farmers. The local dealers, in addition to providing training to farmers on operating pumps, and operation and maintenance practices, would have the possibility of supplying spare parts for the pumps. The number of farmer groups/farmers requiring implements makes supplying them an attractive business case for agro-dealers.
(2) Objectives:	The objective of the project is to gradually substitute imports of vegetables and to increase both production and consumption levels of vegetables in South Sudan. On a macro level, that will contribute to food self-sufficiency and to reducing the food deficits that have characterized the country for decades. On a micro level, UPA will increase food security and have a positive effect on the nutritional value of daily food intake. For urban dwellers it offers an opportunity to earn cash income. It contributes to economic growth and to feeding a growing urban population. The project's beneficiaries consist of farmer groups and individual farmers. The number of beneficiaries is estimated to be 4000 (about 2000 female and 2000 male farmers; about 400 farmers per state capital), depending on the existence and interest of urban and peri-urban farmers/ farmer groups to take part in the project.
(3) Overall description including temporal and spatial extent of project:	The project will start in 2017 and last for 10 years. Due to the nature of the project short-term gains can be presumed. When, after 10 years the project is phased-out, it is expected that (through the training they have received as part of the project) farmers/ farmer groups, the private sector and banks have developed viable business cases to be able to continue their operations without external assistance. Subsidies of inputs will also cease when the project comes to a close. However, extension officers are expected to continue to provide state-of-the art follow-up training to ensure the uptake of innovations in R&D such as suitable seeds, fertilizers, and mechanised inputs (irrigation pumps). The project's intervention area covers all state capitals apart from Malakal and Bentiu which offer too little irrigation potential for vegetables to be also grown during the dry season. Being able to offer year-round supply, thereby fetching the high prices paid during the dry season, is a prerequisite for supplying institutional buyers and will offset the costs of implements.
(4) Component and activity structure:	Component 1: Baseline survey Collect data needed to plan the project in detail and to be able to monitor progress and eventually impact (i.e. a baseline survey on the current state of the vegetable market) Identify the market potential of the different horticultural products to determine which ones to promote and which beneficiaries and private sector actors (agro-dealers) to work with Component 2: Capacity development of extension agents and farmers Develop the capacity of extension agents to deliver services tailored to the requirements of the target group so farmers can produce quality horticultural products to sell to markets Component 3: Production and marketing Increase productivity of vegetable farmers through technical support by extension agents and strengthen linkages between farmers and market/institutional buyers Component 4: Inputs and equipment Facilitate farmers to obtain loans from financial institutions to purchase agro-inputs and equipment, and strengthen linkage to agro-dealers who sell agro-inputs and equipment

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Baseline survey Activity 1.1: Carry out baseline survey on vegetable production in and around selected state capitals and social aspects of target areas (e.g. tribal conflicts, gender, youth, HIV, etc.) Activity 1.2: Carry out assessment on availability of farmer groups sophisticated enough and willing to embark on producing vegetables for institutional buyers Activity 1.3: Carry-out market assessment to identify horticultural products according to the greatest economic potential (demand) and agronomic suitability Activity 1.4: Carry-out assessment on availability of agro-dealers and select them based on their capacity and willingness to work with the project Outputs: Survey reports (3 local consultants hired for 30 days each) Component 2: Capacity development of extension agents and farmers Activity 2.1: Set up criteria for selecting target farmers, in particular with respect to ethnicity and gender; then, select target farmer groups in a participatory manner

Items	Information
	Activity 2.2: Training of extension agents on horticultural production, market survey, irrigation, soil management, pests and diseases control, appropriate chemical use, post-harvest handling, household record keeping, and gender Activity 2.3: Training of farmers on horticultural production, market survey, irrigation, soil management, pests and diseases control, appropriate chemical use, post-harvest handling, household record keeping, and gender Outputs: 50 extension agents trained and 4,000 farmers (about 2000 female and 2000 male farmers; about 200 farmer groups) trained Component 3: Production and marketing Activity 3.1: Conduct market surveys by extension agents together with farmer groups and select appropriate vegetables from their point of view Activity 3.2: Link farmer groups with institutional buyers and agro-dealers by setting up forum for information gathering and negotiation Activity 3.3: Provide the farmer groups with technical support for vegetable production by extension officers Activity 3.4: Conduct close monitoring and follow-up for the farmer groups by extension agents Activity 3.5: Organise farmers to sell their product collectively and negotiate selling prices with institutional buyers Activity 3.6: Work with private sector to develop improved packaging methods to reduce post-harvest losses during transport Outputs: urban and peri-urban vegetable farmers increase their products and sell to institutional buyers at a higher price with less post-harvesting loss Component 4: Inputs and equipment Activity 4.1: Strengthen farmer groups to facilitate access to loans from the financial institutions to purchase equipment (irrigation, storage, packaging) from agro-dealers Activity 4.2: Provide or sell quality seeds to the farmer groups Activity 4.3: Work with agro-dealers to define a restricted list of low toxicity pesticides which are suitable for use on vegetables by smallholders and improve the quality of advice and instruction provided to customers, especially the illiterate and women Activity 4.4: Equip agro-dealers with skills needed for them to provide basic explanations to farmers on how to handle, operate and maintain irrigation equipment Activity 4.5: Work with agro-dealers to ensure they have spare parts for pumps available Outputs: urban and peri-urban vegetable farmers get access to inputs and equipment such as loans, quality seeds, agriculture chemicals, fertilizers, and irrigation pump with spare parts.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• State government: extension agents • Private sector: agro-dealers • DP consultants: to provide training on business skills such as marketing or group business plan writing, etc.
(2) Description of beneficiaries within the framework of the project:	Individual farmers or farmer groups (20-30 farmers) who live in urban and peri-urban areas and have land (e.g. backyards, communal land) at their disposal that they use for farming activities.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of productivity and market access, most of the target subsistence vegetable producers in urban and peri-urban areas will increase their income and improve household food and nutrition security. Also strengthening of domestic vegetable production will contribute to the substitution of imported vegetables and economic growth of urban and peri-urban vegetable farmers.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The project might have a negative impact on the environment in case of overuse of agricultural chemicals and chemical fertilizers. A further cause of negative environmental impact may be overuse of water resources in urban margins and pollution of streams and watercourses while washing spraying equipment or runoff from plots. • These potentially negative impacts will be mitigated by providing proper guidance on use of agricultural chemicals and chemical fertilizers and encouraging farmers to use organic fertilizers, such as manure.	

Items	Information
	• A negative social impact might be observed if unintended encroachment into public land and open spaces is made by vegetable producers. (Positive) • The social impact of the project will be mainly positive. The opportunity to earn cash income will contribute significantly to improve livelihoods of target farmers. The nutritional status of the beneficiaries and the urban population in general will improve substantially as availability and affordability of vegetables will increase.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	A baseline survey will be carried-out at the onset of the project and assess availability, prices, and origins of horticultural products on sale at local markets
(2) Measurable indicators and situation at the end point:	After 10 years the same survey will be carried out to assess how the situation has changed. Since there are problems of attribution, additional assessments among beneficiaries will be carried out on a yearly basis to determine which effects can be traced back to project interventions
(3) Methods of measurement and sources of information:	Surveys at local markets and among beneficiaries
(4) Responsible parties for the monitoring and evaluation:	Project Manager, extension agents, international consultants

2.7 Required human resources

(1) Principle of human resources management:	National ministry will provide oversight, while state ministries implement the project and provide extension services. The private sector will be supported in making the implements (seeds, pumps, spare parts) needed available, while also providing training on O&M of irrigation equipment
(2) Required human resources in the public sector (Positions, grades and numbers):	1 PM at national level, one focal point in each of the targeted states, i.e. 10 in total 50 extension agents
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Five consultants in the field of: • Two horticultural experts including 1 team leader (Master degree, 15-year and 5-year experience) • One extension expert (MSc or MA, 5-year experience) • One pest and disease control (MSc, 5-year experience) • One marketing (MSc or MA, 5-year experience) all experienced in working in post-conflict set-ups Three local consultants for baseline survey

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	(Negative) • Due to its very weak institutions, working in South Sudan is inherently risky. A precondition for the project to be carried out as outlined is peace or at least low levels of insecurity. If major internal conflict disrupts trade routes for inputs or market infrastructure is destroyed in its course, the project's activities have to be modified accordingly to prevent its failure. This will require additional planning, and potentially result in delays, but it will not affect the necessity to implement the project at all. (Positive) • The project increases the beneficiaries' and the urban population's resilience to shocks such as conflict and is therefore not dispensable.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance and inclusion of youth should also be considered for the selection process.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers group by extension agents. If extension agents are government officers, the follow-up activities will be done by them as a routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs should be required.

01.20 Urban and peri-urban vegetable production and marketing project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**3,177**	**2,403**	**1,916**	**530**	**26**	**26**	**1,223**	**664**	**177**	**152**														**10,293**	**2,573**	**81%**
1 Deployment of government staff			**17**						**17**																	**34**	**9**	**0%**
1 Baseline survey (per diem)			8						8																	16	4	0%
2 Baseline survey (transportation)			9						9																	18	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)			**2,918**	**2,369**	**1,890**	**504**			**983**	**630**	**151**	**126**														**9,571**	**2,393**	**75%**
1 International consultant (team leader/horticulture)			1,512	1,008	756	504			378	252		126														4,536	1,134	35%
2 International consultant (horticulture)			454	454	454				227	151	76															1,814	454	14%
3 International consultant (extension and training)			454	454	454				227	151	76															1,814	454	14%
4 International consultant (pests, disease control and marketing)			454	454	227				151	76																1,361	340	11%
5 Local consultant for baseline survey			45																							45	11	0%
4 Implementation of staff training			**234**						**189**																	**423**	**106**	**3%**
1 Training for 50 extension agents at Juba			189						189																	378	95	3%
2			45																							45	11	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance			**8**	**34**	**26**	**26**	**26**	**26**	**34**	**34**	**26**	**26**														**265**	**66**	**2%**
1 Fuels for 4000 farmers (200 groups) trainings			5	5					5	5																20	5	0%
2 Fuels for 1-day market survey for 200 groups			3	3					3	3																12	3	0%
3 Fuels for monitoring and follow up				26	26	26	26	26	26	26	26	26														233	58	2%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans			**520**	**535**	**175**	**15**			**520**	**535**	**175**	**15**														**2,490**	**623**	**19%**
1 Provision of cash and/or in-kind subsidies			**160**	**160**	**160**				**160**	**160**	**160**															**960**	**240**	**8%**
1 Vegetable seed packages			160	160	160				160	160	160															960	240	8%
2 Provision of training services to the private sector			**360**	**375**	**15**	**15**			**360**	**375**	**15**	**15**														**1,530**	**383**	**12%**
1 Training for 4000 farmers (200 groups) at field			350	350					350	350																1,400	350	11%
2 One day seminar linkage groups with buyers, etc.			10	10					10	10																40	10	0%
3 Seminar on improved packaging methods				15	15	15				15	15	15														90	23	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**3,697**	**2,938**	**2,091**	**545**	**26**	**26**	**1,743**	**1,199**	**352**	**167**														**12,783**		**100%**
Total (USD '000)			**924**	**734**	**523**	**136**	**6**	**6**	**436**	**300**	**88**	**42**															**3,196**	
% to total			**29%**	**23%**	**16%**	**4%**	**0%**	**0%**	**14%**	**9%**	**3%**	**1%**														**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

2.4.21 Sesame production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop			
(2) Project name:	Sesame production project			
(3) Project ID:	0 1 . 2 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 24,967,000	USD 6,242,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA5	Crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	302	PS-PR	Private sector - Production	Table 2-12
	203	SP-EX	Service delivery/infra. dev.- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information
Part 2: Project description	
2.1 Project justification, objectives, overall description and component structure	
(1) Justification:	Sesame is an important oil seed crop which is marketable across the world. Conditions above 23 degrees Celsius are most appropriate to produce sesame. It is also grows well in drought conditions. For these reasons, South Sudan has favourable production environments to produce sesame almost over all the country. Currently, the major sesame producers are subsistence farmers. Despite the climate that favours massive production of sesame, farmers grow sesame at a household level primarily for home consumption; developing the crop for commercial purposes is secondary. The absence of large scale commercial production of sesame is hindering South Sudan from fully tapping into the global market. Locally grown sesame was found at markets in 6 states, Western Equatoria, Eastern Equatoria, Western Bahr el Ghazal, Warrap, Jonglei, and Upper Nile states during the situation analysis conducted by CAMP in 2013. It is commonly sold and used across the country. Thus, there is a strong demand for sesame domestically. Additionally, sesame has a high potential for export to Europe and some Asian countries such as Japan, China, and Korea. It could also be exported to neighbouring countries. However, currently, no exports are made from South Sudan while the Republic of Sudan exported 224,137 tons of sesame in 2010[7]. Other African countries such as Ethiopia, Nigeria, and Tanzania are also known as sesame exporting countries. Thus, there is a high demand for sesame in foreign countries and promoting the export of sesame will have a significant impact on agricultural sector transformation.
(2) Objectives:	• Train sesame producers to improve their knowledge about sesame production and post-harvest handling • Increase commercial sesame production through distributing certified (high yielding and resistant/tolerant to pests, diseases and drought) seed and extension services • Support sesame producers to be organised so as to have better marketing and business opportunities and bargaining power • Facilitate the export of sesame
(3) Overall description including temporal and spatial extent of project:	The project will start by identifying the current situation of producers and production of sesame in South Sudan. Selecting target areas and farmers and/or farmers' groups will be carried out in the early part of the project. Preparation of training contents and provision of training for agricultural extension officers (AEOs) will be carried out in the 1st component. In component 2, selection of target farmers will be the most crucial element in the early part of the project. It will be carefully implemented with full provision of necessary information to prospective farmers. This project needs the commitment of the selected farmers. Support to farmers to organise groups and/or cooperatives will be undertaken in the early part of the project as a key activity for component 3. Training for improvement of production methods and techniques to core farmers will be provided in the early part of the project. The selection process of core farmers needs to be carefully conducted, as the in-field training done by these core farmers will be a crucial factor for project outputs. Follow up technical support will be carried out by AEOs and Community Based Extension Workers (CBEWs) not only during the in-field training period, but also done as routine work of these extension officers in the entire project period. In the early to middle parts of the project (component 4), marketing and support in establishing business relationships by producers with middlemen, wholesalers, and exporters will be a critical activity. Quality control, delivering the ordered volumes of sesame and post-harvest disease control will be important and may affect the outcomes of the project. These factors need to be carefully addressed.
(4) Component and activity structure:	Component 1: Assessment of current situation of sesame producers and their production, and market demands Component 2: Formation and promotion of farmers' groups, associations, and cooperatives Component 3: Support to increase productivity of sesame and improve post-harvest handling Component 4: Promotion of marketing and export
2.2 Detailed description of project component, activity and outputs	
(1) Component, activity and outputs:	Component 1: Assessment of current situation of sesame producers and their production, and market demands Activity 1.1: Conduct baseline survey about sesame producers, sesame production, and market demand and value chains of different types of sesame at different locations

[7] Hala Ahmed Elamin, March 2011.*Sudan Trade Point: Management of Promotion and Studies and Investment Department of Studies, Report No. 18, Sesame.*

Items	Information
	in 10 states. Outputs: Baseline survey report about sesame production and market demands in 10 states Activity 1.2: Identify the most effective farming practices and varieties in each livelihood zone through the baseline survey, information from research centres, and secondary data about sesame Outputs: Information about most appropriate sowing dates, optimum harvesting time, most suitable soil conditions, most effective varieties for each livelihood zone Activity 1.3: Identify options for profitable methods to sell sesame at each major market in 10 states based on baseline survey, and other secondary data Outputs: Strategies to increase profits of sesame farmers Activity 1.4: Confirm availability of seeds for the most effective varieties of sesame for each livelihood zone Outputs: Information about availability of seeds and procurement methods as well as prices Activity 1.5: Develop course contents and materials for sesame production training for agricultural extension officers (AEOs) and core sesame farmers Outputs: Developed training contents and materials for AEOs and core farmers Activity 1.6: Select and train AEOs, cooperative officers (COs), and Community based Extension Workers (CBEW) about sesame, includes effective production methods, soil management, weed control, pests and diseases control, optimum harvesting time, post-harvest handling and marketing Outputs: 50 trained AEOs, 10 trained COs, 200 CBEWs Component 2: Formation and promotion of farmers' groups, associations, and cooperatives Activity 2.1: Develop criteria to select core sesame farmers Outputs: Criteria to select core sesame farmers to form and/or promote groups (Years of sesame farming experience, size of land, yield, gender, income level, proximity to each other and to major markets, etc.) Activity 2.2: Conduct social impact assessment on target sites to mitigate any negative impacts by selecting sesame farmers and/or farmers' groups (e.g., tribal conflicts, land tenure issue, gender disparities, exclusion of youth, increase of HIV, etc.) Outputs: Social impact assessment report Activity 2.3: Select prospective farmers and/or farmers groups based on the criteria and hold meetings with them to explain about the project Outputs: Prospective sesame farmers who understand the project purpose, activities, and outcomes through involvement with it Activity 2.4: Select core farmers and/or farmers' groups who are willing to cooperate with this project to organise appropriate forms of groups Outputs: Selected targeted farmers (Tribal balance and gender ratio is considered.) Component 3: Support to increase productivity of sesame and improve post-harvest Activity 3.1: Train core farmers about sesame, includes effective production methods, soil management, weed control, pests and diseases control, optimum harvesting time, post-harvest handling, processing and marketing, basics skills to train other farmers Outputs: 200 trained core farmers (Tribal balance and gender ratio is considered.) Activity 3.2: Train other target sesame farmers selected by the project about sesame includes effective production methods, soil management, weed control, pests and diseases control, post-harvest handling, processing and marketing (Knowledge and skills are disseminated through farmers field schools conducted by the 200 trained core farmers with assistance of AEOs in the field.) Outputs: 3,000 trained farmers about sesame Activity 3.3: Procure and provide the most effective varieties of seeds to grow in each livelihood zone to the trained target farmers as well as other necessary inputs such as pesticides and fertilizers Outputs: 2,000 farmers with the most effective varieties of seeds in their climate condition and necessary inputs Activity 3.4: Conduct follow-up activities on the trained farmers with better varieties of seeds and inputs and provide technical support Outputs: Monthly monitoring for sesame productions and post-harvest handling Activity 3.5: Conduct survey to find out yields of sesame producers Outputs: Survey report about yields Component 4: Promotion of marketing and Activity 4.1: Organise forums where producers and middlemen, wholesalers and/or exporters can interact and establish business relationships to sell sesame Outputs: More business opportunities with linkages among producers, middlemen, and wholesalers

Items	Information
	Activity 4.2: Provide technical support to farmers' groups to collect their harvests and sell them in bulk Outputs: 100 farmers' groups which collect their harvests and sell them in bulk Activity 4.3: Provide training on quality control considering export, packaging, post-harvest disease control, and transport methods of sesame Outputs: 200 trained core farmers with high quality sesame to sell locally or for export Activity 4.4: Train other sesame producers selected by the project on quality control considering export, effective storage methods, packaging, and transport methods of sesame products Outputs: 2,000 trained sesame producers Knowledge and skills are disseminated through demonstration farms and farmers field school conducted by the 200 trained core farmers with assistance of AEOs and CBEWs in the field. Activity 4.5: Support sesame producers to create opportunities for export through linking exporters and sesame producers as well as providing information about opportunities of export and requirements Outputs: Sesame producers exporting sesame Activity 4.6: Conduct survey to identify volumes of sesame sold for export purpose as well as commercial channels Outputs: Survey report about sesame

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Agriculture Production and Extension Services of MAFCRD, State Ministries of Agriculture, AEOs, and CBEWs
(2) Description of beneficiaries within the framework of the project:	Small sesame producers are the main targets for the project, but medium and large scale producers may be selected as target populations for the project. AEOs will be indirect beneficiaries as they will enhance their knowledge and skills about sesame production and sesame processing as well as marketing.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	More commercially oriented sesame producers who can collect their harvest to sell in bulk domestically and internationally with higher quality with increased profits. Sesame processing and selling sesame products and bi-products are more common and systematised. More export of sesame will become possible. Producers' knowledge of sesame production will be higher and the quality of sesame will consistently be improved. Sesame will become known as a highly profitable crop, even though producing large volumes and quality control are difficult.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Application of fertilisers and pesticides may harm the environment, but the amount of use could be monitored and controlled to reduce negative impacts. Sesame is tolerant of dry environments and does not require large scale irrigation. There is no large scale construction and machinery use is not expected under this project. Thus, negative environmental impacts are minimal. (Positive) • Sesame is highly marketable and there are strong possibilities of exporting sesame to foreign countries. If the volume of sesame production becomes higher and sufficient volume could be collected in a consistent manner, exports could happen which would have a significant impact on the sesame industry in South Sudan. Increase of profit levels of sesame producers would lead to betterment of their livelihood and standard of living.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Current production methods of sesame includes land preparation, sowing methods, weeding, harvesting, and post-harvest handling methods as well as yields • Common varieties of sesame produced • Number of organised farmer's groups and/or cooperatives who produce and sell sesame • Routes to sell sesame and selling prices
(2) Measurable indicators and situation at the end point:	• Production methods of sesame includes land preparation, sowing methods, weeding, harvesting, and post-harvest handling methods as well as yields • Most effective varieties of sesame to be produced for each livelihood zone

Items	Information
	• Number of organised farmer's groups and/or cooperatives who produce and sell sesame • Routes to sell sesame and selling prices • Number of farmers exporting sesame and its volumes and prices as well as destination countries • Profits levels of sesame producers
(3) Methods of measurement and sources of information:	Situation analysis report, survey reports, other project reports and records, training records, reports from AEOs, balance sheets of farmers and/or farmers' groups
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension Services of MAFCRD, State Ministries of Agriculture, and the project team

2.7 Required human resources

(1) Principle of human resources management:	Even though core farmers will be trained and will provide training to other farmers, AEOs and CBEWs will attend the in-field training to provide technical and any logistical support required.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 4 or 5) • Project staff from MAFCRD (two staff, one staff from the Directorate of Agricultural Production and Extension Services, one staff from Directorate of Cooperative Development) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • Director of extension and senior inspector of extension, grade 7 and inspector of extension, grade 9 and one junior inspector from each state government. These project staff of the State Ministry of Agriculture will work with MAFCRD to implement the project.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project manager (Master's degree, 15-year experience): One • Agronomist familiar with sesame (BA or BSc or higher degrees, 10-years experience or more): One • Agricultural extensions/farmers' organisation (BA or BSc, 10-years experience or more): One • Marketing and trading business (BA or BSc, 10-years experience or more): One • Project coordinator (BA or BSc in Agriculture desirable, 3-year experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The followings risks shall be considered: • Unfavourable weather conditions (late season, little rainfall, droughts, floods) • Short season for planting time and harvest time • Poor road conditions to transport sesame to major cities, borders and/or airports • Outbreaks of pests and diseases e.g. aphids, whitefly, bacterial leaf spot, phyllody etc; • Possible diseases in post-harvest stage such as aflatoxin • Possible difficulties to find sufficient numbers of exporters • Possible difficulties to find sufficient sesame producers who can commit to be involved with the project • Insecurity (armed insurgence and ethnic clashes) at project sites and/or nearby areas	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	In the state level, close coordination and information sharing with the Ministry which is responsible for supervising COs will also be important to have smooth project implementation. Selection of target farmers and target sites may cause negative impacts on the project such as creation of conflicts and sabotage on the project. Hence, a social impact assessment for selection of farmers is considered to be necessary. Disease control and quality control may become key issues to meet the standards of foreign countries to export sesame. Thus, these elements need to be carefully considered and supported by the project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Regular technical support by the AEOs and CBEWs will be necessary to solve producers' and processors' problems and to improve their production and/or processing quality. Monitoring and evaluation of the project activities help improve farmers' knowledge and skills, and effectiveness of the project.

01.21 Sesame production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**5,379**	**6,833**	**2,618**	**1,791**	**1,458**	**616**	**3,514**	**274**	**408**	**677**											**23,567**	**5,892**	**94%**
1 Deployment of government staff						**40**																				**40**	**10**	**0%**
1 Social impact survey (per diem)						25																				25	6	0%
2 Social impact survey (transportation)						15																				15	4	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**5,328**	**3,665**	**2,614**	**1,652**	**1,458**	**616**	**346**	**270**	**270**	**677**											**16,895**	**4,224**	**68%**
1 International consultant (project management)						1,080	900	540	270	270	270	180	180	180	180											4,050	1,013	16%
2 International consultant (agronomy)						1,080	720	540	360	270	90	90			90											3,240	810	13%
3 International consultant (extension/farmers' organization)						1,080	720	540	360	270	90		90		90											3,240	810	13%
4 International consultant (marketing/trading business)						1,080	720	540	360	270	90			90	90											3,240	810	13%
5 International consultant (project coordination)						907	605	454	302	227	76	76			76											2,722	680	11%
6 Local consultant (baseline survey)						101																				101	25	0%
7 Local consultant (performance assessment survey 1)										151																151	38	1%
8 Local consultant (performance assessment survey 2)															151											151	38	1%
4 Implementation of staff training						**11**	**3,168**					**3,168**														**6,347**	**1,587**	**25%**
1 Workshop for development of training material (per diem)						6																				6	2	0%
2 Workshop for development of training material (transportation)						5																				5	1	0%
3 Training for AEOs, COs and CBEWs (per diem)							1,440					1,440														2,880	720	12%
4 Training for AEOs, COs and CBEWs (transportation)							480					480														960	240	4%
5 Workshop for AEOs, COs and CBEWs (per diem)							1,008					1,008														2,016	504	8%
6 Workshop for AEOs, COs and CBEWs (transportation)							240					240														480	120	2%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector								**4**	**138**				**4**	**138**												**285**	**71**	**1%**
1 Fuels for supporting farmers field training								4					4													9	2	0%
2 Fuels for follow up activities									52					52												104	26	0%
3 Fuels for technical support									86					86												173	43	1%
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans							**40**	**865**	**65**	**25**	**25**		**265**	**65**	**50**											**1,400**	**350**	**6%**
1 Provision of cash and/or in-kind subsidies								**40**	**40**				**40**	**40**												**160**	**40**	**1%**
1 Seeds for farmers								40	40				40	40												160	40	1%
2 Provision of training services to the private sector							**40**	**825**	**25**	**25**	**25**		**225**	**25**	**50**											**1,240**	**310**	**5%**
1 Meeting for prospective farmers							40																			40	10	0%
2 Training for core farmers (per diem)								560																		560	140	2%
3 Training for core farmers (transportation)								40																		40	10	0%
4 Forum for business promotion (venue)								75					75													150	38	1%
5 Forum for business promotion (transportation)								150					150													300	75	1%

01.21 Sesame production project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
6 Forum for export (venue)									25	25	25			25	50											150	38	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**5,379**	**6,873**	**3,483**	**1,856**	**1,483**	**641**	**3,514**	**539**	**473**	**727**											**24,967**		**100%**
Total (USD '000)						**1,345**	**1,718**	**871**	**464**	**371**	**160**	**878**	**135**	**118**	**182**												**6,242**	
% to total						**22%**	**28%**	**14%**	**7%**	**6%**	**3%**	**14%**	**2%**	**2%**	**3%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.22 Fruit and nut production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop								
(2) Project name:	Fruit and nut production project								
(3) Project ID:	0	1	.	2	2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2025/26				Ending FY:	2034/35	Duration (years):	10
(5) Total investment:	SSP 16,431,000					USD 4,108,000		Note: Not including recurrent cost	
(6) Name of this file (automatic):									

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA6	Horticultural crop production	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture production and Extension Service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Due to favourable precipitation patterns, temperatures and soil conditions, some areas of South Sudan have high potential for perennial and annual fruit (e.g. mangos, citrus, papayas, passion fruit, guavas, avocados, jackfruit, bananas, plantains, pineapples and watermelon) and nuts (e.g. cashewnut, etc.) production. However, commercial farming of these fruits and nuts are rarely found. Mangos are grown in many places in the country which are sold in local markets but their quality is not of an international level due to the fibrous nature of the fruit. Citrus fruit (e.g. lemons and oranges), guavas, papayas, passion fruit, avocados, papayas, jackfruit bananas, plantains and watermelon are grown in the Greenbelt zone and part of the Hills and Mountains zone. These are mainly grown for home consumption and only a small quantity is sold in markets, although a large volume is imported from Uganda and Kenya. Pineapples grow in the Greenbelt zone, especially in Western Equatoria state and some are sold in local and Juba markets; however, production potential is not fully capitalised yet due to ineffective access to the markets caused by poor road conditions. Nut production is not common in South Sudan although some areas seem to have potential. Regional fruit markets are very vigorous. According to FAO statistics in 2012, Kenya produced 2.8 million Mt of three types of fruit (i.e. mangoes, mangosteens and guavas), whose value was 1.7 billion USD, 1.4 million Mt of bananas (0.4 billion USD), and 0.5 million Mt of pineapples (0.13 billion USD), as well as 0.2 million Mt avocados (0.13 billion USD). Uganda produced 9.2 million Mt of plantains (1.4 billion USD), and 0.6 million Mt of bananas (0.2 billion USD). Nut production is very common in Kenya. About 29,000 Mt of cashew nuts with shell were produced in Kenya in 2012. To capitalise on these domestic and regional market opportunities, it is crucial for South Sudan to promote fruit and nut production to replace imported fruit and nuts with domestic and seek opportunities for export to neighbouring countries and other potential markets (e.g. EU market).
(2) Objectives:	This project aims to improve fruit and nut production of target farmers so as to contribute to income growth and accelerate agriculture transformation.
(3) Overall description including temporal and spatial extent of project:	The project focuses on the improvement of fruit/nut production farmers. 10,000 existing producers or new young farmers will be targeted. Necessary inputs (e.g. improved seeds/seedlings) and technical support for fruit/nut production will be provided to target farmers by government agricultural extension officers (AEOs), and staff of NGOs. Before starting the extension activities, appropriate types of fruit/nuts and their varieties will be identified based on a rapid assessment and data from horticultural development institutions in neighbouring countries. After the identification of suitable fruit/nuts for each livelihood zone (or state), social assessment and baseline surveys will be conducted to understand social aspects in target areas (e.g. tribal conflicts, land tenure, gender disparity, youth, HIV, etc.) and the production capability of target farmers (e.g. types of fruit/nuts cultivated, farming practices by gender, pest and disease control, post-harvest handling, processing and marketing). Based on the surveys' results, selection of fruit/nut types and varieties in a participatory manner will be conducted by target farmers. Then training contents will be determined. Training courses should be tailored corresponding to target fruit and climate in each target livelihood zone (or state). The project will cover all South Sudan except the Pastoral zone, with a special focus on high potential areas in the Greenbelt zone and high altitude areas in the Hills and Mountain zone. Mangos, citrus fruit (e.g. lemons and oranges), guavas, papayas, passion fruit, avocados, jackfruit and cashew nuts might be the target perennial fruit/nut, whereas pineapple, bananas, plantains and watermelon would be the main targets of annual/or short-term fruit. Small-scale irrigated fruit production will be promoted in collaboration with the "Irrigation Development Master Plan (IDMP)." The project duration is 10 years. Special attention will be paid to ensure equal/equitable participation, contribution and benefit by both women and men at all levels of the project; this might include affirmative action where necessary. Project reporting, monitoring and evaluation will include gender disaggregated data as well as gender specific results. The project will also pay special attention to young farmers' participation.
(4) Component structure:	Component 1: Rapid assessment on fruit/nut production potential and value chain and identification of potential fruit/nuts in each livelihood zone (or state)

Items	Information
	Component 2: Selection of target farmers and baseline survey on fruit/nut production capacity, potential fruit/nut and their markets in each target area Component 3: Strengthen capacity of Famer Based Organisations (FBOs) through organisational development Component 4: Development of capacity of both extension agents and farmer groups and provision of inputs Component 5: Provision of follow-up technical assistance

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Rapid assessment on fruit/nut production potential and value chain and identification of potential fruit/nuts in each livelihood zone (or state) Activity 1.1: Conduct nationwide rapid assessment on fruit/nut production potential and their value chains Activity 1.2: Collect data and information on fruit/nut production through research institutions in neighbouring countries (e.g. Kenya Agricultural and Livestock Research Organization and National Agricultural Research Organisation in Uganda) Activity 1.3: Identify potential fruit/nuts (annual and perennial) and their varieties based on rapid assessment and data collected through research institutions in neighbouring countries Activity 1.4: Propagate/import appropriate varieties of seedlings/seeds (this will be done after activity 4.2) Outputs: survey reports clarifying suitable types and varieties and potential markets, suitable types and varieties selected in each livelihood zone (or state), improved seedlings imported/produced for distribution Component 2: Selection of target farmers and baseline survey on fruit/nut production capacity, potential fruit/nuts and their markets in each target area Activity 2.1: Conduct social assessment in target areas (e.g. tribal conflicts, conflicts between farmers and livestock keepers, land tenure, gender disparity, youth, HIV, etc.) and environmental assessment for large and medium scale land reclamation Activity 2.2: Select target farmers in accordance with selection criteria developed by stakeholders based on social assessment (with a special focus on youth and gender) Activity 2.3: Conduct baseline survey on target farmers (e.g. yield, area harvested, farming practices by gender, pest and disease control, post-harvest handling, processing and marketing) Activity 2.4: Hold meetings with beneficiaries to have consensus with project approaches and obligations of farmer beneficiaries Outputs: 10,000 farmers selected (about 5,000 females and 5,000 males including more than 50% of young farmers who are less than 30 years old); baseline survey reports clarifying present conditions 100 meetings held and project buy in achieved Component 3: Strengthen capacity of Famer Based Organisations (FBOs) through organisational development Activity 3.1: Train Cooperative Officers (COs) to conduct training for FBOs Activity 3.2: Assist farmers to develop FBOs that can facilitate collective marketing for domestic and regional markets, access and manage loans, and deliver (demand-oriented) services to their members Activity 3.3: Provide FBOs with information on domestic markets Activity 3.4: Provide FBOs with information on regional markets, export procedures /requirements and quality control measures to facilitate export to neighbouring countries (this activity would be conducted in collaboration with "Quality standards and quality control for agricultural products project".) Outputs 4: 5 trained COs in each state (total 50), and 50 trained FBOs in each state (total 500) import substitution, some products exported Component 4: Development of capacity of both extension agents and farmer groups and provision of inputs Activity 4.1: Conduct training for AEOs and NGO staff on target fruit/nuts production and marketing (e.g. seedling production, transplanting, taking care of seedlings, use of fertiliser, effective weeding (especially for annual fruit), pest and disease control, post-harvest handling including packaging, marketing, and gender) *Training on small-scale irrigation development and its Operation & Maintenance(O&M), and water distribution planning would be handled by IDMP Activity 4.2: Kick off meetings with farmer beneficiaries to clarify planned activities and to select target fruit/nuts to be produced (possibly combination of annual and perennial fruit) Activity 4.3: Conduct technical training for farmer beneficiaries by AEOs and NGO staff to disseminate appropriate fruit/nut production skills Activity 4.4: Distribute necessary inputs for target farmers (e.g. improved

Items	Information
	seedlings/seeds) Activity 4.5: Provide extension services on pest and disease management (this service could be provided by plant doctors who offer diagnostics and advice at mobile clinics, as mentioned in the "National crop pests and diseases control project.") Activity 4.6: Provide technical assistance on appropriate packaging to prevent losses during the transport to the markets Activity 4.7: Facilitate government financial institutions to provide FBOs with loans to purchase agricultural inputs (e.g. seedlings, seeds, fertiliser, pesticide and appropriate packaging materials for effective transportation) Activity 4.8: Periodic meetings among target farmers to share achievements and issues Outputs: 100 extension agents able to assist target farmers, 10,000 farmers trained and able to improve productivity improved seeds/seedlings distributed, and accessible loans for purchasing additional seeds/seedlings and agricultural inputs Component 5: Provision of follow-up technical assistance Activity 5.1: Conduct periodic follow-up by AEOs and NGO staff Activity 5.2: Carry out end of project surveys on target farmers to measure their achievements (e.g. yield, area harvested, farming practices by gender, pest and diseases control, post-harvest handling and marketing) Outputs: 10,000 farmers followed-up, survey reports prepared showing impact of project

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	100 extension agents (e.g. AEOs and NGO staff) and 50 COs Some international and local consultants Staff of government training and research institutes Agro-dealers and financial institutions
(2) Description of beneficiaries within the framework of the project:	Female and male fruit producers and new young farmers who do not have job opportunities, and AEOs

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through improvement of fruit productivity, most of the target producers and new young farmers and some of their neighbours will improve their livelihood. This situation might greatly contribute to increasing target households' income. Also benefits of the project will be shared fairly among the household members (e.g. adults female and male, and children). Job opportunities would be created for youth. Imported fruit would be substituted by domestic products. Some products would be exported to neighbouring countries and this will contribute to agriculture sector transformation.
(2) EIRR and/or FIRR, and/or other economic analysis	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) A negative social impact might be observed if an unintended encroachment into protected land, public land and open spaces is made by producers. Also reclamation of large land without proper social and environmental considerations would create a serious negative impact to target areas. Overuse of chemical fertilisers and agricultural chemicals would also have a negative impact on the environment. (Positive) The social impact of the project will be mainly positive. Producing enough fruit as cash crops will contribute significantly to increasing the income of target farmers and accelerate economic growth and agriculture transformation. The project pays much attention to social impact. A wide range of farmers will be selected with gender and youth considerations by following selection criteria. The selection processes of target farmers should be transparent in involving local communities and stakeholders. To maintain soil fertility and improve productivity, the project will promote not only chemical fertiliser application but also use of organic fertiliser such as manure and compost. This will have a positive impact on the soil environment.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Number of farmers obtaining income from fruit production Amount of South Sudanese fruit produced and sold in domestic markets

Items	Information
(2) Measurable indicators and situation at the end point:	Increased number of farmers obtaining income from fruit production Amount of South Sudanese fruit produced and sold in domestic and regional markets Number of female and male farmers trained and improving their fruit production skills Number of farmers starting utilising improved seeds/seedlings, organic and chemical fertilisers and mobile plant clinic services if available
(3) Methods of measurement and sources of information:	Baseline and end of project surveys, CFSAM data, NBS census data, custom data
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Directorate of Agriculture Production and Extension Services) in collaboration with State Ministry of Agriculture will be responsible for monitoring and evaluation. The farmers and extension workers will also work together to conduct self-evaluations.

2.7 Required human resources

(1) Principle of human resources management:	The government does not need to increase the number of government extension officers but will try to improve their efficiency of service delivery, by providing means of transport (bicycle or motorbike) and technical training as well as practical skills to work with gender issues, and introducing performance based evaluation.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one Director or Deputy Director) • Project staff at national level (senior inspector level, 2 staff) for project management, procurement, logistics, monitoring • Project staff at state level (one in-charge for each target state, total 10 staff)) • Extension agents (e.g. AEOs and NGO staff) (about 100 staff) • COs (about 50 staff)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management (Master degree, 15-years experience) • One perennial fruit/nut production/extension expert (BSc or BA, 5-years experience) • One annual fruit production/extension expert (BSc, 5-years experience) • One social (including gender) and farmer survey expert (BSc or BA, 5-years experience) Local consultants for rapid assessment will be hired. Local consultants for baseline and end of project surveys will be hired. Private agro-dealers will be involved to disseminate information on new technologies for target farmers, such as the use of fertiliser and agro chemicals.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Unfavourable conditions of access roads to reach beneficiaries • Conflicts or tensions among beneficiaries, and between beneficiaries and non-beneficiaries • Gender disparity (negative cultural and customary practices) • Delay of input delivery due to inappropriate timing of budget disbursement and limited number of extension staff who deliver inputs • Limited amount of available quality seeds/seedlings • Limited capacity of AEOs and NGO staff and limited means of transport • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts) • Degraded soil fertility by mono-cropping in long-term (long-term risk)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate beneficiaries is one of the most sensitive parts of this project. Selection criteria should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for the selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous support is needed for the targeted farmers by extension agents. If extension agents are government officers, the follow-up activities will be done by them as routine work with minimum cost (fuel for motorbike and some inputs). If extension agents are NGO officers, salary and necessary costs would be required.

01.22 Fruit and nut production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**3,685**	**1,712**	**886**	**608**	**626**	**1,407**	**533**	**533**	**533**	**1,308**						**11,831**	**2,958**	**72%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)											**3,259**	**1,436**	**706**	**428**	**428**	**706**	**353**	**353**	**353**	**1,110**						**9,132**	**2,283**	**56%**
1 International consultant (project management)											756	378	252	126	126	252	126	126	126	252						2,520	630	15%
2 International consultant (perennial fruit production/extension)											756	605	302	227	227	302	151	151	151	151						3,024	756	18%
3 International consultant (project annual fruit production/extension)											454	227	151	76	76	151	76	76	76	151						1,512	378	9%
4 International consultant (social/gender and farmer survey)											454	227								76						756	189	5%
5 Local consultant (rapid assessment)											600															600	150	4%
6 Local consultant (baseline and end line survey)											240									480						720	180	4%
4 Implementation of staff training											**405**					**405**										**810**	**203**	**5%**
1 Trainings for COs at states (per diem)											126					126										252	63	2%
2 Trainings for COs at states (transportation)											9					9										18	5	0%
3 Trainings for extension agents at states (per diem)											252					252										504	126	3%
4 Trainings for extension agents at states (transportation)											18					18										36	9	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**20**	**276**	**180**	**180**	**198**	**296**	**180**	**180**	**180**	**198**						**1,889**	**472**	**12%**
1 Fuels for AEOs in baseline survey											11					11										22	5	0%
2 Fuels for meeting of target farmers											10					10										19	5	0%
3 Fuels for farmers training												96				96										192	48	1%
4 Fuels for follow up/periodical meetings												180	180	180	180	180	180	180	180	180						1,620	405	10%
5 Fuels for survey															18					18						36	9	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans											**1,500**	**800**				**2,300**										**4,600**	**1,150**	**28%**
1 Provision of cash and/or in-kind subsidies												**800**				**800**										**1,600**	**400**	**10%**
1 Improved seeds/seedlings for 10,000 farmers												800				800										1,600	400	10%
2 Provision of training services to the private sector											**1,500**					**1,500**										**3,000**	**750**	**18%**
1 Meetings for target farmers											400					400										800	200	5%
2 Trainings for FBOs at states (per diem)											1,000					1,000										2,000	500	12%
3 Trainings for FBOs at states (transportation)											100					100										200	50	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											**5,185**	**2,512**	**886**	**608**	**626**	**3,707**	**533**	**533**	**533**	**1,308**						**16,431**		**100%**
Total (USD '000)											**1,296**	**628**	**221**	**152**	**157**	**927**	**133**	**133**	**133**	**327**							**4,108**	
% to total											**32%**	**15%**	**5%**	**4%**	**4%**	**23%**	**3%**	**3%**	**3%**	**8%**						**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.23 Development of research institution infrastructure project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop								
(2) Project name:	Development of research institution infrastructure project								
(3) Project ID:	0	1	.	2	3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2017/18				Ending FY:	2026/27	Duration (years):	10
(5) Total investment:	SSP 58,956,000					USD 14,739,000		Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	02	MAF-RE	Directorate of Research	Table 2-6
(3) Activity types:	210	SP-EX	Service delivery/infra. Dev.- Social infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The ultimate goal of the Research Directorate of MAFCRD is to enhance the efficiency and profitability of farmers by increasing the quantity and quality of agricultural products through improvement of technologies. Improvement of quantity and quality of agricultural products would also contribute to improve food security. The majority of farmers in South Sudan are small and medium scale farmers. Normally, these small and medium scale farmers grow several kinds of crops plus one or two main staple crops such as maize, sorghum, and cassava. These crops, including vegetables, are both for home consumption and selling at a market. The volume of crops to sell is limited so these farmers cannot make much profit. In order for these small and medium scale farmers to increase their profits, productivity and/or production volumes need to be improved. However, the land available for cultivation is limited due to high labour costs. Using a lot of inputs is also difficult due to high costs. Therefore, introduction of improved technology and/or seed could be one effective way to improve farmers' productivity and profitability. More research on types of disease should be carried out and findings disseminated to farmers all over the country in a timely fashion. Currently, there are two functioning agricultural research centres in the country. One is the Yei Agricultural Research Centre (YARC) located in Yei, Central Equatoria State. The other is the Palotaka Basic Seeds Centre (PBSC) located in Palotaka, Eastern Equatoria State. More than 35 full-time staff including 5 researchers work for the YARC and about 3 full-time researchers work for the PBSC. YARC and PBSC both conduct basic and adaptive (the use of research in enhancing productivity or solving problem) research and they share research activities. Target crops of the YARC are cassava, maize, upland rice, sorghum, and sweet potatoes. The PBSC mainly focuses on maize, sorghum, rice, cassava, groundnuts, and bananas. Many of their target crops are the same even though YARC is located in Greenbelt livelihood zone and PBSC is located in Hills and Mountains livelihood zone. This project will focus on strengthening agricultural research centres. Functions of the existing research centres will be strengthened and their areas of research should be clearly divided based on their locations and strengths. If there is a gap between their research capacity and farmers' needs, efforts to fill the gap should be made; research centres should conduct useful research for farmers. Sufficient capacity needs to be developed to meet the needs of farmers in different geographical areas which are in different livelihood zones. There are some potential research facilities and/or locations in the country. In the 1970s adaptive research was conducted at the Yambio Agricultural Research Centre (Greenbelt zone), but in the late 1980's, these activities halted due to the war, which lasted from 1987 until 2004. Many facilities were destroyed. On the other hand, in Halima, near Wau, (Ironstone Plateau zone) an agricultural research centre was planned. Some construction was done but due to limited budget and human resources it was not completed. In addition to these 2 locations, the possibility of establishing a new research centre jointly located at Malakal and Renk (Eastern Flood plain livelihood zone) will be examined. 2 locations are required due to the shortage of suitable land in Malakal for research into large scale mechanised farming. A satellite research office in Renk would be established to conduct research about large scale mechanised farming. A detailed plan will be developed and implemented for rehabilitating existing facilities and constructing new facilities where necessary There are additional livelihood zones with their own characteristics, such as Western Flood Plain, Nile Sobat, and Pastoral. These 3 livelihood zones also need research centres which focus on research activities based on their needs and characteristics. Later in the project, construction of new facilities there will be planned and implemented.
(2) Objectives:	This project aims to enhance functions of agricultural research of the government of South Sudan through strengthening and establishing research centres so as to improve the food security situation.
(3) Overall description including temporal and spatial extent of project:	This project will cover all livelihood zones, however, livelihood zones, such as the Greenbelt, Eastern Flood Plain, Ironstone Plateau, and Hills and Mountains, are given first priority. This project will refurbish the existing research centres and establish new research centres in order to cover different needs of farmers in different livelihood zones. At the same time, the size of the project needs to be realistic and manageable based on the current capacity of the existing research centres, as well as the available government budget for maintenance of the research centres after the project.

Items	Information
	As a first priority, the project will assess the physical capacity of the 2 existing research centres at YARC and PBSC in the Greenbelt, and Hills and Mountains livelihood zones. It will also analyse the technological needs of farmers in these livelihood zones. Detailed planning and implementation, including construction will take place in the first 2 years of the project. In the following three years, the project will assessing the possibilities of rehabilitating existing facilities including the Halima Research Centre, and former Yambio Institute of Agricultural Research Centre and developing a new research centre jointly located in Malakal and Renk. It will also analyse the technological needs of farmers in these livelihood zones. Rehabilitation of existing facilities and/or constructing new buildings will be carried out. In the final 5 years, 3 locations will be selected in the remaining 3 livelihood zones, where currently there are no research centres. New research facilities will be constructed in these locations.
(4) Component and activity structure:	Component 1: Strengthen the functions of the Yei Agricultural Research Centre (YARC), (Greenbelt) and the Palotaka Basic Seed Centre (PBSC), (Hills and Mountains) Component 2: Rehabilitate and/or construct research centres with essential equipment in Wau (Ironstone Plateau), Yambio (Greenbelt), Malakal and Renk (Eastern Flood Plain) Component 3: Establish new research centres in the remaining 3 livelihood zones, Aweil (Western Flood Plain), Kaopeta (Pastoral), and Bor (Nile Sobat) with essential equipment.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Strengthen the functions of Yei Agricultural Research Centre (YARC), (Greenbelt) and the Palotaka Basic Seed Centre (PBSC), (Hills and Mountains) Activity 1.1: Assess current situation of YARC and PBSC and farmers needs Outputs: Report on farmers' needs; impact of research by YARC and PBSC in the Greenbelt and Hills and Mountains Livelihood zones; gaps between research activities and farmers' needs Activity 1.2: Visit YARC and PBSC to identify infrastructure, available equipment, and vehicles, past achievements, available human resources, current research goals, institutional strategies to achieve their goals, and the potential of each centre Outputs: Situation analysis report about YARC and PBSC Activity 1.3: Identify institutional strategies to achieve research goals through strengthening facilities of YARC and PBSC through discussions with Director General and other core staff of the Directorate of Research of MAFCRD, and representatives of YARC and PBSC Outputs: Plan to achieve research goals and to improve functions of YARC and PBSC Activity 1.4: Develop construction plans including Environmental Impact Assessment (EIA) and procurement plans for research equipment and furniture for YARC and PBSC Outputs: Construction and procurement plans for YARC and PBSC, EIA reports Agricultural training centres will also be constructed on the same compound and/or same piece of land to strengthen relationships between research and training. For PBSC sufficient land needs to be secured to construct a training centre on the same site. YARC does not need to construct a training centre as CTC Yei is already located next to YARC. Activity 1.5: Rehabilitate and/or construct new facilities to enhance research capacity of YARC and PBSC Outputs: Research centres (YARC and PBSC) housed in suitable buildings Activity 1.6: Procure and provide required equipment and furniture to YARC and PBSC Outputs: Properly equipped research centres Component 2: Rehabilitate and/or construct research centres with essential equipment in Wau (Ironstone Plateau), Yambio (Greenbelt), Malakal and Renk (Eastern Flood Plain) Activity 2.1: Collect and analyse the technological needs of farmers and the impact of agricultural research activities Outputs: Needs assessment of agricultural research in the above 4 towns and their livelihood zones (For the case of Greenbelt livelihood zone, there is already one research centre in Yei, but there is a need to research about crops, vegetables and fruits in a tropical climate with more land. YARC is not spacious enough and there is land available to establish a new one in the Yambio area. There would be two research centres in Greenbelt livelihood zone.) Activity 2.2: Visit Halima Research Centre, former Yambio Agricultural Research Centre,

Items	Information
	Malakal and Renk to analyse possibilities of rehabilitating existing facilities and/or constructing new buildings for research centres Outputs: Reports about available government facilities and potential sites to construct new buildings for research centres in Wau, Yambio, Malakal and /or Renk. (For the the case of Eastern Flood plain livelihood zone, Malakal is a potential location to establish a new research centre, but there is also a need for research into large scale mechanised farming in the area. There is insufficient land to do that research activity in Malakal. A satellite research office in Renk would be established to conduct research about large scale mechanised farming; in Renk there is sufficient land.) Activity 2.3: Identify strategies to improve agricultural research in these 3 livelihood zones through discussion with Director General of the Directorate of Research and other core staff Outputs: Plan to establish research centres in these 3 livelihood zones Activity 2.4: Determine construction sites and size of land, develop construction/refurbishment plans including environmental impact assessment (EIA) and procurement plans for research equipment and furniture at each research centre Outputs: EIA reports about target sites, developed construction/refurbishment plans and procurement plans for equipment and furniture. Agricultural training centres will also be constructed on the same compound and/or same land so as to strengthen the relationship between research and training functions (but not at the satellite office in Renk). When the project team seeks and negotiates with local government authorities and/or land owners for sites for research centres, sufficient land to construct facilities for both research centres and training centres needs to be secured. Construction of facilities for training centres will be made under the "Establishment of training institution infrastructure" project.) Activity 2.5: Rehabilitate and/or construct buildings for new research centres Outputs: Facilities for new research centres at Wau, Yambio, Malakal and Renk Activity 2.6: Procure and provide necessary equipment and furniture to new research Centres Outputs: Properly equipped research centres Component 3: Establishing new research centres in the remaining 3 livelihood zones, Aweil (Western Flood Plain), Kaopeta (Pastoral), and Bor (Nile Sobat) with essential equipment. Activity 3.1: Collect and analyse the technological needs of farmers and the impact of agricultural research activities; assess possibilities of rehabilitating existing facilities or constructing new buildings for research centres in Aweil (Western Flood Plain), Kaopeta (Pastoral), and Bor (Nile Sobat) Outputs: Needs assessment of agricultural research in these livelihood zones; information about available government facilities and potential sites to construct new buildings for research centres in the above 3 livelihood zones Activity 3.2: Identify strategies to improve agricultural research for these 3 livelihood zones through discussion with Director General of the Directorate of Research and other core staff Outputs: Plan to establish research centres in these 3 livelihood zones Activity 3.3: Determine construction sites, develop construction/refurbishment plans including environmental impact assessment (EIA) and procurement plans for research equipment and furniture at each research centre Outputs: EIA reports about the target sites, developed construction plan and procurement plan for equipment and furniture Activity 3.4: Rehabilitate and/or construct buildings for new research centres Outputs: Facilities for new research centres at Aweil, Bor, and Kapoeta Activity 3.5: Procure and provide necessary equipment and furniture to new research centres Outputs: Properly equipped research centres

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Research of MAFCRD, state Ministries of Agriculture
(2) Description of beneficiaries within the framework of the project:	• Direct beneficiaries of Component 1 will be government researchers and concerned staff of the Yei Agricultural Research Centre and the Palotaka Basic Seed Centre. • Direct beneficiaries of Component 2 will be government researchers and concerned staff of the Halima Agricultural Research Centre in Wau and new research centres in Yambio, Malakal, and Renk. • Direct beneficiaries of Component 3 will be government researchers and concerned staff of newly research centres in Aweil, Bor, and Kapoeta. • Other direct beneficiaries will be staff of Directorate of Research at MAFCRD. Indirect

Items	Information
	beneficiaries will be state Ministries of Agriculture and farmers in all the states.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Through strengthening the existing research centres' infrastructure and establishing new research centres, more applicable agricultural technology for different climates will be researched by about 60 researchers. Then, productivity of farmers in different areas will be improved leading to an increase in profits for farmers.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) Conduct of EIRR would be meaningful since the project is expected to be implemented nationwide and the expected required funds are large.

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Component 1 will have minimal impact since the two research centres already exist and additional small scale construction should not negatively affect the surrounding environment. • Components 2 and 3 would cause larger negative environmental impacts because many new buildings will be constructed with large experimental plots. Land clearance may be necessary in some sites. EIAs will be conducted and consultative meetings held with surrounding communities at each site. Environmental guidelines also need to be developed. (Positive) • Positive social impacts derived from the project outputs are expected, if there are research centres in each state. New research findings corresponding with the climate conditions of each state such as appropriate seeds, disease resistance varieties, earlier maturity varieties, appropriate manner to apply fertiliser, soil control techniques, etc. could be disseminated and used by farmers. • New technologies and knowledge found by research centres will benefit farmers allowing them to farm more effectively.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of functioning research centres • Number of researchers working at the existing research centres • Quantity of functioning and utilized research equipment
(2) Measurable indicators and situation at the end point:	• 8 functioning research centres and 1 satellite research office • 50 researchers working at the all research centres (Expected) • Number of research themes to be covered by all the research centres • Quantity of functioning and utilized research equipment • Number of research activities implemented by each centre • Number of research findings by each centre
(3) Methods of measurement and sources of information:	Periodic report written by all the research centres, follow up surveys about impact on extension workers, and farmers, reports about research findings, project reports
(4) Responsible parties for the monitoring and evaluation:	Directorate of Research of MAFCRD and State Ministry of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	A large number of researchers who are working at the Directorate of Research in the MAFCRD should be appropriately assigned to the existing research centres and newly established research centres.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one senior staff) • Project staff at national level (3 staff, two with agricultural research background and one with agronomy background, experience in rural areas desirable in all the positions) for project management, interviews, detailed design, procurement, logistics, monitoring, etc.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Masters degree, 15-years experience): One • Agronomy (Masters degree or more, 10-years experience or more): One • Plant bleeding and/or plant pathology (Masters degree or more, 10-years experience or more): One • Agricultural mechanisation (Masters degree or more, 10-years experience or more): One • Social and environmental considerations (BSc or BA, 5-years experience or more): One • Project coordinator (BSc or BA, 2-years experience): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered.	

Items	Information
	• Possibly difficult to find appropriate land and/or available existing facilities • Difficulties of finding reliable construction companies in a timely manner due to limited • availability • Difficulties of securing government budget to operate research centres after inauguration • Insecurity and conflicts at some target sites and survey sites • Unfavourable road conditions for construction and procurement of equipment and furniture • High inflation of construction materials and wages of construction workers • Possibly difficult to find and maintain sufficient numbers of qualified researchers for each centre

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of appropriate sites for rehabilitation and/or constructing new research centres will be critical to conduct meaningful research activities in different livelihood zones. The selection process needs to be done based on clear criteria and government strategies which will be the most beneficial for farmers. Types, number and size of facilities to be constructed should be realistic and manageable by the government in the long term.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic monitoring on how each research centre is operating including their research findings needs to be carried out. Monitoring could be conducted with the research capacity development project and it should be conducted by the Directorate of Research of MAFCRD. It would be ideal to monitor with state ministry staff.

01.23 Development of research institution infrastructure project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**5,616**	**5,434**	**6,340**	**4,036**	**4,036**	**1,181**	**1,181**	**1,181**	**1,181**	**1,181**														**31,369**	**7,842**	**53%**
1 Deployment of government staff			**86**	**85**	**112**																					**283**	**71**	**0%**
1 Assessment survey (per diem), YARC & PBSC			22																							22	5	0%
2 Assessment survey (transportation),YARC & PBSC			6																							6	2	0%
3 Meeting for construction & procurement plan (per diem)			7																							7	2	0%
4 Meeting for construction & procurement plan (transportation)			24																							24	6	0%
5 Assessment survey (per diem), 4 sites including Wau			22	22																						43	11	0%
6 Assessment survey (transportation), 4 sites including Wau			6	6																						12	3	0%
7 Meeting for construction & procurement plan (per diem)				27																						27	7	0%
8 Meeting for construction & procurement plan (transportation)				30																						30	8	0%
9 Assessment survey (per diem), 3 sites including Aweil					27																					27	7	0%
10 Assessment survey (transportation), 3 sites including Aweil					9																					9	2	0%
11 Meeting for construction & procurement plan (per diem)					36																					36	9	0%
12 Meeting for construction & procurement plan (transportation)					40																					40	10	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)			**5,530**	**5,350**	**5,047**	**2,855**	**2,855**																			**21,636**	**5,409**	**37%**
1 International consultant (project management)			1,080	900	900	810	810																			4,500	1,125	8%
2 International consultant (agronomy)			1,080	1,080	1,080	630	630																			4,500	1,125	8%
3 International consultant (plant breeding/plant pathology)			1,080	1,080	1,080	180	180																			3,600	900	6%
4 International consultant (agricultural mechanisation)			1,080	1,080	1,080	630	630																			4,500	1,125	8%
5 International consultant (social and environmental consideration)			605	605	454	302	302																			2,268	567	4%
6 International consultant (project coordination)			605	605	454	302	302																			2,268	567	4%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance					**1,181**	**1,181**	**1,181**	**1,181**	**1,181**	**1,181**	**1,181**	**1,181**														**9,450**	**2,363**	**16%**
1 Annual operation for centres					675	675	675	675	675	675	675	675														5,400	1,350	9%
2 Annual maintenance for centres					506	506	506	506	506	506	506	506														4,050	1,013	7%
2 Construction of infrastructure and procurement of equipment			**300**	**4,942**	**5,718**	**7,298**	**4,409**	**4,919**																		**27,587**	**6,897**	**47%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings				**4,220**	**4,560**	**4,560**	**3,540**	**3,540**																		**20,420**	**5,105**	**35%**
1 Rehabilitation of facilities at YARC and PBSC				1,280																						1,280	320	2%
2 New facilities at YARC and PBSC				2,940																						2,940	735	5%
3 Facilities for Wau					945	945																				1,890	473	3%
4 Facilities for Malakal					1,525	1,525																				3,050	763	5%
5 Facilities for Renk					835	835																				1,670	418	3%
6 Facilities for Yambio					1,255	1,255																				2,510	628	4%
7 Facilities for 3 new centres							3,540	3,540																		7,080	1,770	12%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles			**300**		**600**		**450**																			**1,350**	**338**	**2%**
1 Vehicles for YARC and PBSC			300																							300	75	1%
2 Vehicles for 4 sites including Wau					600																					600	150	1%

01.23 Development of research institution infrastructure project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to total
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	
Project duration																												
3 Vehicles for 3 new centres							450																			450	113	1%
7 Procurement of equipment				**722**	**558**	**2,738**	**419**	**1,379**																		**5,817**	**1,454**	**10%**
1 Lab. equipment for YARC and PBSC				600																						600	150	1%
2 Office furniture for YARC and PBSC				38																						38	10	0%
3 ICT equipment for YARC and PBSC				64																						64	16	0%
4 Generators for 8 sites				20		80		60																		160	40	0%
5 Lab. equipment for 4 sites including Wau					400	400																				800	200	1%
6 Office furniture for 4 sites including Wau					38	38																				77	19	0%
7 ICT equipment for 4 sites including Wau					120	120																				240	60	0%
8 Lab. equipment for 3 new centres							300	300																		600	150	1%
9 Office furniture for 3 new centres							29	29																		58	14	0%
10 ICT equipment for 3 new centres							90	90																		180	45	0%
11 Tractors for 7 sites						2,100		900																		3,000	750	5%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**5,916**	**10,377**	**12,059**	**11,334**	**8,445**	**6,100**	**1,181**	**1,181**	**1,181**	**1,181**														**58,956**		**100%**
Total (USD '000)			**1,479**	**2,594**	**3,015**	**2,834**	**2,111**	**1,525**	**295**	**295**	**295**	**295**															**14,739**	
% to total			**10%**	**18%**	**20%**	**19%**	**14%**	**10%**	**2%**	**2%**	**2%**	**2%**														**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.24 Development of research capacity project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop			
(2) Project name:	Development of research capacity project			
(3) Project ID:	0 1 . 2 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2017/18	Ending FY: 2039/40	Duration (years): 23	
(5) Total investment:	SSP 59,371,000	USD 14,843,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	02	MAF-RE	Directorate of Research	Table 2-6
(3) Activity types:	204	SP-RE	Service delivery/infra. Dev.– Research and experiment	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Currently, three types of research activities are conducted at Yei Agricultural Research Centre (YARC) in Central Equatoria state and Palotaka Basic Seeds Centre (PBSC) in Eastern Equatoria state: 1) seed multiplication where seeds are obtained from research centres of foreign countries and/or international research institutions; 2) variety testing, such as validating desirable genotypes of some crops for Greenbelt and Hills and Mountain livelihood zones; 3) testing disease tolerance of some crops. Other agricultural research activities are not conducted at the existing government research centres due to financial constraints. Limited research skills, and research equipment and facilities are also causes of limitation of research activities. In order to improve the quality and variety of agricultural research, activities that give positive impacts to South Sudan's agricultural skills and technologies are necessary. Activities required for agricultural research, such as thermometry, basic weather recording, and soil testing, need to be conducted. Numeracy and basic statistical skills are important for research activities as well. Capacity development for research activities also has to be carried out to improve the quality and range of research activities. Improving facilities and equipment for research centres, including an increase in the number of research centres, will be handled by the "Development of research institution infrastructure" project. Current target crops of the YARC are cassava, maize, upland rice, sorghum, and sweet potatoes. The PBSC mainly focuses on maize, sorghum, rice, cassava, groundnuts, and bananas. Many of their focused crops are similar. Other crops should be prioritized and focused on by different research centres, based on the characteristics of livelihood zones. Also, in the middle to long term, research centres should develop and maintain from basic to certified seeds for the above-mentioned crops, grains, beans, tubers and other crops. Commercialization of the seeds is a seed control goal. Moreover, different types of fruit trees and cash crops, such as mango, avocado, nuts, coffee and tea, need to be targets of research; nurseries of tree seedlings should be kept at the research centres. Palatability of crops and fruits also should be tested as part of research. Moreover, research activities should be conducted on identifying disease resistant and drought resistant crops, post-harvest handling, socio-economic aspects of farming, effective and efficient usage of agricultural machinery etc., taking into account the situation of agriculture in South Sudan. As far as agriculture machinery is concerned, the size of fields cultivated in some regions is large and large scale mechanised agriculture would be appropriate, for example Renk in Upper Nile State. Usage of the most efficient and effective ways should be tested in experimental plots at a selected research centre. The knowledge and skills for these research activities need to be strengthened. Furthermore, several government researchers will be sent either to developed countries or eastern African countries, in order to improve their specialized subject knowledge at the master's level, which will better research quality in South Sudan. Expected areas for opportunities of study abroad are plant health, breeding for different types of crops, agronomy, soil science and microorganisms, agricultural statistics, and agricultural engineering.
(2) Objectives:	This project aims to strengthen the capacity of agricultural research of the government of South Sudan. It will contribute to improvement of the food security situation.
(3) Overall description including temporal and spatial extent of project:	This project will cover all the livelihood zones since the "Development of research institution infrastructure" project plans to establish research centres in each state. The project consists of two components and will be a long term project of 22 years. The 1st component is for examining the current research situation, goal setting, planning for detailed research activities, and planning and starting training for basic research activities. The 2nd component of the project includes human resource deployment, training including on the job, study abroad opportunities, and establishment of a monitoring and evaluation system. In the 1st year of the 1st component, agricultural research policy, goals, strategies and methods, and available and required human resources and budgets, are examined and re-established. The discussions are made based on the CAMP situation analysis, past activities of the existing research centres, needs assessment results of farmer's agricultural technological needs from the "Development of research institution infrastructure" project. Detailed research activities are categorized and set with a goal in a given time frame. Main components of proposed research activities which will be strengthened are described below. • Basic research skills and research support activities: thermometry, basic weather recording, soil testing, inventory establishment, etc.

Items	Information
	• Pesticide management: safe use of biological control agents and pesticides • Seed management: seed multiplication and avoidance of degeneration, generation of certified seeds • Pest, disease and weed management: Pest and disease diagnosis, identification of disease-resistant crop varieties, identification of weeds and weed control measures • Soil fertility: development of methods for using inorganic fertilizers, identification of rotation methods to improve soil fertility • Mechanisation and large scale farming: testing efficient use of farm machinery, economic modelling of farm performance and profitability of large scale farming • Fruits, nuts, cash crop: Identification of the appropriate varieties of fruits, nuts, coffee, and tea • Climatic impacts: identification of drought resistant varieties and strains • Germplasm: collection and conservation of germplasm for local, national, and international varieties of crops • Socio-economic analysis: identification of the most cost efficient farming, identification of comparative and competitive advantage on agricultural commodities produced in South Sudan • Numerical and statistical skills: Numeracy skills for agriculture, experimental design, and basic statistics • Work culture and skills: maintenance of research equipment, work ethics, communication skills, writing skills, team work skills More detailed research activities and research themes to be strengthened are described in the attachment at the end of this project profile.. Also, in the 1st year, detailed plans will be developed to strengthen the functions of the 2 existing research centres and other proposed research centres, including human resource allocations of each research centre based on the newly set research goals, strategies, and available government researchers. Additional human resources for particular research areas in particular locations are clarified. In the second year, areas and subjects for capacity building are defined, and a detailed training plan and materials, including on the job training, are developed. Training sessions will start with basics. A recruitment plan for additional researchers, research assistants, and other required staff will be developed based on the availability of the government budget. In the 2nd component of the project, training sessions on required knowledge and techniques will be continued in one location. When a research centre is refurbished and/or newly constructed, deployment of researchers and research assistants will begin. The project team will support inauguration of new centres and will provide technical support on practicing new research activities. Thus, project activity schedules will be determined based on the progress of constructing research facilities by the "Development of research institution infrastructure" project. These activities will be implemented at all the research centres. The 2nd component is expected to continue for 20 years until the end of the phase 3 of CAMP, because research capacity needs strengthening and monitoring continuously. As a part of the 2nd component, several researchers will be selected from 5 different research areas to be sent to study about their specialised subjects at the master's programs of foreign universities. After returning from study abroad, these researchers will be assigned to research centres to share the knowledge and techniques that they learnt with their colleagues. They also visit other training centres to instruct other researchers in the same area to improve their knowledge and skills.
(4) Component structure:	Component 1: Examining current research situation, goal setting, planning for detailed research activities and training as well as start of training sessions Component 2: Human resource deployment, provision of training, and provision of opportunities of study abroad

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Examining current research situation, goal setting, planning for detailed research activities and training as well as start of training sessions Activity 1.1: Review existing information about farming practices and research activities conducted by YARC and PBSC as well as their mandates; identify available human resources and budget for the Directorate of Research and the existing research centres Output: Needs assessment on farming practices shared by the "Develop research institution infrastructure" project, past records and reports about research activities conducted by YARC and PBSC, budget sheet and list of available researchers belong to the Directorate of Research of MAFCRD Activity 1.2: Set research goals with detailed research activity plan and capacity development plan for the Directorate of Research of MAFCRD Output: Strategic plan of the Directorate of Research (Some key research activities to

Items	Information
	strengthen are thermometry, gauging rainfall, soil testing, fertilizer experiment, cell culture, creating and maintaining foundation seeds and nursery trees) Activity 1.3: Develop a detailed plan for strengthening functions and management systems, including the human resource plan, and monitoring and evaluation plan of YARC and PBSC, as well as other proposed research centres and implement it, develop collaboration plan with universities Output: Strengthened YARC, PBSC, other new research centres with detailed plans, established collaboration plans between universities and research centres Activity 1.4 Secure budget to hire new researchers and to operate new research centres with the Directorate of Planning and Ministry of Finance Output: Secured budget with required amount Activity: 1.5 Recruit new researchers based on the human resource plan Output: Recruited new researchers Activity 1.6: Develop detailed training plan and implement it Output: Training plan with detailed contents for each subject and each training centre and trained researchers Component 2: Human resource deployment, provision of training, and provision of opportunities of study abroad Activity 2.1: Conduct training sessions for researchers Output: Trained researchers Activity 2.2: Deploy researchers to YARC, PBSC, and newly constructed research centres and inaugurate new centres Output: Deployed researchers and inaugurated 8 new training centres Activity 2.3: Conduct on the job training to provide technical support to researchers Output: Improved quality of research activities Activity 2.4: Selected researchers are sent to master's programs at foreign universities based on the plan Output: Improved knowledge about selected research areas with master's degree Activity 2.5: Sharing of newly obtained knowledge by returned researchers from foreign universities Output: Shared knowledge obtained from returned researchers Activity 2.6: Develop and share annual reports about research findings by all the research centres with technical support by the project Output: Annual report on research findings combined with a report from all the research centres Activity 2.7: Conduct monitoring and evaluation on strengthened research capacity and its impact on research activities and findings Output: Monitoring and evaluation report

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Research of MAFCRD, Yei Agricultural Research Centre, Palotaka Basic Seed Centre, State governments of the target areas
(2) Description of beneficiaries within the framework of the project:	Direct beneficiaries will be government researchers of all the research centres. Indirect beneficiaries will be staff of Directorate of Research, MAFCRD. Other indirect beneficiaries will be farmers across the country.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Improved quality and variety of research activities are conducted as results of the project. It will benefit farmers across the country, either to improve their productivity or profitability.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Through this project more than 50 researchers are expected to be deployed to 10 research centres across the country. • Agricultural research activities require the use of some chemicals. Volume of waste out of research activities will be increased. Total volume of these may not be significant, but frequent use of some chemicals and disposed wastes may cause negative environmental impacts. • Therefore, environmental guidelines should be developed and used for research activities to minimise environmental impacts due to research activities. (Positive) • Positive social impacts derived from the project outcomes are considered significant.	

Items	Information
	• Expansion of research activities with higher quality would certainly bring positive social impacts. • Some research topic may lead to a reduction of negative environmental impacts. Identification of the efficient use of organic pesticides to reduce negative impacts on soil and the development of disease resistant varieties, which reduces use of chemical pesticides, can be considered as examples.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and types of research activity conducted • Number of functioning research centres • Quantity of effectively used and well maintained research equipment • Number of researchers who received training • Number of reports written about research findings • Number and types of basic seeds kept by the research centres
(2) Measurable indicators and situation at the end point:	• Number of functioning research centres • Number of researchers and research assistants who received training and are deployed • Number and types of research activity conducted • Quantity of effectively used and well maintained research equipment • Number of research findings shared with the public and adopted by farmers • Number of research activities conducted according to the schedules in a strategic plan • Number of reports and published research papers written about research findings • Number and types of identified most efficient varieties of target crops released to farmers after successful trials • Number and types of seeds conserved by the research centres per crop • Number and types of identified disease resistant varieties per crop
(3) Methods of measurement and sources of information:	Annual reports by all the research centres, other reports about research findings, monitoring impact on extension workers and farmers, training records, records about on the job training, monitoring and evaluation report, number of leaflets and periodicals produced, number of reports and/or web-pages by foreign and/or international research institution, other government documents
(4) Responsible parties for the monitoring and evaluation:	Directorate of Research of MAFCRD in collaboration with State Ministry of Agriculture

2.7 Required human resources

(1) Principle of human resources management:	Number of researchers needs to be increased due to the expansion of types of research activities. A human resource plan must be developed according to research needs, and planned deployment of researchers needs to be implemented appropriately. Also researchers who will study abroad should be selected carefully from different specialties.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one senior staff) • Project staff at national level (3 staff, two with agricultural research background, ideally one with breeding background, one with plant health background, one with agronomy and/or soil background) for project management, detailed design, provision of training, logistics, monitoring, etc.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Masters degree or more, 15-year experience): One • Agronomy for cereals, grains, and legumes (Masters degree or more, 10-years experience or more): One • Agronomy for tubers and vegetables (Masters degree or more, 10-years experience or more): One • Agronomy for fruits, coffee, and tea (Masters degree or more, 5-years experience or more): One • Plant pathology (Masters degree or more, 10-years experience or more): One • Plant breeding (Masters degree or more, 10-years experience or more): One • Soil science (Masters degree or more, 5-years experience): One • Weed science (Masters degree or more, 5-years experience): One • Entomology (Masters degree or more, 5-years experience): One • Agricultural machinery (BSc or more, 10-years experience): One • Market and economic analysis (Master degree or more, 10-years experience or more): One • Data management and communication (BSc or more, 7-years experience or more): One • Training and coordination (BA or more, 3-years experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low	M: Medium	H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Possibly difficult to find funding sources to implement the infrastructure development project for research centres • Difficult to find appropriate and sufficient size of land and/or existing facilities • Difficult to secure government budget to hire sufficient numbers of new researchers and operate new research centres • Difficulty to find sufficient numbers of qualified researchers and research assistants			

Items	Information
	• Insecurity and conflicts at some target sites • Increased value of foreign currency while selected researchers study abroad

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• This project will be greatly affected by implementation of the "Development of research institution infrastructure" project. Thus, timing of starting of this project should be carefully considered, especially if the other project is expected to be implemented later than planned. • Research goals and detailed plans need to be developed according to the capacity of facility size and functions. Thus, the core staff of the Directorate of Research of MAFCRD should be interviewed about the research goals, activities and facility plans and their views incorporated into the construction plan of the research centres. • The research centre in Malakal should have a satellite office with large scale experimental plots. Agricultural machinery is one of the unique research topics that will be conducted at the research centre in Malakal due to the agricultural potential in Upper Nile State. However, enough land is not expected to be available in the Malakal area. Thus, a large scale experimental plot will be developed to conduct research activities about agricultural machinery in Renk.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic monitoring on how research activities are implemented and what findings are made at each centre. Monitoring should be conducted on a long term basis. Annual reports should be produced to explain about the research findings by all the research centres. Systematic efforts to share the research findings with extension officers and farmers should be made, once findings are made available to the public. For example, an on-farm research activity could be conducted to implement research findings during the project.

Attachment 1: Research activities and research themes to be strengthened

Terms	Category	Research activities/ Research themes
Short term (1st 10 years)	Basic research skills and activities	• Thermometry, gauging rainfall, soil testing, inventory establishment for existing varieties, data base development
	Biological control agents and pesticides	• Safe use of chemical pesticides • Development of disposal procedures for research chemicals
	Seed management	• Seed multiplication and avoidance of degeneration • Generation of seeds from pre-basic/basic to certified levels for cereals and legumes and maintenance of them
	Pest, disease and weed management	• Pest and disease diagnosis • Identification, evaluation and promotion of disease-resistant crop varieties • Safe use and management of chemical pesticides and conservation of natural enemies of pests • Identification of weeds and weed control measures (e.g. striga)
	Soil fertility	• Development of improved methods for using inorganic fertilizers • Identification of land husbandry methods to improve fertility and soil conservation
	Palatability	• Palatability testing
	Mechanisation and large scale farming	• Testing efficient use of farm machinery for large scale farming • Economic modelling of farm performance and profitability
	Socio-economic analysis	• Identification of prices and marketability of different varieties of crops at areas around each research station • Identification of the most cost efficient farming by different sizes of farms • Socio-economic gender analysis to identify the cost effective and profitable style of farming practice and marketing methods considering women' roles
	Conservation of germplasm	• Collection and conservation of germplasm for local varieties
	Numerical and statistical skills	• Numeracy skills for agriculture (crop area measurement, plant population, yield/area, gross and net plot, sprayer calibration, spray volume, active ingredient percentage, volume per unit area calculations, etc). • Experimental design (randomisation, replication, plot size, null hypothesis and hypothesis testing etc). • Basic statistics including sampling from populations, summary statistics, mean and standard deviation, ANOVA, basic tests, (t test and X^2), Introduction to use of statistical software (e.g. Genstat, SPSS etc).
	Work culture and skills	• Maintenance of research equipment, work ethics, communication skills, writing skills, team work skills
Terms	Category	• Research activities/ research theme
Middle term (next 6 years)	Research and operational skills	• Basic skills for tissue culture
	Seed management	• Generation and maintenance of pre-basic/basic to certified seeds for tubers • Commercialization of seeds for cereals and legumes and maintenance of them
	Pest, disease and weed management	• Evaluation of economic impact of pests and disease on yield • Design, evaluation and promotion of integral pest and crop management strategies • Identification, evaluation and promotion of culturally appropriate pest and disease management strategies • Identification of new varieties of weeds and weed control measures • Development of pest and disease resistance varieties for some key crops
	Soil fertility	• Development of methods for increasing efficiency of biological nitrogen fixation in leguminous plants • Development of measures to prevent replant diseases for key crops
	Fruits, nuts, coffee and tea	• Grow fruits, nuts, and cash crops such as mango, avocado, nuts, coffee, and tea including maintenance of nurseries
	Mitigation of climatic impacts	• Identification of drought and flood resistant varieties and strains • Use of weather records collected from the previous term for analysis on model change and/or variability
	Palatability	• Palatability testing
	Mechanisation and large scale farming	• Design and testing of locally appropriate farm tools and machinery including maintenance methods
	Socio-economic analysis	• Identification of comparative and competitive advantage on agricultural commodities produced in South Sudan
	Conservation of germplasm	• Collection and conservation of germplasm for all the national varieties • Generation and maintenance of pre-basic to certified seeds for tubers • Generation of commercial seeds for cereals and legumes and maintenance of them
Long term (next 6 years)	Research and operational skills	• Advanced skills for tissue culture
	Seed management	• Generation and maintenance of pre-basic/basic seeds to certified seeds for

Terms	Category	Research activities/ Research themes
		cash crops and fruits • Commercialisation of certified seeds for cereals and legumes
	Pest, disease and weed management	• Development of pest and disease resistant varieties for other types of crops • Identification, evaluation and promotion of culturally appropriate pest and disease management strategies • Identification of new varieties of weeds and weed control measures
	Soil fertility	• Identification of methods for cost effective use of organic fertilisers, mulching, minimum tillage, and cultural practices • Identification of measures to prevent replant diseases for other crops
	Fruits, nuts, coffee and tea	• Identification of the most appropriate varieties of fruits, nuts, coffee, and tea for each livelihood zones
	Mechanisation and large scale farming	• Identification of possibilities of more advanced farm tools and machinery including maintenance methods
	Conservation of germplasm	• Collection and conservation of germplasm for common international varieties

01.24 Development of research capacity project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**7,637**	**7,805**	**7,926**	**5,362**	**5,107**	**1,568**	**1,350**	**1,260**	**1,260**	**1,260**	**1,260**	**1,260**	**1,260**	**1,260**	**929**	**1,134**	**803**	**1,134**	**803**	**1,134**	**803**	**1,134**	**803**	**54,251**	**13,563**	**91%**
1 Deployment of government staff					**158**	**90**	**90**	**176**	**90**																	**603**	**151**	**1%**
1 Support in inauguration process (per diem)					41																					41	10	0%
2 Support in inauguration process (transportation)					27																					27	7	0%
3 On the job training at centres (per diem)					54	54	54	54	54																	270	68	0%
4 On the job training at centres (transportation)					36	36	36	36	36																	180	45	0%
5 Presentation of study at centres (per diem)								41																		41	10	0%
6 Presentation of study at centres (transportation)								45																		45	11	0%
2 Procurement of administrative services (contracted)						**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**1,000**	**250**	**2%**
1 Printing of Annual report (research works)						50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	1,000	250	2%
3 Procurement of professional services (contracted)			**7,178**	**7,178**	**7,178**	**3,679**	**3,424**	**1,170**	**1,170**	**1,170**	**1,170**	**1,170**	**1,170**	**1,170**	**1,170**	**1,170**	**839**	**1,044**	**713**	**1,044**	**713**	**1,044**	**713**	**1,044**	**713**	**47,034**	**11,758**	**79%**
1 International consultant (project management)			1,008	1,008	1,008	504	504	252	252	252	252	252	252	252	252	252	252	126	126	126	126	126	126	126	126	7,560	1,890	13%
2 International consultant (agronomy for cereals, grains, etc.)			720	720	720	360	360	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	4,500	1,125	8%
3 International consultant (agronomy for tubers, vegetables, etc.)			720	720	720	360	360	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	4,500	1,125	8%
4 International consultant (agronomy for fruits, etc.)			605	605	605	302	302	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	3,780	945	6%
5 International consultant (pathology)			540	540	540	180	180	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	3,600	900	6%
6 International consultant (breeding)			720	720	720	360	360	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	4,500	1,125	8%
7 International consultant (soil science)			605	605	605	302	302	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	3,780	945	6%
8 International consultant (weed science)			454	454	454	151	151	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	3,024	756	5%
9 International consultant (entomology)			302	302	302	227	151	76	76	76	76	76	76	76	76	76		76		76		76		76		2,268	567	4%
10 International consultant (agricultural machinery)			360	360	360	270	180	90	90	90	90	90	90	90	90	90		90		90		90		90		2,700	675	5%
11 International consultant (market and economic analysis)			360	360	360	270	180	90	90	90	90	90	90	90	90	90		90		90		90		90		2,700	675	5%
12 International consultant (data management, communications)			180	180	180	90	90																			720	180	1%
13 International consultant (training, coordination)			605	605	605	302	302	76	76	76	76	76	76	76	76	76		76		76		76		76		3,402	850	6%
4 Implementation of staff training			**419**	**586**	**550**	**1,503**	**1,503**	**133**																		**4,694**	**1,174**	**8%**
1 Meeting to develop research plan at Juba (per diem)			120																							120	30	0%
2 Meeting to develop research plan at Juba (transportation)			80																							80	20	0%
3 Meeting to develop strategic plan at Juba (per diem)			180	180																						360	90	1%
4 Meeting to develop strategic plan at Juba (transportation)			20	20																						40	10	0%
5 Meeting to develop detail plan at Juba (per diem)			11	11																						23	6	0%
6 Meeting to develop detail plan at Juba (transportation)			8	8																						15	4	0%
7 Planning workshop at Juba (per diem)				135																						135	34	0%
8 Planning workshop at Juba (transportation)				90																						90	23	0%
9 Training for research assistant at Juba (per diem)				68																						68	17	0%
10 Training for research assistant at Juba (transportation)				75																						75	19	0%
11 Training for researcher at Juba (per diem)					188																					188	47	0%
12 Training for researcher at Juba (transportation)					125																					125	31	0%
13 Training for research assistant at Juba (per diem)					113																					113	28	0%
14 Training for research assistant at Juba (transportation)					125																					125	31	0%
15 International education for researchers (per diem)						1,095	1,095																			2,190	548	4%
16 International education for researchers (transportation)						48	48																			96	24	0%
17 International education for researchers (tuition)						360	360																			720	180	1%
18 3 day conference for presentation of studies (per diem)								63																		63	16	0%
19 3 day conference for presentation of studies (transportation)								70																		70	18	0%

01.24 Development of research capacity project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance			**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**920**	**230**	**2%**
1 Supplies and consumables for office			40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	920	230	2%
2 Construction of infrastructure and procurement of equipment				**2,160**					**400**					**2,160**					**400**							**5,120**	**1,280**	**9%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles				**1,700**										**1,700**												**3,400**	**850**	**6%**
1 Pick up for research work				1,500										1,500												3,000	750	5%
2 Motorbike for research work				200										200												400	100	1%
7 Procurement of equipment				**460**					**400**					**460**					**400**							**1,720**	**430**	**3%**
1 ICT equipment for centres (laptop)				400					400					400					400							1,600	400	3%
2 ICT equipment for centres (printers)				20										20												40	10	0%
3 ICT equipment for centres (copiers)				40										40												80	20	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**7,637**	**9,965**	**7,926**	**5,362**	**5,107**	**1,568**	**1,750**	**1,260**	**1,260**	**1,260**	**1,260**	**3,420**	**1,260**	**1,260**	**929**	**1,134**	**1,203**	**1,134**	**803**	**1,134**	**803**	**1,134**	**803**	**59,371**		**100%**
Total (USD '000)			**1,909**	**2,491**	**1,981**	**1,341**	**1,277**	**392**	**437**	**315**	**315**	**315**	**315**	**855**	**315**	**315**	**232**	**283**	**301**	**283**	**201**	**283**	**201**	**283**	**201**		**14,843**	
% to total			**13%**	**17%**	**13%**	**9%**	**9%**	**3%**	**3%**	**2%**	**2%**	**2%**	**2%**	**6%**	**2%**	**2%**	**2%**	**2%**	**2%**	**2%**	**1%**	**2%**	**1%**	**2%**	**1%**	**100%**		

Public sector project | Private sector project

Routine work by government | Routine work by private sector

2.4.25 Extension system reform and efficient service delivery project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop						
(2) Project name:	Extension system reform and efficient service delivery project						
(3) Project ID:	0	1	.	2	5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2016/17					Ending FY: 2025/26	Duration (years): 10
(5) Total investment:	SSP 74,426,000					USD 18,607,000	Note: Not including recurrent cost
(6) Name of this file (automatic):	01.08_Q1==Q2==Q3=Q4=_141129_Project profile_Crop_Extension system reform and efficient service delivery project_v 7.docx						

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development – Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

In South Sudan, agricultural extension services are provided by the government. However, these services are inadequate due to limited human resources, means of transport, equipment, and budget for extension activities. An agricultural extension officer (AEO) is a person who delivers agricultural extension services to farmers. AEOs are supposed to be deployed in payam offices to provide effective extension services. However, AEOs are actually located in state or county offices of the Department of Agriculture. Currently, there are not appropriate offices and residential accommodation for AEOs in the payams.

Central Equatoria State deploys one AEO to some county offices such as Yei River, Morobo, and Lainya counties, but these AEOs are not enough numbers to provide appropriate extension services. Many county offices do not have AEOs because only a limited number of AEOs wish to work in rural areas. There is also limited budget to employ sufficient number of AEOs. According to the CAMP Situation Analysis Report (SAR), the total number of AEOs in South Sudan is 291 which should be sufficient to deliver extension services to all counties.[8] Also the SAR showed that many AEOs are not active and are deployed in state offices rather than county or payam offices. This prevents delivery of effective and sufficient extension services.

Limited means of transport and activity budget also hampers AEOs' activities. Many AEOs join the field activities of NGO extension workers so as to obtain transport; they then jointly provide extension services with the NGO extension workers.

Apart from AEOs, there are two types of extension workers, both employed by the states, who belong to other departments: 1) Community Development Officer (CDO). CDOs work under the Directorate of Rural Development. CDOs support communities to identify problems, embark on self-help projects and build communal facilities. Their responsibilities include awareness raising about health and sanitation as well as coordination for road construction. 2) Cooperative Officer (CO). COs work in the Directorate of Community Development, which promotes cooperative development in each state. COs support people who wish to establish, register, audit, and supervise management of a cooperative. Target groups are not limited to farmers.

CDOs and COs perform outreach activities, but extension work for agricultural purposes is not their responsibility. Therefore, CDOs and COs, and AEOs work separately, rather than collaboratively. The total number of CDOs is 252 and of COs is 255.[9] 54% of CDOs were deployed at county offices in 2011 and 28% of COs were deployed at county offices in 2011; the rest were deployed at state offices.[10]

It seems that the total numbers of CDOs and COs could provide better coverage, if they were assigned appropriately at the county and payam level. However, their means of transport and activity budgets are limited or even zero. Some CDOs had no activities planned due to lack of budget when the SAR was conducted. CDOs and COs are unable to carry out their duties because of the above situation.

Agricultural extension and other outreach work is implemented with limited resources. Activities service delivery is minimal and inefficient even though there are a total of 798 officers. Hiring more AEOs will not make a difference as long as the current extension system is dysfunctional. Rather, manpower and resources of existing AEOs, CDOs, and COs need to be utilised more effectively and efficiently. If the AEOs, CDOs, and COs were consolidated to provide agricultural extension services, there would be 798 people able to cover more areas.

If AEOs, CDOs, and COs could gain the knowledge and skills required to perform each other's duties (while still belonging to their current Ministries and Directorates), it would be possible to consolidate their services. Appropriate deployment of these three types of officers at county and payam offices will be necessary for better functioning extension services. If any AEOs, CDOs, and COs are inactive or do not wish to be deployed to county or payam offices, they need to be replaced.

[8] The original number was 285 but this was modified due to new information from Western Bahr el Ghazal and Western Equatoria states. Seconded AEOs to FAO are also counted in total numbers. April- June 2013, CAMP Situation Analysis.

[9] The Project for Livelihood Improvement in and around Juba for Sustainable Peace and Development, Ten States of South Sudan, July 2011. *Survey on the Situation of Rural Development and Agricultural Extension in Ten States of South Sudan.* Juba. Japan International Cooperation Agency. p.54, p.7.

[10] The Project for Livelihood Improvement in and around Juba for Sustainable Peace and Development, Ten States of South Sudan, July 2011. *Survey on the Situation of Rural Development and Agricultural Extension in Ten States of South Sudan.* Juba. Japan International Cooperation Agency. p.54.

Items	Information
	In order to improve and maintain the quality of extension services, monitoring and evaluation will be required, including job performance. Currently, there is no such system.
(2) Objectives:	• Establishment of a more effective agricultural extension system through consolidating AEOs, CDOs, and COs and their duties. • Deployment of them to appropriate locations (primarily to counties and payams) • Establishment of new monitoring and evaluation system including CDOs and COs.
(3) Overall description including temporal and spatial extent of project:	First, TORs for AEOs, CDOs and COs in terms of agricultural extension will be reviewed and developed. AEOs stationed in county offices will be in charge of supervising and providing technical support to other AEOs, CDOs, and COs in payam offices. Then, a list of current AEOs, CDOs, and COs will be made from payroll lists etc. Their ability and skill levels as well as other detailed information will be gathered. Inactive and non-existent (ghost) officers will be identified and measures developed to replace them. Counties and payams, where extension workers are needed, will be identified. After that, a deployment plan for all active extension officers (including replacement extension officers) will be developed, taking into account necessary skills and knowledge required at each identified location. Some AEOs will be redeployed to new offices based on the plan. Active CDOs and COs could also be redeployed to either county or payam offices. The deployment plan needs to be developed considering the officers' tribes, gender, years of experience, and knowledge and experience level about extension work. Training plans will be made for AEOs, CDOs and COs including not only agricultural extension, but also community and cooperative development. The establishment of training plans and provision of training for AEOs will be implemented by the "Strengthening of extension service delivery project". Budget allocation and execution for extension service delivery will be monitored. A monitoring and evaluation system on agricultural extension activities, including CDOs and COs, will be established. Then, trained CDOs, and COs will be deployed to county and payam offices. Office and residential accommodation will be rented in county and/or payam if not currently available. Necessary equipment and transport will also be procured and distributed for CDOs and COs. Deployment of trained AEOs, and provision of necessary transport and equipment would be done in "Strengthening of extension service delivery project". Existing community based extension workers (CBEWs) will be utilized to provide agricultural extension services at the boma level, but selection and training to CBEWs will be conducted under the "Strengthening of extension service delivery project". Activities related to the establishment of TORs for CDOs and COs, identification of AEOs, CDOs, and COs, planning for deployment, and development of training plans will be carried out in the first 18 months. Monitoring on budget planning and execution will start in the 1st year of the project so as to secure sufficient operational budget for extension work. Training for CDOs and COs will occur from the middle of the 2rd year to the 4th year of the project. Deploying AEOs, CDOs and COs to counties will be the first priority and to payams the second priority. Procurement and provision of transport for CDOs and COs will be carried out from the 2nd year to the 4th year of the project. AEOs, CDOs, and COs will start providing agricultural extension services after training and will be part of the newly established monitoring and evaluation system. Linkages between extension work and research activities will be strengthened. Periodic meetings among researchers at agricultural research centres, state Ministries of Agriculture and MAFCRD need to be held to exchange current information and opinions about agricultural technologies. Periodic meetings with NGOs and private companies such as seed and input companies should be held to strengthen collaboration for extension work.
(4) Component structure:	Component 1: Identification of available numbers of active AEOs, CDOs and COs and development of TORs for AEOs, CDOs and COs Component 2: Training and deployment of AEOs, CDOs and COs Component 3: Provision of agricultural extension services with the reformed system

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Identification of available numbers of active AEOs, CDOs and COs and development of TORs for AEOs, CDOs and COs Activity 1.1: Develop TORs for AEOs, CDOs, COs about agricultural extension work with required knowledge and skills Outputs: Newly developed TORs for AEOs, CDOs and COs Activity 1.2: Hold an inter-departmental meeting to reach agreement on proposed new arrangement for agricultural extension work and TORs for AEOs, CDOs and COs Outputs: Agreement on TORs on AEOs, CDOs and COs, and new roles of CDOs and COs (written as an official governmental document) Activity 1.3: Identify active, inactive and non-existent AEOs, CDO, and COs with their

Items	Information
	background information. Deployment requirements and office availability in the payams will be collected from the county offices Outputs: List of active, inactive and non-existent AEOs, CDOs, and COs with their background information. AEOs may be identified by "Strengthening of extension service delivery project". Suitable payam offices for deployment identified. 79 counties will be visited to learn about the current situation of CDOs and COs. Activity 1.4: Develop a deployment plan for existing active AEOs, CDOs, and COs and recruitment plan to fill vacant positions of AEOs, CDOs, and COs Outputs: Report on filled and vacant positions for AEOs, CDOs, and COs, deployment plan and recruitment plan for AEOs, CDOs, and COs Activity 1.5: Monitor budget allocation and execution to secure sufficient budget for agricultural extension delivery Output: Secured budget for agricultural extension delivery (This activity needs to be coordinated with a related project which might be implemented under the institutional development sub-sector.) Component 2: Training and deployment of AEOs, CDOs and COs Activity 2.1: Eliminate non-existent and inactive AEOs, CDOs, and COs, who decide to leave, from the registration list and the payroll system Outputs: Only active AEOs, CDOs, and COs on the government list of AEOs; number of AEO/CDO/CO positions which need to be filled by recruitment Activity 2.2: Recruit necessary numbers of AEOs, CDOs, and COs Outputs: Full complement of AEOs, CDOs, and COs (Official recruitment processes will be taken by the responsible state Ministries and Directorates.) Activity 2.3: Deploy newly recruited AEOs, CDOs and COs to county and payam offices Outputs: County and payam offices with full complement of trained AEO/CDO/COs (Training for newly recruited AEOs will be provided by the "Strengthening of extension service delivery project" as for other AEOs. Activity 2.4 : Develop a training plan and curriculums for CDOs and COs Outputs: Training plan with schedules and curriculums for CDOs and COs Activity 2.5: Train CDOs and COs according to the agreed requirements Outputs: Trained CDOs and COs knowledgeable about agricultural extension (AEOs will trained by the "Strengthening of extension service delivery project".) Activity 2.6: Procure and provide transport and necessary equipment for agricultural extension work to trained CDOs and COs (Transport and necessary equipment for AEOs will be procured and provided by "Strengthening of extension service delivery project".) Outputs: CDOs and COs with transport, necessary equipment, and materials for agricultural extension Activity 2.7: Rent offices and residential accommodation for AEOs, CDOs, and COs in county and payams as necessary Outputs: Offices and housing for AEOs, CDOs, and COs. Component 3: Provision of agricultural extension services with the reformed system Activity 3.1: Newly trained and equipped AEOs, CDOs, and COs will start providing agricultural extension services Outputs: Better extension services by trained AEOs, CDOs and COs Activity 3.2 : Assess current routine monitoring and evaluation (M & E) system and activities on agricultural extension work Outputs: Knowledge of routine M & E system and current situation and challenges Activity 3.3: Develop a detailed plan how CDOs and COs could be integrated into the current M & E system Outputs: Monitoring and evaluation system for agricultural extension work (CDOs and COs in payams will be obliged to report their activities to AEOs at the county level; those at county level will need to report to the state Ministry of Agriculture as AEOs currently do. Regular field visits to bomas to support and monitor community based extension workers' (CBEW) activities will also be the responsibility of AEOs, CDOs and COs in payams. CDOs and COs will need to participate in county wide meetings with AEOs and CBEWs 4 times a year in addition to state wide meetings with AEOs twice a year to report and consult on their activities. If AEOs, CDOs and COs do not perform their duties related to agricultural extension work, there will be follow up by their supervisors.) Activity 3.4: Implement a new M & E system and review its use Outputs: Improved monitoring and evaluation system Activity 3.5: Provide in-service training for CDOs and COs to update agricultural extension knowledge and skills every 3 years Outputs: CDOs and COs with updated knowledge and skills about agricultural extension (In-service training on AEOs will be provided by "Strengthening of extension service delivery project'.) Activity 3.6: Provide induction training to newly recruited CDOs and COs

Items	Information
	(Every year, some CDOs and COs may retire. Thus, induction training is provided every year in each state. Induction training for new AEOs will be provided by "Strengthening of extension service delivery project".) Outputs: New CDOs and COs with basic knowledge and skills about agricultural extension work Activity 3.7: Hold periodic meetings among representatives from agricultural research centres, state Ministries of Agriculture, Directorate of Research of MAFCRD, and Directorate of Agricultural Production and Extension Services to share updated information about agricultural technologies Outputs: AEOs, CDOs, COs, CBEWs, and farmers with updated information about agricultural technologies Activity 3.8: Hold periodic meetings among state Ministries of Agriculture, NGOs and private companies to share activity information and opinions about extension work Outputs: Better coordinated extension services as different actors share information Activity 3.9: Establish maintenance system of motorcycles and equipment for AEOs, CDOs, and COs Outputs: Maintained motorcycle and equipment (Only approved repair shops will provide repair services for motorcycles at the project's expense. Broken equipment could be either replaced and/or repaired depending on its condition. A report must be made to the state office. Budget for this maintenance system needs to be part of the government budget by the end of the project.)

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Agriculture Production and Extension Services, Directorate of Rural Development, and Directorate of Cooperative Development in the MAFCRD are main service providers at the national level. Concerned departments related to agricultural extension, community development, and cooperative development in the state, county, and payam governments are key service providers at state, county, and payam levels. Training for CDOs and COs will be provided by training centres in each state.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are AEOs, CDOs, COs to gain new knowledge and skills to fulfil their newly defined TORs. Secondary beneficiaries of the project are farmers who receive extension services under the reformed extension system.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Outputs of this project contribute to improvement of the knowledge and skills of farmers. It would increase farmers' productivity and yields which should increase their profits. Through the extension system reform, AEOs, CDOs and COs will be able to provide a broad range of services, combining views from agricultural extension, community development, and cooperative development. Thus, positive actions for community development and cooperative development could be expected in the agriculture sector.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) This project does not require any construction of buildings. Motorcycles will be provided to CDOs and COs, but these will be maintained well for a long period of time through the maintenance system. The project's main objective is to reform the extension system and strengthen capacity of human resources such as CDOs and COs. Therefore, negative environmental impacts seem to be limited. (Positive) Positive impacts on farmers because of extension system reform would be significant and large numbers of AEOs, CDOs and COs will start engaging in agricultural extension work in wider areas.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of active, inactive and non-existent AEOs • Quantity of available transport to provide agricultural extension services • Amount of budget spent for extension activities for each type of extension officer
(2) Measurable indicators and situation at the end point:	• Number of newly trained and deployed AEOs, CDOs, and COs • Quantity of available transport to provide agricultural extension services • Amount of budget spent for extension activities • Number of farmers received extension services during the project period • Number of records and/or reports for monitoring and evaluation
(3) Methods of measurement and sources of information:	Surveys, checking records of M & E, field visits, and interviews will be the main methods of measurement. Sources of information will be a new list of AEOs, training records,

Items	Information
	deployment records, M & E records, records about delivery of transport and equipment, related government documents, budget plan and execution records
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agriculture Production and Extension Services, Directorate of Rural Development, and Directorate of Cooperative Development in the MAFCRD Ministry of Agriculture at each state

2.7 Required human resources

(1) Principle of human resources management:	• Total numbers of AEOs, CDOs, and COs will not be increased, but if there were any elimination from the payroll list, the same numbers of AEOs, CDO, and COs will be recruited. • Coordination among different Directorates at MAFCRD is essential to implement this project. At national and state level, information sharing, support and coordination based on official agreement with other Ministries using CDOs and COs will be critical to implement this project successfully. • M & E on CDOs and COs needs to be carefully conducted, but will be key to maintain the reformed system.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3 or 4) • Project staff from MAFCRD (three staff, one staff from the Directorate of Agricultural Production and Extension Services, one staff from Directorate of Rural Development, and one staff from Directorate of Cooperative) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • From each state, Director of Extension and Senior Inspector of Extension, grade 7 and Inspector of Extension, grade 8. These project staff from the state Ministry of Agriculture will work with MAFCRD to implement the project. • Directors and key staff of the concerned state ministries about CDOs and COs support project implementation.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Agricultural extension (BA or BSc, 10-years experience or more): One • Institutional development (BA, 10-years experience or more): One • Education and training (BA, 5-years experience or more): One • Project coordinator (BA in Agriculture desirable, 3-years experience or more): One Training for CDOs and COs will be provided by CTC Yei and other government training centres (BA or more in Agricultural discipline, 10-year experience or more for extension and/or training on extension) CTC Yei and other government training centres could use either their permanent teaching staff or hire temporary teaching staff from other organizations.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	• Possibly difficult to obtain cooperative attitudes about adding tasks of agricultural extension work to the workload of CDOs and COs by the concerned Directorates of MAFCRD and Departments in state ministries • Elimination of non-active and/or non-existent AEOs, CDOs, and COs from the government payroll may cause strong objections and/or sabotage of project implementation by some people. • Difficulties of finding sufficient numbers of active and/or existing AEOs, CDOs, and COs • Insecurity and conflicts in rural areas

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• Full explanations and discussions among the main stakeholders are essential considering the number of government employees to be affected among the three different Directorates. Especially, acceptance and cooperation will be essential from the concerned ministries and directorates at state level. • Coordination and information sharing with the "Strengthening of extension service delivery project" is critical for smooth implementation of the project since this project provides training, transport, and equipment for AEOs. • Activities related to elimination of non-active and/or non-existent AEOs, CDOs, and COs from the government payroll need to be cautiously implemented with consent of concerned people in various Directorates of MAFCRD and state ministries.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required	Periodic reporting and supervision will be conducted for extension service delivery. Required numbers of AEO/CDO/COs need to be deployed to appropriate locations to county and payam levels. Financial arrangements are also key to provide the salaries of newly deployed AEOs, CDOs, and COs. Budget for procuring transport and necessary equipment, as well as to carry out activities for delivering extension services, needs to be a recurrent cost financed by the government after the completion of the project.

Items	Information
resources can be done in an indicative manner.	

01.25 Extension system reform and efficient service delivery project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project		**2,649**	**3,182**	**7,895**	**7,785**	**8,411**	**7,763**	**7,823**	**7,763**	**7,763**	**7,929**															**68,966**	**17,242**	**93%**
1 Deployment of government staff		**50**		**176**	**176**	**68**	**68**	**68**	**68**	**68**	**68**															**807**	**202**	**1%**
1 Meeting for planning at Juba (per diem)		32																								32	8	0%
2 Meeting for planning at Juba (transportation)		18																								18	5	0%
3 CBEW training at states (per diem)				144	144																					288	72	0%
4 CBEW training at states (transportation)				32	32																					64	16	0%
5 Monitoring & evaluation by national staff (per diem)						41	41	41	41	41	41															243	61	0%
6 Monitoring & evaluation by national staff (transportation)						27	27	27	27	27	27															162	41	0%
2 Procurement of administrative services (contracted)					**10**	**10**	**10**	**10**	**10**	**10**	**10**															**70**	**18**	**0%**
1 Radio extension program					10	10	10	10	10	10	10															70	18	0%
3 Procurement of professional services (contracted)		**2,515**	**2,063**	**1,670**	**1,490**	**1,339**	**691**	**691**	**691**	**691**	**857**															**12,699**	**3,175**	**17%**
1 International consultant (project management)		810	720	630	450	450	180	180	180	180	270															4,050	1,013	5%
2 International consultant (extension)		360	360	360	360	360	360	360	360	360	360															3,600	900	5%
3 International consultant (agronomy)		302	227	227	227	151	76	76	76	76	76															1,512	378	2%
4 International consultant (education and training)		454	302	227	227	227					76															1,512	378	2%
5 International consultant (project coordination)		454	454	227	227	151	76	76	76	76	76															1,890	473	3%
6 Local consultant (need assessment)		135																								135	34	0%
4 Implementation of staff training		**84**	**1,119**	**6,009**	**6,069**	**275**	**275**	**335**	**275**	**275**	**275**															**14,989**	**3,747**	**20%**
1 Preparatory workshop (AEO) at Juba (per diem)		54																								54	14	0%
2 Preparatory workshop (AEO) at Juba (transportation)		30																								30	8	0%
3 AEOs training at CTC, Yei (per diem)			756																							756	189	1%
4 AEOs training at CTC, Yei (transportation)			270																							270	68	0%
5 In-service trainings for AEOs at centres (transportation)					60			60																		120	30	0%
6 AEOs induction trainings at centres (per diem)			7	7	7	7	7	7	7	7	7															67	17	0%
7 AEOs induction trainings at centres (transportation)			1	1	1	1	1	1	1	1	1															12	3	0%
8 Preparatory workshop (CBEW) at Juba (per diem)			54																							54	14	0%
9 Preparatory workshop (CBEW) at Juba (transportation)			30																							30	8	0%
10 CBEW training at states (per diem)				5,600	5,600																					11,200	2,800	15%
11 CBEW training at states (transportation)				400	400																					800	200	1%
12 2 day periodical meeting by AEOs at states (transportation)						108	108	108	108	108	108															648	162	1%
13 1.5 day meeting by CBEWs at counties (per diem)						158	158	158	158	158	158															948	237	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector				**40**	**40**	**6,720**	**6,720**	**6,720**	**6,720**	**6,720**	**6,720**															**40,401**	**10,100**	**54%**
1 Fuels for selection of CBEWs (at boma)				40	40																					81	20	0%
2 Experimental plots at bomas						840	840	840	840	840	840															5,040	1,260	7%
3 Farmer to farmer visits supported by AEOs and CBEWs						1,680	1,680	1,680	1,680	1,680	1,680															10,080	2,520	14%
4 Field visits supported by AEOs and CBEWs						4,200	4,200	4,200	4,200	4,200	4,200															25,200	6,300	34%
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment			**3,120**	**1,110**	**1,110**						**120**															**5,460**	**1,365**	**7%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												

01.25 Extension system reform and efficient service delivery project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
6 Procurement of vehicles			**3,000**	**1,050**	**1,050**																					**5,100**	**1,275**	**7%**
1 Provision of motorbikes for AEOs			3,000																							3,000	750	4%
2 Provision of bicycles for CBEWs				1,050	1,050																					2,100	525	3%
7 Procurement of equipment			**120**	**60**	**60**						**120**															**360**	**90**	**0%**
1 Farm tools and equipment for AEOs			120								120															240	60	0%
2 Farm tools and equipment for CBEWs				60	60																					120	30	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)		**2,649**	**6,302**	**9,005**	**8,895**	**8,411**	**7,763**	**7,823**	**7,763**	**7,763**	**8,049**															**74,426**		**100%**
Total (USD '000)		**662**	**1,575**	**2,251**	**2,224**	**2,103**	**1,941**	**1,956**	**1,941**	**1,941**	**2,012**																**18,607**	
% to total		**4%**	**8%**	**12%**	**12%**	**11%**	**10%**	**11%**	**10%**	**10%**	**11%**															**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.26 Establishment and enhancement of national higher educational institutions for agriculture project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop						
(2) Project name:	Establishment and enhancement of national higher educational institutions for agriculture project						
(3) Project ID:	0	1	.	2	6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2020/21			Ending FY: 2029/30		Duration (years): 10	
(5) Total investment:	SSP 37,865,000			USD 9,466,000		Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	10	MAF-ET	Directorate of Agricultural Education and Training	Table 2-6
(3) Activity types:	210	SP-SI	Service delivery/infra. dev.- Social infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	X

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	There is a strong demand for higher education in agriculture in South Sudan. For example, the University of Juba has a College of Natural Resources and Environmental Studies. In that College, 4 departments are available: Agricultural Science, Animal Production, Forestry and Fisheries. All the departments require 5 years to complete the undergraduate programmes. In 2013, 172 students registered to study Agricultural Science, 139 for Animal Production, 106 for Forestry, and 73 for Fisheries. In total there are 490 students studying agriculture at the University of Juba to complete their bachelor's degree. There are assumed to be a similar number of students studying agriculture at other universities. This information shows the high demand to study agriculture in the country. In South Sudan, there are four universities offering courses related to the crop subsector: the University of Juba, Upper Nile University, John Garang Memorial University, and the Catholic University of South Sudan. Classes offered vary with university, but all lead to a bachelor's degree in agriculture. The University of Juba and Upper Nile University also offer courses for the livestock, forestry, and fisheries subsectors. Western Bahr el Ghazal University also teaches livestock courses. Having these universities in different states is advantageous for students residing in different areas. However, there are many challenges that hamper these universities. For example, courses are composed mainly of theoretical classes. This is due to lack of land for practice and experiment in agriculture on campus. There is no post graduate student study at the University of Juba except for the Department of Fisheries. This is because teaching staff and facilities are limited to be able to offer post-graduate courses. Funding sources are government subsidies, DPs' support, and students' tuition and these are not enough to expand and/or improve the quality of courses. The situation is similar at different universities. There is no collaboration among the universities and private and government training centres in South Sudan to enhance opportunities for field practices and laboratory experiments. Moreover, geographically speaking, establishing a new higher education institute in the Greenbelt offering classes and courses different to the existing universities, would increase opportunities to prospective students for higher education in the agricultural sector. In the past, there was a higher education institute called "Yambio Institute of Agriculture" in Western Equatoria State. It used to be the only agricultural educational institution in the southern part of Sudan until the 1970s. Unfortunately, it was destroyed during the war, but it played an important role in teaching agriculture to the older generation. There is enough land available on the former site of the Yambio Institute of Agriculture, which has the potential to be reconstructed as a higher agricultural education institute strong in tropical agriculture. The newly established agricultural higher education institute will fall under the jurisdiction of MAFCRD. It will offer accredited university level qualifications (bachelor's degrees and diplomas).
(2) Objectives:	Main objective of the project is to enhance the variety and quality of available classes at higher education institutes in agriculture.
(3) Overall description including temporal and spatial extent of project:	The project has two components. One is strengthening the existing universities and the other is re-establishment of a new higher education institute (university level) where the former Yambio Institute of Agriculture is located. The first component is planned to be implemented in the first 4 years. The early activities will target the improvement of teaching staff, teaching facilities, and equipment so as to increase available courses and improve the quality of classes. Demands and requirements to establish post-graduate courses at Juba University will be identified. Support from existing training centres and educational institutions will be acquired in order to offer students practical experience in their courses. To improve the financial situation, budget and expenditures will be examined and potential fund sources investigated. To find the precise needs of all universities' agriculture departments, interviews and site visits will be conducted. Plans for strengthening each university will be developed based on this, plus discussions with the Directorate of Agricultural Education and Training, as well as university staff. The University of Juba will be the first target to be strengthened and other universities will follow, but some activities may be implemented simultaneously. Impacts of these activities will be assessed within the project time-period. The second component will be implemented in the second 6 years. Site visits and interviews will be made to assess the current situation. As in earlier activities, vision, mission, values, and required knowledge and skills, which are not available at existing universities, will be discussed with the director and staff of the Directorate of Agricultural

Items	Information
	Education and Training. These discussions will also examine the concept to re-establish an agriculture specialized higher education institute at Yambio, given its geographical advantage. Facility plans, course contents, required staff, required budget, collaboration systems with other educational and research institutions will be developed. The accreditation process, as a university, with the Ministry of Higher Education and budget negotiation with the Ministry of Finance will be initiated during the planning phase. These activities need to be done in the first two years. Construction is arranged and implemented in the third year and fourth year. During construction, all course materials are developed. After the completion of construction, required staff are assigned to the institute and students for the first year will be recruited from across the country.
(4) Component structure:	Component 1: Strengthening the existing universities Component 2: Re-establishment of a new higher education institute where former Yambio Institute of Agriculture is located

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Strengthening the existing universities Activity 1.1: Identify needs of each university to improve their educational services and to establish post graduate courses, through interviews and site visits Output: Needs assessment report Activity 1.2: Develop strategies and a detailed plan for strengthening functions of these universities including teaching standards Output: Strategies and detailed plans including information about teaching quality, improvement of curriculums and class contents, and equipment to increase available courses and improve quality of classes for each university Activity 1.3: Decide details about post graduate courses for Juba University Output: Detailed plan includes objective, curriculum, class contents, requirements, timeline, necessary annual budget, necessary professors for post graduate courses Activity 1.4: Seek and secure new source of funds to establish and maintain post graduate courses at Juba university Output: Secure source of funds and clarify amounts Activity 1.5: Develop a plan with the existing training centres, other educational institutions, and agricultural research centres on how to collaborate, especially for creating opportunities for field practice and laboratory experiment Output: More field practices and laboratory experiments are available through collaboration with other educational and research institutions such as the establishment of an intern system to gain field practice and/or laboratory experience. Activity 1.6: Procure necessary equipment to conduct field practice and laboratory experiments with support from other educational and research institutions Output: Procured essential equipment Activity 1.7: Recruit new teachers for post graduate courses Output: 4 new professors for post graduate program Activity 1.8: Prepare to start new programs at all the universities Activity 1.9: Monitor and evaluate quality of classes and activities at strengthened universities and provide technical support to each university to improve teaching quality according to the strategies and detailed plans made (Monitor selected classes of different departments and hold a session with each faculty member teaching agriculture related subjects to provide technical support for improvement of teaching quality including contents and materials.) Outputs: Monitoring reports and improved teaching quality of each faculty member at five universities Component 2: Re-establishment of a new higher education institute where the former Yambio Institute of Agriculture was located Activity 2.1: Conduct needs assessment to establish a new agricultural higher education institute Output: Needs assessment report Activity 2.2: Discuss and develop strategies and detailed plans to establish a new higher education institute with the staff of the Directorate of Agricultural Education and Training of MAFCRD and MLFI Output: Strategies, detailed implementation plan, vision, mission, values, facility plans, curriculum, staff, equipment, budget for a new higher education institute Activity 2.3: Seek and secure budget Output: Secured funding source and sufficient amount for operational budget Activity 2.4: Implement activities for accreditation of the new institute as a university level educational institution with the Ministry of Higher Education Output: Completed accreditation process as a higher education institute Activity 2.5: Arrange and implement construction Output: Constructed buildings and facilities Activity 2.6: Recruit required staff

Items	Information
	Output: Newly employed staff start work at the new institute Activity 2.7: Train newly employed teaching staff Output: Standardized quality of teaching Activity 2.8: Procure necessary equipment, furniture and office equipment Output: Procured equipment for field practice and laboratory experiment, furniture, and office equipment Activity 2.9: Develop collaboration methods and strategies with other existing universities, training centres and research centres Output: Collaboration plan with other universities, educational and research institutions Activity 2.10: Recruit students for the first year Output: Students studying at the institute Activity 2.11: Monitor and evaluate quality of education and operation of the institute Output: Monitoring reports

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Universities which offer agriculture related courses are the main implementing institutions for this project. Directorate of Agricultural Education and Training of MAFCRD provides technical support. Operational budget is provided by MAFCRD and students' tuitions are expected to cover about 30% of operation costs for the universities. CTC Yei, Kagelu Forestry Training Centre, Marial Lou Livestock Training Centre, Padak Fisheries Training Centre, AMADI Rural Development Institute, and Yei Agricultural Training Centre will collaborate with each university and the newly established higher education institute to provide opportunities for field practices and laboratory experiments.
(2) Description of beneficiaries within the framework of the project:	Universities which offer agriculture related courses, staff of newly established higher education institute for agriculture, university students, students for the newly established institute, above mentioned training centres and institutes, concerned officials of MAFCRD

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Strengthened existing universities • Established new agricultural higher education institute • Improved varieties and quality of higher agricultural education • Established post graduate courses at Juba University • Increased numbers of the students who study agriculture • More effective and efficient agricultural practice in the country in the long term
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Constructing new buildings for establishing a higher education institute will leave some negative environmental impacts in Yambio. For example, after starting the university courses, staff and students would use the facilities and water consumed from dormitories and laboratories could impact the environment negatively. • Excrements from livestock and poultry would cause negative environmental impacts. Some clarification of land use (land tenure, clearing of trees etc.) might be necessary to construct the required facilities. Therefore, development guidelines to minimize environmental impacts are suggested. Excrements from livestock and poultry could be utilized to make manure to minimize negative environmental impacts. (Positive) • Strengthening the functions and quality of university classes at existing universities and the creation of educational opportunities at the newly established institute will create positive impacts for society in the long term.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and titles of available classes related to agriculture at each university • Number of teaching staff for agriculture subjects at each university • Availability of field experiences for agricultural courses • Amount of budget and number of funding sources for Departments of Agriculture at each university • Quantity of available equipment and facilities
(2) Measurable indicators and situation at the end point:	• Number and titles of available classes related to agriculture at each university and the new higher education institute • Number of teaching staff for agriculture subjects at each university and the new higher education institute • Availability of field experiences for agricultural courses

Items	Information
	• Amount of budget and number of funding sources for Departments of Agriculture at each university and the new higher education institute • Number of students at each university • Quantity of available equipment and facilities • Number and types of collaborative relationships with existing training centres/institutes • Number of students who find employment opportunities after graduation and types of their employment opportunities
(3) Methods of measurement and sources of information:	Records of universities, records of newly established higher education institute, project reports government documents
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agricultural Education and Training of MAFCRD

2.7 Required human resources

(1) Principle of human resources management:	People in charge of this project need to have flexibility to listen to opinions of university staff and other stakeholders. University staff involved in the implementation of this project , teaching staff at universities and at the new higher education institute must buy in to this project.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one senior staff) • Project staff (five covering the following specialities: agronomy, forestry, animal husbandry, fisheries, agricultural education/training) for project detailed design, project implementation and management, procurement, logistics, and monitoring, etc. At least one of the above staff members should be selected from the Directorate of Agricultural Education and Training of MAFCRD
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Agronomy (BSc or BA, 10-years experience or more): One • Animal husbandry (BSc or BA, 10-years experience or more): One • Forestry (BSc or BA, 10-years experience or more): One • Fisheries (BSc or BA, 10-years experience or more): One • Education and training (BA, 10-years experience or more): One • Project coordinator (BA in Education or Agriculture, 3-years experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered. • Difficult to find appropriate construction companies in a timely manner • Difficulties of securing government funding to operate the newly established agricultural higher education institute • Difficulties of finding qualified teaching staff • Difficulties of finding and maintaining funding sources to strengthen the existing universities • Difficult to obtain accreditation for the newly established higher education institute in Yambio from the Ministry of Higher Education, Science and Technology • Insecurity and conflicts at target sites and interview sites • Unfavourable road conditions to implement the project

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Sustainability of funds for all the universities and attempts for diversification of funding sources need to be constantly considered. Financial management of the newly established education institute needs to be sustainable. Recruiting qualified teaching staff is also critical to raise and/or maintain the quality of education at universities and the newly established higher education institute.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic monitoring on how university courses are operated should be conducted by the Directorate of Agricultural Education and Training of MAFCRD jointly with staff of the monitored education entities. Financial sources need to be stabilized and the amount of tuition fees needs to be increased to support the universities and the new education institute's activities and operation. Number of students graduated from the universities should be monitored by Departments to ensure quality of degrees.

01.26 Establishment and enhancement of national higher educational institutions for agriculture project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**3,930**	**3,491**	**2,719**	**2,871**	**2,859**	**1,426**	**1,236**	**818**	**211**	**211**											**19,772**	**4,943**	**52%**
1 Deployment of government staff						**43**	**30**		**26**	**14**				**10**	**10**											**133**	**33**	**0%**
1 Need assessment survey for 4 universities (per diem)						7																				7	2	0%
2 Need assessment survey for 4 universities (transportation)						6																				6	2	0%
3 Planning workshop at 4 universities (per diem)						18	18																			36	9	0%
4 Planning workshop at 4 universities (transportation)						12	12																			24	6	0%
5 Monitoring and evaluation (per diem)									5	5																11	3	0%
6 Monitoring and evaluation (transportation)									9	9																18	5	0%
7 Need assessment survey at W.E (per diem)									5																	5	1	0%
8 Need assessment survey at W.E (transportation)									6																	6	2	0%
9 Monitoring and evaluation (per diem)														4	4											7	2	0%
10 Monitoring and evaluation (transportation)														6	6											12	3	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**3,802**	**3,384**	**2,642**	**2,768**	**2,768**	**1,339**	**1,159**	**742**	**202**	**202**											**19,008**	**4,752**	**50%**
1 International consultant (project management)						1,008	756	630	756	756	378	378	126	126	126											5,040	1,260	13%
2 International consultant (agronomy)						540	540	360	360	360	180	180	180													2,700	675	7%
3 International consultant (animal husbandry)						540	540	360	360	360	180	180	180													2,700	675	7%
4 International consultant (forestry)						450	450	360	360	360	90	90	90													2,250	563	6%
5 International consultant (fisheries)						450	450	360	360	360	90	90	90													2,250	563	6%
6 International consultant (education and training)						360	270	270	270	270	270	90														1,800	450	5%
7 International consultant (project coordinator)						454	378	302	302	302	151	151	76	76	76											2,268	567	6%
4 Implementation of staff training						**65**	**77**	**77**	**77**	**76**	**87**	**77**	**77**													**612**	**153**	**2%**
1 Workshop on postgraduate course at Juba (per diem)						45																				45	11	0%
2 Workshop on postgraduate course at Juba (transportation)						20																				20	5	0%
3 Meeting for collaboration among institutions (per diem)							29	29	29																	86	22	0%
4 Meeting for collaboration among institutions (transportation)							48	48	48																	144	36	0%
5 Workshop for planning of new institutions (per diem)										47																47	12	0%
6 Workshop for planning of new institutions (transportation)										26																26	7	0%
7 Meetings with decision makers (per diem)										3																3	1	0%
8 Training for newly employed staff at Juba (per diem)											10															10	3	0%
9 Meeting for collaboration among institutions (per diem)											29	29	29													86	22	0%
10 Meeting for collaboration among institutions (transportation)											48	48	48													144	36	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**20**																				**20**	**5**	**0%**
1 stationaries and consumables for new institution						20																				20	5	0%
2 Construction of infrastructure and procurement of equipment						**300**		**240**		**8,570**	**8,983**															**18,093**	**4,523**	**48%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings										**8,570**	**8,570**															**17,140**	**4,285**	**45%**
1 Construction of facilities in new institution										8,570	8,570															17,140	4,285	45%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities											**28**															**28**	**7**	**0%**
1 Experimental plots, pond in new institute											28															28	7	0%
5 Acquisition of land																												

01.26 Establishment and enhancement of national higher educational institutions for agriculture project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
6 Procurement of vehicles						**300**																				**300**	**75**	**1%**
1 Pick up for new institution						300																				300	75	1%
7 Procurement of equipment								**240**			**385**															**625**	**156**	**2%**
1 20 laboratory equipment for 4 universities								160																		160	40	0%
2 50 equipment for field practice for 4 universities								80																		80	20	0%
3 30 laboratory equipment for new institutions											60															60	15	0%
4 50 equipment for field practice for new institutions											20															20	5	0%
5 300 desks & chairs											45															45	11	0%
6 ICT equipment											220															220	55	1%
7 Generators											40															40	10	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**4,230**	**3,491**	**2,959**	**2,871**	**11,429**	**10,409**	**1,236**	**818**	**211**	**211**											**37,865**		**100%**
Total (USD '000)						**1,057**	**873**	**740**	**718**	**2,857**	**2,602**	**309**	**205**	**53**	**53**												**9,466**	
% to total						**11%**	**9%**	**8%**	**8%**	**30%**	**27%**	**3%**	**2%**	**1%**	**1%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.27 Establishment and enhancement of agricultural vocational institutions project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Establishment and enhancement of agricultural vocational institutions project				
(3) Project ID:	0 1 . 2 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2020/21	Ending FY: 2029/30	Duration (years):	10
(5) Total investment:	SSP 17,424,000		USD 4,356,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	10	MAF-ET	Directorate of Agricultural Education and Training	Table 2-6
(3) Activity types:	210	SP-SI	Service delivery/infra. dev.- Social infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

The mandate of MAFCRD includes achieving food security at household and regional levels in South Sudan. A primary industry of South Sudan is agriculture and improvement of the agricultural skills of farmers would ameliorate the food security situation. Many subsistence farmers and/or ordinary people, as well as socially vulnerable people, who want to start agriculture, would like to gain practical skills and knowledge about agriculture which they could immediately apply. However, due to their financial difficulties, time limitations, and limited availability of training opportunities, they are unable to easily acquire these skills and knowledge. Many of these people have minimal educational backgrounds and have limited opportunities to learn about agricultural skills in educational and/or training settings. Consequently, improving practical agricultural skills through vocational training would lead to the betterment of the food security situation.

Vocational training has a potential to play an important role for a broad range of people to acquire practical skills. Vocational training centres could provide technical and practical skills which could be immediately used at work. It is more accessible than universities and existing agricultural training centres. Therefore, more varieties of agricultural classes, including shorter courses with lower prices, should be provided through vocational training centres. Target populations of this project are ordinary adults, subsistence farmers, and socially vulnerable people such as refugees, returnees, IDPs, women, youth, and people with disabilities.

Students who wish to study at vocational training centres should be able to pay for tuition and have access to land that they can cultivate because of the nature of vocational training. In the case of returnees, IDPs and refugees, they should have been designated a place to be resettled with suitable land for agriculture. Arrangements may have to be made to assist them pay tuition fees, maybe by NGOs or other donors.

As far as the vocational training is concerned, both the Ministry for Labour, Public Service and Human Resource Development (MLPSHRD) and Ministry of General Education and Instructions (MOGEI) are promoting it. However, MLPSHRD deals with vocational training which provides skills and knowledge immediately usable in the labour market. MOGEI promotes Technical Vocational Education and Training (TVET) which is based on both more formal educational training as well as vocational. Both Ministries recognize that a unified and comprehensive curriculum and approach for vocational training is necessary, but up till now there is no national standardized vocational training curriculum. What is necessary for farmers and people who want to start agriculture is ready-to-use knowledge and skills. Therefore, this project selects vocational training which is more skill driven and that is operated by MLPSHRD, so as to improve the quality and availability of agricultural vocational training.

Currently, there are five vocational training centres in South Sudan under the jurisdiction of MLPSHRD. They are located in Juba, Malakal, Wau, Aweil, and Rumbek. All of the centres teach various classes as well as agriculture related ones, but the contents of these classes vary by centre. The vocational training centre in Rumbek is available only for female students and started operation in 2013. Other vocational training centres are open for male and female students. The objective of these vocational centres is to provide practical skills for ordinary people and socially vulnerable people.

The five vocational training centres are geographically scattered in different locations. There are courses about agriculture that contain not only crop production but also livestock, and agroforestry. These centres offer 3 months, 6 months, and 1 year agricultural training courses. The 3 month training course covers crop production, agroforestry and livestock subjects. The 6 months training course also includes fish farming. Therefore, students can gain a broad range of knowledge about agriculture. However, course contents are not standardized among all the vocational training centres. Therefore, subjects in the course and quality of classes are not standardised but also vary by centre.

Also, vocational training should be offered across the country. In the past, there was a training centre called Nzara Agricultural Technology Training Centre in Western Equatoria State, approximately 20 kms from Yambio; it provided many practical agricultural training classes and was a well-known institution. Geographically speaking, Yambio is an area with strong agricultural potential and thus, establishment of a vocational training centre specialized in agriculture would be beneficial for the area. Vocational training centres need to be located in the proximity of a large town. Thus, Yambio is a suitable location for the large farming population in the region. There is also a plan to establish an agricultural training centre in Yambio under the “Strengthening and establishment of training institution

Items	Information
	infrastructure" project. In order to reduce construction and operation costs, the facilities of the newly established agricultural training centre could be used for vocational training as well.
(2) Objectives:	The main objective of the project is to enhance the variety and quality of available classes at existing vocational training centres and to improve the availability of agricultural classes through establishing a new agricultural vocational centre.
(3) Overall description including temporal and spatial extent of project:	There are two components in the project. The first component is to improve the existing five vocational centres in terms of available agriculture courses. The second component is to establish an agricultural vocational centre. The 1st component is expected to be implemented in the first five years. Firstly, interviews and site visits need to be made in order to identify and clarify the current situation, including potential new courses. Objectives, roles, and existing curriculums (developed by MLPSHRD and the vocational training centres) of agricultural courses and classes of the existing vocational training centres must be assessed by the stakeholders. This will be facilitated by the Directorate of Education and Training and must take into account existing government policy and curriculums developed by MLPSHRD. Using the information from the assessment, a plan will identify improvements to vocational training centres. Human resources and financial management will be addressed. Class contents and materials for different durations will be reviewed and redeveloped based on the existing curriculums to accommodate various demands. Class contents of the vocational training centres should be consistent, but avoid duplication with the agricultural training centres and higher educational institutes such as universities. The vocational training centre in Rumbek could have more tailored courses designed for female students. Short term courses should be available and classes should be taken flexibly depending on students' convenience. Course and class contents should be understandable and accessible to people with little formal education, and to socially vulnerable people, such as returnees, IDPs, refugees, women and people with disabilities. Additional training aids may be needed to meet this objective. Tuition fees for the vocational training centres need be collected from trainees, but should be affordable for those who wish to learn agricultural skills. Thus, the possibility of obtaining funding support, either by the government or private institutions, should be investigated, especially for longer courses. Collaboration should be arranged with the existing agricultural training centres to provide classes which are not available at vocational training centres. This would enhance the variety and quality of classes available. The 2nd component of the project is expected to be implemented in the following five years. The needs and possibilities of establishing a new agricultural vocational centre in Yambio will be assessed. Later, its roles, functions, size, and curriculum will be determined. The "Strengthening and establishment of training institution infrastructure" project is expected to establish an agricultural training centre in Yambio. The vocational training centre will share this facility.
(4) Component structure:	Component 1: Strengthening the existing vocational training centres through improvement of courses and classes related to agriculture Component 2: Establishment of a new agricultural vocational training centre

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Strengthening the existing vocational training centres through improvement of courses and classes related to agriculture Activity 1.1: Collect information to identify precise needs of each vocational training centre through interviews and site visits Output: Needs assessment and situation analysis report Activity 1.2: Re-define and develop roles, objectives, operation plan, and knowledge and skills obtained from current courses at the vocational training centres as well as possible new courses with affordable tuition for potential students Output: Re-defined and/or clarified roles, objectives, and operation plan for agricultural classes at existing vocational training centres Activity 1.3: Review and standardise course and class contents to meet agricultural needs especially for adults, low income and socially vulnerable people Output: Reviewed and improved practical and affordable agricultural courses which are different, with their emphasis on vocational training, to those from other educational institutes. Available classes are crop production, soil science, horticulture, plant breeding and protection, post-harvest handling, farm machine

Items	Information
	operation and maintenance, production of farm animals and cattle production, sheep and goats production, pig production, poultry keeping, bee keeping, tree growing, agroforestry, fish farming, farm engineering, agri-business and market Activity 1.4: Discuss strategies and develop detailed plans for strengthening teaching staff capacity, teaching facilities, and equipment to increase available courses at each vocational training centre Output: Strategies and plans Activity 1.5: Seek new project funding sources and monitor appropriate budget execution to start and maintain new classes based on the improved curriculum Output: Secured funding source and required amount Activity 1.6: Recruit new teaching staff for re-organised and/or newly established classes Output: Recruited new teaching staff Activity 1.7: Create a collaborative relationship between the existing vocational training centres and with other agricultural training centres Output: Developed collaboration methods and strategies with other vocational training centres and other agricultural training centres Activity 1.8: Monitor and evaluate quality of newly started classes and activities Output: Monitoring and evaluation report Component 2: Establish a new agricultural vocational centre Activity 2.1: Visit Yambio area with the project staff for the Establishment of Training Centre and conduct interviews to identify demand for specialised vocational training centre for agriculture as well as availability of facilities and land Output: Needs assessment and situation analysis report Activity 2.3: Develop a detailed plan for establishing an agricultural vocational training centre with staff of Directorate of Agricultural Education and Training and other stakeholders Output: Detailed concept, roles, size, operation plan, locations, and facility plan Activity 2.4: Develop a curriculum and class contents with staff of Directorate of Agricultural Education and Training and other stakeholders Output: Curriculum and class contents (Expected available courses are basic agriculture, crop production, horticulture, plant breeding and protection, post-harvest handling, fruit production, food processing, farm machine operation and maintenance, production of farm animals and cattle production, sheep and goats production, pig production, poultry keeping, bee keeping, tree growing, agroforestry, fish farming, agri-business and market, product costing and pricing, farm engineering, etc.) Activity 2.5: Seek potential funding sources to establish and operate a new agricultural vocational training centre Output: Secured funding source and required amount Activity 2.6: Procure required equipment and furniture (Building for the vocational training centre in Yambio is expected be constructed by the “Strengthening and establishment of training institution infrastructure” project.) Output: Fully equipped vocational training centre Activity 2.7: Recruit required staff Output: New teaching staff and administrative staff are hired and started work. Activity 2.8: Prepare and start the new vocational training centre Output: Inaugurated new agriculture vocational training centre Activity 2.9: Monitor and evaluate quality of classes and operation of the new centre Output: Monitoring and evaluation report

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Agricultural Education and Training of MAFCRD provides technical and financial support, existing vocational centres cooperate to implement the project for the 1st component. CTC Yei, Kagelu Forestry Training Centre, Marial Lou Livestock Training Centre, Padak Fisheries Training Centre, AMADI Rural Development Institute, Yei Agricultural Training Centre provide technical support. Ministry of Labour, Public Services and Human Resource Development, Ministry of Animal Resources and Fisheries support the project
(2) Description of beneficiaries within the framework of the project:	Students and staff of the existing vocational training centres, students and staff of a newly established agricultural vocational training centre, staff of the agricultural training centres

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Establishment of new vocational training centre specialised for agriculture • Improved availability and quality of agricultural education through strengthening curriculums of all existing vocational training institutes • Increased numbers of the people who own practical knowledge and skills about agriculture • Improvement of agricultural practices in South Sudan in the long term

Items	Information
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Constructing new buildings will provide some negative environmental impacts. After commencement of the vocational training courses, some chemicals might be used such as fertilizers and pesticides. Excrements from livestock and poultry would cause negative environmental impacts. Some clarification of land use might be necessary to construct the required facilities in Yambio (for example, land tenure, cutting down of trees to clear the site). Therefore, development guidelines to minimize environmental and social impacts are suggested. Excrements from livestock and poultry could be utilized to make manure to minimize negative environmental impacts. (Positive) • In the long term, improving the variety and quality of courses of vocational training opportunities will bring strong positive impacts to a broad range of the population, from ordinary people to socially vulnerable people such as IDPs, returnees, refugees, women, youth and people with disabilities.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and available classes related to agriculture at each vocational centre • Number of enrolled and graduated students for agricultural courses (sex disaggregated)
(2) Measurable indicators and situation at the end point:	• Number of functioning vocational training institutes • Number of available classes related to agriculture at each vocational training centre and other established agricultural vocational training institutes • Number of enrolled students and graduates from relative agricultural courses (sex disaggregated) • Amount of budget and number of funding sources for each vocational centre and other established agricultural vocational training institutes • Number of students who find employment opportunities after completion of a course and types of their employment opportunities (sex disaggregated)
(3) Methods of measurement and sources of information:	Records of vocational centres, records of newly established agricultural vocational centres, project reports, government documents, monitoring and evaluation report
(4) Responsible parties for the monitoring and evaluation:	Directorate of Agricultural Education and Training of MAFCRD, MLFI, and MLPSHRD

2.7 Required human resources

(1) Principle of human resources management:	People in charge of this project need to have cooperative attitudes and flexibility to implement the project while respecting the existing projects, programmes, and policies related to vocational training as well as ability to listen to staff of MLPSHRD and vocational training centres. Some project staff members who have educational and/or agricultural training backgrounds would contribute to the implementation of more practical and realistic activities.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager (one senior staff) • Project staff (five staff covering the following specialities: agronomy, forestry, animal husbandry, fisheries, agricultural education/training) for project detailed design, project implementation and management, procurement, logistics, and monitoring, etc. At least one of the above staff members should be selected from the Directorate of Agricultural Education and Training of MAFCRD. Staff of MLFI and MLPSHRD involved in this project implementation and all staff at the new and existing agricultural vocational centres must buy in to this project.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of : • Project management (Master's degree, 15-years experience): One • Agronomy (BSc or BA, 10-years experience or more): One • Animal husbandry (BSc or BA, 5-years experience or more): One • Forestry (BSc or BA, 5-years experience or more): One • Fisheries (BSc or BA, 5-years experience or more): One • Vocational training (BA, 10-years experience or more): One • Social consideration (BA, 5-years experience or more); One • Project coordinator (BA in Education or Agriculture, 3-years experience or more): One

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The following risks should be considered. • Possibly difficult to obtain cooperative attitudes about project implementation by MLPSHRD	

Items	Information
	• Difficulties of securing funding to operate the newly established agricultural vocational centre • Difficulties of finding and maintaining funding sources to strengthen the existing vocational training centres as well as setting lower tuition fees • Difficulties to find qualified teachers who can commit on a part-time basis • Insecurity and conflicts at target sites and interview sites

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	In the process of implementing activities for the both components, coordination with MLPSHRD, and MLFI are crucial to make this project successful. Existing policies, documents, project outputs need to be respected and the detailed project activities should be designed according to them. Moreover, clear demarcation between existing agricultural training centres and the existing vocational training centres under the control of the Ministry of General Education and Instruction would clarify roles of agricultural classes at vocational training centres under MLPSHRD. Financial sources need to be stabilized to make the amount of tuition affordable for the lower income population which will be one of the critical factors for the success of this project. Support from NGOs and private corporations could be options to find alternative funding sources.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic monitoring should be conducted by the Directorate of Agricultural Education and Training of MAFCRD jointly with staff of MFLI and MLPSHRD. Monitoring items would be number of available classes, number of enrolled students, number of students who complete a course, number of socially vulnerable people who enrolled and completed classes, budget expenditure for each fiscal year, available teachers, situation of collaborations with other vocational centres and agricultural training centres, and students' satisfactory levels, etc.

01.27 Establishment and enhancement of agricultural vocational institutions project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,882**	**2,000**	**1,310**	**1,168**	**1,755**	**2,786**	**2,213**	**828**	**828**	**1,444**											**17,214**	**4,303**	**99%**
1 Deployment of government staff						**100**	**23**		**9**	**9**	**22**				**29**											**192**	**48**	**1%**
1 Need assessment survey for 5 centres (per diem)						60																				60	15	0%
2 Need assessment survey for 5 centres (transportation)						40																				40	10	0%
3 Meeting for relationship creation among centres (per diem)							11																			11	3	0%
4 Meeting for relationship creation among centres (transportation)							12																			12	3	0%
5 Monitoring and evaluation survey for 5 centres(per diem)									5	5																10	2	0%
6 Monitoring and evaluation survey for 5 centres(transportation)									4	4																8	2	0%
7 Need assessment survey to Yambio area (per diem)											14															14	4	0%
8 Need assessment survey to Yambio area (transportation)											8															8	2	0%
9 Monitoring and evaluation survey for 5 centres(per diem)															11											11	3	0%
10 Monitoring and evaluation survey for 5 centres(transportation)															18											18	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**2,650**	**1,912**	**1,310**	**1,159**	**1,746**	**2,650**	**2,063**	**828**	**828**	**1,415**											**16,560**	**4,140**	**95%**
1 International consultant (project management)						540	360	270	270	360	540	360	270	270	360											3,600	900	21%
2 International consultant (agronomy)						360	270	180	180	270	360	270	90	90	180											2,250	563	13%
3 International consultant (animal husbandry)						360	270	180	180	270	360	270	90	90	180											2,250	563	13%
4 International consultant (forestry)						227	151	151	76	151	227	227	76	76	151											1,512	378	9%
5 International consultant (fisheries)						227	151	151	76	151	227	227	76	76	151											1,512	378	9%
6 International consultant (vocational training)						454	302	227	227	227	454	302	151	151	151											2,646	662	15%
7 International consultant (social consideration)						180	180			90	180	180			90											900	225	5%
8 International consultant (project coordination)						302	227	151	151	227	302	227	76	76	151											1,890	472	11%
4 Implementation of staff training						**132**	**66**				**114**	**150**														**462**	**116**	**3%**
1 Workshop for re-defining of vocational centres (per diem)						36																				36	9	0%
2 Workshop for re-defining of vocational centres (transportation)						30																				30	8	0%
3 Workshop for development of curriculum (per diem)						36																				36	9	0%
4 Workshop for development of curriculum (transportation)						30																				30	8	0%
5 Workshop for development of strategies (per diem)							36																			36	9	0%
6 Workshop for development of strategies (transportation)							30																			30	8	0%
7 Workshop for development of detail plan (per diem)											54															54	14	0%
8 Workshop for development of detail plan (transportation)											60															60	15	0%
9 Workshop for development of curriculum/contents (per diem)												90														90	23	1%
10 Workshop for development of curriculum/contents (transportation)												60														60	15	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment											**150**		**60**													**210**	**53**	**1%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles											**150**															**150**	**38**	**1%**
1 Pick up											150															150	38	1%

01.27 Establishment and enhancement of agricultural vocational institutions project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
7 Procurement of equipment													**60**													**60**	**15**	**0%**
1 200 desks & chairs													30													30	8	0%
2 50 equipment for training													30													30	8	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,882**	**2,000**	**1,310**	**1,168**	**1,755**	**2,936**	**2,213**	**888**	**828**	**1,444**											**17,424**		**100%**
Total (USD '000)						**720**	**500**	**328**	**292**	**439**	**734**	**553**	**222**	**207**	**361**												**4,356**	
% to total						**17%**	**11%**	**8%**	**7%**	**10%**	**17%**	**13%**	**5%**	**5%**	**8%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.28 Private sector investment project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Private sector investment project				
(3) Project ID:	0 1 . 2 8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2022/23		Ending FY: 2031/32	Duration (years):	10
(5) Total investment:	SSP 8,818,000		USD 2,204,000	Note: Not including recurrent cost	
(6) Name of this file (automatic):					

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA4	Private sector business and projects	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of agriculture production and extension service	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. Dev.-Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	X
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	South Sudan has vast potential for agriculture development because of its favourable climate (enough rainfall and appropriate temperatures) and abundant undeveloped land with fertile soil. However, agricultural investment by the private sector has not fully materialised due to a weak legal framework, insecurity, undeveloped infrastructure, unclear land tenure, informal/illegal multiple taxation etc. In December 2013, the government held a South Sudan investment conference to facilitate private sector agriculture investment. During the conference the large potential of agriculture development of South Sudan was emphasised and some higher priority opportunities for investment were introduced (e.g. Aweil Rice Irrigation Scheme, Nzara agro-industrial complex, and Yirol oil mill). However, immediately after the conference, the investment environment deteriorated extensively due to internal disputes. Since private investment is the most crucial engine of agriculture development and transformation, the government has to make efforts to create a favourable environment for private investors and explore opportunities for large and medium scale private sector investment in agri-business. To promote private sector investment, the following conditions need to be provided by the national and state governments: • political stability • security • firm legal base (business registration, agriculture related laws/regulations, and import/export regulations) • easy access to necessary information/data • infrastructure development (roads, bridges, electricity, communication and water) • clear land acquisition/lease processes • intellectual property protection • clear dispute resolution processes • good governance (anti-corruption and no informal/illegal taxation) • functional markets (inputs, outputs and labour) • functional financial institutions. Since these conditions are not under the jurisdiction of the Ministry of Agriculture, Forestry, Cooperatives and Rural Development (MAFCRD) and Ministry of Livestock and Fisheries Industries (MLFI), inter-ministerial coordination mechanisms need to be established to facilitate more vigorous private investment in the agriculture sector. Thus, this project will support the establishment of such coordination mechanisms so as to realise a better environment for effective and easy agri-business investment by private investors.
(2) Objectives:	The objective of the project is to establish a favourable environment for private investors to capatilise on the investment potential in the agricultural sector, especially for large and medium scale private sector investment.
(3) Overall description including temporal and spatial extent of project:	The project will focus on creating a conducive environment for private agri-business investors in order to create more investment. The government should not operate businesses itself through parastatal organisations, but support private sector activities by providing a better business environment. To achieve this, the project will address the establishment of a firm legal base, promotion of easy access to information/data, establishment of inter-ministerial coordination mechanisms, and strengthening of linkages among government at all levels, investors and farmers. The project duration is 10 years starting from fiscal year 2022/23. The project covers all states with a special focus on potential production areas for exports (e.g. tea, coffee, sugarcane, cotton, and oil seed).
(4) Component structure:	Component 1: Establishment of a firm legal base Component 2: Provision of agri-business information on large and medium scale investment opportunities (tea, coffee, sugarcane, cotton, oil seed, etc.) Component 3: Establishment of favourable environment for private sector investment in collaboration with other government institutions Component 4: Facilitation of private sector investment by national and state governments targeting large scale commercial investors and small, medium, large and progressive farmers

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Establishment of a firm legal base Activity 1.1: Prepare and enact laws and regulations related to private investment in agri-business, especially on land acquisition/lease, business registration, labour, protection of intellectual property rights, phytosanitary measures, standardisation,

Items	Information
	import/export, and dispute resolution, This component is addressed by "Establishment of firm legal framework project" and "Enhancement of laws and regulations enforcement project". Output 1: a firm legal base for agri-business established and laws and regulations enforced Component 2: Provision of agri-business information on large and medium scale investment opportunities (tea, coffee, sugarcane, cotton, oil seed, etc.) Activity 2.1: Collect information on large and medium scale investment opportunities as follows: • tea: Upper Talanga tea scheme and high altitude areas in Hills and Mountain zone • coffee: existing coffee growers and other potential areas in the Greenbelt zone • sugarcane: Mongala sugarcane scheme and potential areas in the Flood Plains zones • cotton: potential areas in the Flood Plains zones • oil seed: potential areas in the Flood Plains and Ironstone Plateau zones and Yirol oil mill • irrigation schemes: Aweil Rice Irrigation Scheme (ARIS) and Renk scheme Activity 2.2: Collect information on business environment of South Sudan in collaboration with other related institutions (e.g. Ministry of Commerce and Industry, Land Commission, and Chambers of Commerce) Activity 2.3: Provide collected information/data to investors (e.g. preparation of brochures and websites) Activity 2.4: Appoint agri-business focal points and establish information desk in MAFCRD and MLFI to effectively provide information for private investors Output 2: Necessary information/data on investment opportunities and business environment collected, information/data compiled and some information materials (e.g. brochures, website) prepared, focal points appointed and information desk established, number of access to information desks increased Component 3: Establishment of favourable environment for private sector investment in collaboration with other government institutions Activity 3.1: Establish coordination mechanisms with other institutions (e.g. Ministry of Commerce and Industry, Land Commission, Chambers of Commerce, Ministry of Transport, Roads and Bridges, Ministry of Electricity, Dams, Irrigation and Water Resources, state governments, research institutions and universities) to promote private sector investment Activity 3.2: Establish and promote business incentive schemes (e.g. tax exemption/concession and low interest rate loans provided by government financial institutions) Output 3: Coordination committee established and regular meetings held, and business incentive schemes developed and implemented Component 4: Facilitation of private sector investment by national and state governments targeting large scale commercial investors and small, medium, large and progressive farmers Activities 4.1: Raise awareness of national and state governments of potential private investment and Public-Private Partnerships (PPPs) so as to create favourable conditions for private investors Activity 4.2: Conduct periodic business forums for agriculture investment Activities 4.3: Facilitate (by national and state governments) business establishment by private investors (e.g. business registration and permission, access to land, security, taxation, dispute resolution, and infrastructure development) Activities 4.4: Facilitate (by national and state governments) matching of private investors and local institutions (e.g. large and progressive farmers, cooperatives, associations, farmers groups, local agro-dealers, local transporters, NGOs, financial institutions, universities, and public training and research institutions) Activities 4.5: monitor progress and issues concerning private investments and PPPs by national and state governments Output 4: Awareness raised at national and state government level and government staff understand the value of PPPs and private investment; number of business forums held, increased number of facilitations for business establishment and matching; regular monitoring conducted by national and state governments

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Government: Staff of MAFCRD and MLFI, Ministry of Commerce and Industry, Chamber of Commerce, training and research institutes, financial institutions and state governments Private sector: financial institutions, agro-dealers and universities
(2) Description of beneficiaries	Mainly large and medium scale agri-business private sector investors, specifically in tea,

Items	Information
within the framework of the project:	coffee, sugarcane, cotton, oil seed, and irrigation Cooperatives, associations, farmers groups, local agro-dealers, local transporters, NGOs, private financial institutions

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Project is expected to contribute to creation of new private sector agri-business investment, which would create significant number of job opportunities for women and youth
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The project has potentially negative results if unregulated allocation of land to large scale foreign investors is made. Their demands may create conflicts with local small scale farmers/investors who may also require the same land. Also serious environmental degradation and social disturbances would occur, if environmental and social impacts of developments are not seriously examined in advance. (Positive) • If there is careful planning and correct policies are implemented, large and medium scale private investors can be valuable contributors to the creation of a large number of jobs, and to the agricultural and economic transformation of the country.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	Number of large and medium scale private investors in agri-business
(2) Measurable indicators and situation at the end point:	Number of large and medium scale private investors in agri-business Number of job opportunities created by newly established agri-businesses by large and medium scale investors Amount of products (volume and value) produced by newly established agri-businesses by large and medium scale investors Amount of export products (volume and value) produced by newly established agri-businesses by large and medium scale investors
(3) Methods of measurement and sources of information:	Data of National Bureau of Statistics and custom (tax and trading volume), MAFCRD and MLFI monitoring data/information
(4) Responsible parties for the monitoring and evaluation:	MAFCRD and MLFI in collaboration with Ministry of Commerce and Investment and Chambers of Commerce

2.7 Required human resources

(1) Principle of human resources management::	The government does not need to hire additional government staff for this project. But the government will try to improve the efficiency of service delivery of existing staff and realise efficient collaboration with public and private stakeholders.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Agri-business focal points (one Director or Deputy Director at MAFCRD and MLFI) • Staff at state level (senior inspector level, 20 staff: two in-charges for each state) for monitoring • In-charge at Ministry of Commerce and Investment and Chambers of Commerce
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • One project management expert (Master degree, 15-years experience) • One private investment expert (BSc or BA, 5-years experience) Local consultants for information collection, data compilation, and brochure preparation will be hired. Local agro-dealers and private financial institutions will be involved to utilise their services.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Expected risk level might be medium due to the following reasons. • Insecurity of rural areas • Delay of establishment of firm legal framework • No clear land tenure and acquisition process and illegal land grabbing • Informal and multiple taxation • Corruption of some government officials • Slow processes of business registrations and getting permissions • Unfavourable conditions of access roads to reach investment sites	

Items	Information
	• Conflicts or tensions among stakeholders, and between stakeholders and non-stakeholders • Gender disparity (negative cultural and customary practices) • Natural disasters (e.g. drought, flooding, bird pests, locusts and diseases) • Manmade disasters (e.g. insecurity, raiding, and ethnic conflicts) • Degraded soil fertility by mono-cropping in long-term (long-term risk)

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	In view of the above, the full involvement of and careful consultation with communities to be affected by new agri-businesses are essential, especially in terms of land matters and social aspects, in order to avoid confusion and problems between investors and communities. In addition, dispute resolution processes involving local leadership should be clarified before starting new agri-businesses.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Continuous monitoring should be conducted by MAFCRD, MLFI and state governments. Periodic business forums and coordination meetings among MAFCRD, MLFI and other concerned institutions will be continued during and after the project period.

01.28 Private sector investment project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project								**1,450**	**1,392**	**808**	**808**	**405**	**204**	**405**	**204**	**405**	**405**									**6,486**	**1,621**	**74%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)									**20**																	**20**	**5**	**0%**
1 Printing brochures									20																	20	5	0%
3 Procurement of professional services (contracted)								**1,450**	**1,370**	**806**	**806**	**403**	**202**	**403**	**202**	**403**	**403**									**6,448**	**1,612**	**73%**
1 International consultant (project manager)								756	756	504	504	252	126	252	126	252	252									3,780	945	43%
2 International consultant (private sector investment)								454	454	302	302	151	76	151	76	151	151									2,268	567	26%
3 Local consultant(information collection, etc.)								240	160																	400	100	5%
4 Implementation of staff training									**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**									**18**	**5**	**0%**
1 Coordination regular meetings									2	2	2	2	2	2	2	2	2									18	5	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment								**6**				**6**														**12**	**3**	**0%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment								**6**				**6**														**12**	**3**	**0%**
1 ICT equipment for information desk (laptop)								4				4														8	2	0%
2 ICT equipment for information desk (printer)								2				2														4	1	0%
3 Subsidies, equity and loans										**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**									**2,320**	**580**	**26%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector										**290**	**290**	**290**	**290**	**290**	**290**	**290**	**290**									**2,320**	**580**	**26%**
1 National level forum for agricultural investment (per diem)										45	45	45	45	45	45	45	45									360	90	4%
2 National level forum for agricultural investment (transportation)										100	100	100	100	100	100	100	100									800	200	9%
3 State level forum for agricultural investment (per diem)										45	45	45	45	45	45	45	45									360	90	4%
4 State level forum for agricultural investment (transportation)										100	100	100	100	100	100	100	100									800	200	9%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)								**1,456**	**1,392**	**1,098**	**1,098**	**701**	**494**	**695**	**494**	**695**	**695**									**8,818**		**100%**
Total (USD '000)								**364**	**348**	**275**	**275**	**175**	**123**	**174**	**123**	**174**	**174**										**2,204**	
% to total								**17%**	**16%**	**12%**	**12%**	**8%**	**6%**	**8%**	**6%**	**8%**	**8%**									**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.29 National crop pest and disease control project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop										
(2) Project name:	National crop pest and disease control project										
(3) Project ID:	0	1	.	2	9	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development					
(4) Start and ending fiscal year:	Starting FY: 2016/17					Ending FY: 2027/28			Duration (years): 12		
(5) Total investment:	SSP 25,422,000					USD 6,355,000			Note: Not including recurrent cost		

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA8	Pest and disease control	Table 2-3
(2) Government organisation:	09	MAF-PP	Directorate of Plant Protection	Table 2-6
	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
	02	MAF-RE	Directorate of Research	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery/infra. dev. - Extension and training	Table 2-12
	201	SP-IM	Service delivery/infra. dev. - Information management and analysis	Table 2-12
	204	SP-RE	Service delivery/infra. dev. - Research and experiment	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	X
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Pre-harvest losses to pests, diseases and weeds have been estimated to average between 26 and 40 percent of potential yield across a range of major crops worldwide[11]. Pests and diseases have been identified as the highest constraint (21% of all constraints) on crop production[12] across cropping systems in South Sudan. Some pests are subject to intermittent upsurges (locusts, armyworm, snails, rats). Many new invasive pests and diseases have either already entered the country in recent years, or are expected to gain access in the immediate future (e.g. exotic fruit fly pests, larger grain borer, maize lethal necrosis disease, cassava brown-streak virus, banana xanthomonas wilt). Unregulated large-scale movements of food grains from Uganda and Kenya to South Sudan undertaken by relief agencies have substantially increased the risk of such accidental introductions. No national government phytosanitary personnel are currently monitoring the borders of South Sudan and no Ugandan phytosanitary staff have yet been posted to Uganda's border with South Sudan[13]. Losses of stored grain to pests in traditional storage often exceed 30%, owing to infestation transferred from the field and prevailing high humidity (>14 %). Microbial pathogens attacking cereals, legumes and root crops (aspergillus, fusarium, ergot) are a source of mycotoxin contamination of human food and animal feed, with potential to cause illness and death. Use of pesticides has been discouraged by MAFCRD and no approved list has been gazetted. Input suppliers are not formally registered to sell pesticides. A very restricted range of older broad-spectrum pesticides is available in major towns. Farmers and the Community-Based Organisations (CBOs) and NGOs which support them lack skills to recognise pests, diseases and weeds and have few strategies to combat them other than early planting, farm sanitation, hand weeding and removal of sick plants (roguing). Some new seed varieties are less susceptible to pests and diseases, but others are potentially more susceptible. Weeding is a major problem, constrained by rural labour shortage. The majority of smallholder farmers, especially women farmers, are illiterate and have little or no access to information on management of pests, diseases and weeds. Extension staff, both state and NGO, are available at payam and county level, but lack mobility, resources and training to advise farmers on pest and disease diagnosis and management. A movement exists, with support from the national government and development partners, to organise farmers (especially women farmers) into cooperatives, permitting better access to inputs, services and markets. No effective linkage and feedback currently exists between county level extension staff (employed by the state Ministries of Agriculture and Forestry) and the Plant Protection Department of the national MAFCRD. This means there is no mechanism to transfer information on pests and diseases between plant protection professionals and farmers, or vice versa. There is no central database of plant pests and diseases within South Sudan, either in MAFCRD or elsewhere. This will be needed as a basis for phytosanitary risk assessment and decision-making on regulating admission of particular classes of products that may introduce pests and diseases that could threaten South Sudan's national food security and food sovereignty. The policy environment is favourable to an integrated pest management approach (IPM), using all available methods to manage pests safely. However, there is no legislative framework and almost no national or state government budget for pest management (or for agriculture more generally), other than provision of salaries for staff.
(2) Objectives:	The overall goal of the proposed plant clinic project is to increase food security, alleviate poverty and improve livelihoods by enabling farmers in South Sudan to lose less production, grow more food and improve the quality of what is grown. The purpose is to enable farmers to reduce crop losses to pests and diseases and weeds, and to achieve improved crop health, yield and produce quality.
(3) Overall description including	The plant clinic approach proposed for the "National pest and disease management

[11] Oerke, E.C. 2006. Crop losses to pests. Journal of Agricultural Science (2006), 144, 31–43. Available online at: http://www.nrel.colostate.edu/ftp/conant/SLM-proprietary/Oerke_2006.pdf

[12] WFP / FAO / MAF. 2006. quoted in African Development Bank, 2013. South Sudan: An Infrastructure Action Plan - A Program for Sustained Strong Economic Growth - Chapter 6 - Development of Agriculture in South Sudan.

[13] Commissioner for Phytosanitary Services, Uganda, personal communication, November 2014.

Items	Information
temporal and spatial extent of project:	project" is based on the existing model of Plantwise plant clinics currently operating in 33 countries worldwide, of which 9 countries are situated in Sub-Saharan Africa, including several countries in eastern Africa (Rwanda, Uganda, Kenya, Ethiopia)[14]. **The Plantwise plant clinic concept** "Plantwise works with local extension services to provide poor smallholder farmers with access to advice on pest problems through a concept called plant clinics. These clinics operate like a human doctor's surgery; they provide advice on demand, tailored to the farmer's individual need. The clinics are made accessible to farmers by holding them on a regular basis in a prominent local meeting place, such as a market. When the farmer has a problem with a crop, he/she can bring a sample along to the plant clinic. At the clinic a trained 'plant doctor' listens to the farmer, examines the sample, diagnoses the problem and offers a suggested treatment. Treatment suggestions are affordable for farmers and use locally available resources. The correct chemicals are recommended only when necessary"[15]. Plant doctors do not sell pesticides, so as to avoid any potential conflict of interest[16]. **Capacity development for pest management advisory services** The project will train and certify plant doctors who will usually already be extension personnel (either public or NGO) holding at least a diploma or certificate level agricultural qualification. Basic training of plant doctors will consist of two four-day modules (Modules 1 and 2[17]), one focusing on pest diagnosis and remedies and managing plant clinics, the second on providing good advice. Trainees will undergo examinations to test their competence before being permitted to advise farmers. The project will provide plant doctors with the means to mobilise (motorcycles, fuel), some materials such as recording forms (or hand-held tablets[18]), printed materials and laminated pictures of key pests and diseases, and access to electronic backup through a growing online database of fact sheets and blog posts. Trainers of trainers and subject matter specialists will undergo the same training as the plant doctors, before serving respectively as trainers and supervisors of plant doctors. Subject matter specialists, in particular researchers, will also be trained in Plantwise Module 3: Elaboration of fact sheets and Pest Management Decision Guides (PMDGs). This module will also cover writing extension messages aimed at farmers on the basis of already elaborated Pest Management Decision Guides. Refresher training and training on specialised issues (e.g. new crop diseases, managing tablets) may be given to personnel at all levels. All training will stress the need to facilitate learning and behavioural change by illiterate farmers, especially women farmers. The project will utilize the training resources of national colleges and universities as well as those of neighbouring countries while building local capacity. In Uganda certificated short courses for training plant doctors are being run at Makerere University and a course unit on plant clinics is also being incorporated into the Makerere BSc Agriculture degree curriculum. Similar arrangements will be developed in South Sudan, through the University of Juba and through agricultural training colleges, such as CTC and YATC at Yei. **Quality control and Monitoring and Evaluation** Plant doctors will complete and send in plant clinic enquiry sheets for each farmer's diagnosis and prescription to a national secretariat after checking by local supervisors. A national validation team composed of plant health specialists will review prescription sheets generated by the plant clinic network. Validation training for these specialists will be provided. A feedback system to report back to plant doctors on faulty diagnoses or recommendations will be put in place, including mobile phone consultations, visits to plant clinics by trainers and back-stopping researchers, and additional in service training sessions. **Knowledge bank** The Global Knowledge Bank is an open-access interactive website providing information on pest diagnosis, treatment and distribution data, gathered from plant clinics, researchers and international partners around the world. Users with clearance will be able to access a password-protected area, the Protected Online Management Systems (POMS), with data

[14] Plantwise, with funding from the European Union, is currently being implemented in nine African countries: Kenya, Uganda, Rwanda, Sierra Leone, Ghana, Zambia and Malawi, with some additional pilot activities in Mali and Ethiopia. Source: https://cabiplantwise.files.wordpress.com/2014/11/final-report-main-11-2014-short-version.pdf

[15] Source: https://cabiplantwise.files.wordpress.com/2014/11/final-report-main-11-2014-short-version.pdf

[16] See Plantwise policies at: http://www.plantwise.org/strategy/plantwise-policies/

[17] In existing Plantwise programmes these have been three-day modules. However the Mid-term Review of EU support to Plantwise (2014) has proposed that training should be more thorough, hence the proposed 4-day modules here.

[18] In Kenya use of hand-held tablets to record and upload diagnoses and prescriptions and to download information on diagnosis and remedies has been successfully trialled. This saves time and increases accuracy and efficiency.

Items	Information
	from the plant clinic system on pest incidence and geographical distribution. The POMS will function as a national database of prioritized pests and diseases, informing stakeholders, including policy makers, on emerging pests and diseases. It will serve as an early warning system for inter-state and cross-border movements of invasive pests and diseases and provide guidance to phytosanitary personnel stationed at border posts. As recommended by the mid-term review of EU-support to Plantwise it is expected that pest datasheets already developed in other countries will be made available for use in South Sudan, substantially speeding up access to relevant information for plant doctors and farmers. **Implementation Arrangements** The global Plantwise system is supported by CAB International (CABI). A programme for South Sudan is already foreseen within CABI's development pipeline for Plantwise[19]. The South Sudan country programme will be coordinated and managed by a recruited Country Programme Manager and a small secretariat based alongside the MAFCRD's Department of Plant Protection[20], answerable to a national steering committee and an annual stakeholder meeting. The project will be based on close collaboration with all key stakeholders involved in extension, research, phytosanitary regulation and input supply. Plantwise will provide synergy with other models of extension, as well as providing links to the developing research system. In particular the project will support existing NGO extension systems, farmer field schools[21], and programmes to create and resource agricultural cooperatives, especially women's coops[22]. There will be two primary partnerships. Firstly with the local organisations implementing the plant clinics (the "local implementing organizations"). These will include state Ministries of Agriculture and Forestry and county Departments of Agriculture, as well as larger NGOs and projects of development partners currently providing extension advice to farmers (e.g. FARM and UMCOR in Central Equatoria). The second key partnership will be MAFCRD as the "national responsible organisation" providing overall national oversight of plant clinic services and plant health issues. **Technical back-stopping** The need to involve institutions of higher and further education in training has already been mentioned. MAFCRD's research Directorate, Plant Protection Directorate (PPD) and universities also need to be involved in providing technical back-stopping and diagnostic support for the clinics. Agro-suppliers, seed companies, and the organisations that are involved in the input supply chain can also become partners through the provision of advice and resources. The project will also cooperate with partners holding complementary plant health datasets on diagnosis and treatment, which are especially important for the development of the Knowledge Bank. The partners will include BioNET, CGIAR centres (ICIPE, IITA, ICRISAT, CIAT) and regional plant protection organisations and programmes (AU-IAPSC, AGRA, ASARECA etc). Initially centres of excellence in neighbouring countries, such as Namulonge, Uganda and KEPHIS in Kenya will be commissioned to provide assistance with training and provision of diagnostic services (e.g. for plant viruses). A national phytosanitary diagnostic laboratory will need be designed, built and equipped to service mutliple national needs, including the Plantwise programme. This could possibly be set up at the Yei Agricultural Research Centre (YARC), from where it could also service the developing national research system and provide diagnoses for phytosanitary interceptions at border posts. **Temporal Extent and Sustainability** The National Pest and Disease Management Project will need to be financially sustained by development partners over at least a twelve-year horizon. Three sub-projects, of four years each are envisaged to achieve national coverage (see below). Over time the plant clinic network can eventually become more self-sustaining, through incorporation of recurrent costs in national and state government budgets, and by the cost of plant clinics being allocated as a budget line within other crop-based development initiatives. From year 9 onwards responsibility for resourcing the system in the Greenbelt zone, and central responsibility for secretariat functions and back-stopping would be

[19] see page 17 of the Plantwise brochure, "Plantwise, a strategy for improving food security and rural livelihoods".
[20] The MAFCRD Department of Plant Protection is still awaiting a decision (as at November 2014) on whether it is to be uprated to a Directorate.
[21] such as the FFS previously operated by GIZ and Agricultural Advisory Services (AAO). See "Achieving Food Security in a Post Conflict Context: Recommendations for a Farmer Field School Approach in the Greenbelt of South Sudan". SLE Publication Series. S253. Humboldt Universität zu Berlin. December 2012.
[22] See for example the UN Women / MAFCRD Concept Paper: "Increased access to agricultural support services for women groups in Western Equatoria, Eastern Equatoria, Western Bahr el Ghazal, Lakes and Warrap State". 13 pp. (undated).

Items	Information
	progressively devolved to state and national governments. Progress on realising this objective will require clear commitment from the national and state governments. **Spatial extent** All agro-ecological zones would be covered, apart from the Nile and Sobat Rivers zone and the Pastoral zone of Jonglei and Eastern Equatoria. A pilot plant clinic system should be set up in the Greenbelt of southern South Sudan (Western, Central and Eastern Equatoria States) as an early priority. This should train a mix of government and NGO extension workers, to assist farmers (especially women farmers) with pest and disease diagnosis and treatment. Subject to satisfactory progress in putting in place all the basic elements of a plant clinic-based advisory service and meeting performance targets, this could be out-scaled to the Greater Bahr-el-Ghazal region and ultimately to the whole country in three sub-projects: • Sub-project 1 (Years 1-4): Initial system set-up and plant clinic personnel training and mobilization in the Greenbelt zone of Western, Central and Eastern Equatoria; • Sub-project 2 (Years 5-8): Out-scaling plant clinic personnel training and mobilization to Northern and Western Bahr el Ghazal and Lakes States; development of diagnostic laboratory facilities; • Sub-project 3 (Years 9-12): Out-scaling plant clinic personnel training and mobilization to Upper Nile, Unity, Jonglei, and Warrap States; progressive hand-over of financial responsibility for resourcing of plant clinic extension staff in the Greenbelt zone (Western, Central and Eastern Equatoria) to state governments.
(4) Component and activity structure:	Component 1: Set up and implement management structures Component 2: Identify suitable personnel and provide training Component 3: Mobilize plant clinics and enhance outreach Component 4: M & E: validation, quality control and feedback Component 5: Set up and maintain Global Knowledge Bank and POMS Component 6: Develop tailored illustrated resources for field recognition of plant pests and diseases

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Set up and implement management structures Activity 1.1: Set up National Secretariat; procure vehicles[23] and office furniture Activity 1.2: Put financial management systems in place Activity 1.3: Convene National Steering Committee Activity 1.4: Conclude agreements with extension at state level Activity 1.5: Convene Annual Stakeholder Meeting Outputs: Year 1. all necessary management structures, financial systems and agreements in place to undertake plant clinics (Staff: 1 x manager, 1 x administrator/accountant, 1 x secretarial assistant, 1 x driver/handyman). Equipment procured: 3 desks, 4 chairs, three portable computers, 2 printers/copiers, 1 4WD vehicle. Sub-project 1, Years 1-4: 16 motorbikes for trained supervisors. Component 2: Identify suitable personnel and provide training Activity 2.1: Identify and train suitable state and NGO extension staff as plant doctors (Modules 1 and 2) Outputs: Sub-project 1 (Years 1-4): 12 new state and 4 new NGO extension staff trained annually as plant doctors to staff 8 new plant clinics per year x 4 years Outputs: Sub-project 2 (Years 5-8): 12 state and 4 NGO extension staff trained annually as plant doctors to staff 8 new plant clinics per year x 4 years Outputs: Sub-project 3 (Years 9-12): 12 state and 4 NGO extension staff trained annually as plant doctors to staff 8 new plant clinics per year x 4 years Activity 2.2: Identify and train suitable state and NGO plant doctor trainers and supervisors Outputs: Sub-project 1 (Years 1-4): 3 state and 1 NGO trainers and subject matter specialists trained as trainers and supervisors of plant doctors per year x 4 years Outputs: Sub-project 2 (Years 2-8): 3 state and 1 NGO trainers and subject matter specialists trained as trainers and supervisors of plant doctors per year x 4 years[24]). Outputs: Sub-project 3 (Years 9-12): 3 state and 1 NGO trainers and subject matter specialists trained as trainers and supervisors of plant doctors per year x 4 years[25]). Activity 2.3: Identify and train suitable subject matter specialists as developers of fact sheets and Pest Management Decision Guides (PMDGs) (Module 3) for distribution to extension staff and farmers. Outputs: Sub-project 1 (Years 1-4): 2 MAFCRD and/or university-based subject

[23] A single all-terrain vehicle (e.g. Toyota Landcruiser Prado) would be needed for visits from the office to field sites. Plant doctor supervisors would be supplied with motorbikes, while plant doctors who already have motorbikes would receive mileage allowances to cover fuel and maintenance costs and those who do not would receive allowances to cover bodaboda fares (as in Uganda).
[24] Cumulative total 32.
[25] Cumulative total 48.

Items	Information
	matter specialists/researchers trained in elaboration of pest and disease factsheets, PMDGs and extension messages per year x 4 years Outputs: Sub-project 2 (Years 5-8): 2 MAFCRD and/or university-based subject matter specialists/researchers trained in elaboration of pest and disease factsheets, PMDGs and extension messages per year x 4 years Outputs: Sub-project 3 (Years 9-12): 2 MAFCRD and/or university-based subject matter specialists/researchers trained in elaboration of pest and disease factsheets, PMDGs and extension messages per year x 4 years Component 3: Mobilize plant clinics and enhance outreach Activity 3.1: Develop and implement a strategy for staffing and positioning clinics; Outputs (Sub-project 1): Eight new clinics[26] running each year. Each clinic runs 20 times per year with two plant doctors, plus one junior community extension worker assisting. Average of 20 farmers (or farmer group representatives) assisted per clinic session (400 farmers assisted per clinic year), 3200 farmers assisted in year one (8 clinics), 6400 in year 2 (16 clinics), 9600 in year 3 (24 clinics) and 12,800 in year 4 (32 clinics). Outputs will increase *pro rata* in sub-projects 2 and 3. Activity 3.2: Foster links with other stakeholders (NGOs, projects, private sector input suppliers[27], cooperatives); Outputs: Stakeholders participate in attending, recommending or resourcing plant clinic network. Activity 3.3: Advertise plant clinics via radio and in local newspapers, through extension providers and directly to farmers' organizations; assess impact of seasonality and type of advertising on clinic uptake. Outputs: 12 monthly advertising messages using various media in years one to four; report on assessment of advertising impact in year 4. Activity 3.4: Develop and implement other extension approaches to scale up the supply of plant health management information to farmer beneficiaries. Outputs: Approaches to increase outreach developed and implemented, including using local extension assistants to carry out triage amongst farmers waiting to be seen and to group farmers with similar plant health problems to be seen simultaneously28; holding clinics to service larger cooperatives and farmer groups, holding plant health rallies with a special focus and e-extension. Outputs would increase pro rata in sub-projects 2 and 3. Component 4: M & E, validation, quality control and feedback Activity 4.1**:** Conduct training on Monitoring Plant Clinic Performance (MPCP) for supervisory staff; Outputs: One course per year (Years 1-12). Activity 4.2: Conduct training on validation, quality control and feedback on diagnoses and prescriptions for senior subject matter specialists. Outputs: One MPCP course every two year (Years 1, 3, 5, 7, 9, 11). Activity 4.3: Design and implement regime of rapid post-clinic quality control and feedback to plant doctors, including plant doctor peer review, supervisor sign-off, mobile phone consultations, visits to plant clinics by trainers and/or back-stopping researchers, and extra in-service training sessions where necessary. Outputs: A quality-control and feedback system to report back to plant doctors on faulty diagnoses or recommendations; >95% of prescription sheets are peer-reviewed and/or signed off by supervisors; at least 40 mobile phone consultations per year; 10 visits to plant clinics by trainers and back-stopping researchers per year; 2 in-service training sessions per year in years 1-12 Component 5: Set up and maintain National Knowledge Bank and POMS Activity 5.1: Set up and maintain an open-access interactive website providing information on pest diagnosis, treatment and distribution data, gathered from plant clinics, researchers and international partners around the world. Outputs: To farmer and extension beneficiaries: electronic access to accurate and comprehensive descriptive and management data on all major East African pests and diseases of main food crops (maize, cassava, sorghum, beans, groundnuts) made available by end of Year 129. From beneficiaries: information on number of queries made to the system and relative frequency of use of particular information types.

[26] A plant clinic need not be confined to a single specific site. Clinics may be held sequentially at different marketplaces or other gathering places on a regular basis.
[27] Dialogue is needed with local input suppliers who will be encouraged to refer their clients to plant clinics. Where it is necessary to recommend use of pesticides, e.g. for seed dressing of maize seeds, input suppliers will be asked to stock dressed seeds or other required products and plant clinic clients will be recommended to visit the input supplier to purchase them.
[28] See Mid-term Review of EU support to Plantwise: Sectin 3.2.2 Increasing Plant Clinic Capacity.
[29] It is crucial that the South Sudan National Knowledge Bank (NKB) should be rapidly populated from the Global KB and from national KBs of other participating countries in the region. Donors (especially the EU) have already invested heavily to create this knowledge and duplication of activity and wastage of resources must be avoided.

Items	Information
	Activity 5.2: Set up and maintain a password-protected area, the Protected Online Management Systems (POMS), with data from the plant clinic system on pest incidence and geographical distribution, to facilitate development of a national database of prioritized pests and diseases. Outputs: From beneficiaries: information on number of queries handled (by gender of client30), frequency of particular pest and disease queries and prescriptions given. Activity 5.3: Set up and maintain as part of the Protected Online Management Systems (POMS), a management M & E database derived from plant clinic records to show plant clinic frequency and geographical coverage, number of clinic beneficiaries assisted (by gender and possibly other characteristics); quantity and quality of diagnoses and advice provided by individual plant doctors. Outputs: Management information on clinic frequency and geographical coverage, characteristics of plant clinic users (by gender and possibly other characteristics) and plant doctor work rate and quality of performance. Activity 5.4: Provide diagnostic backup for plant clinics by commissioning any required Plant Pest and Disease Identification Services from regional or international sources, or from new diagnostic facilities in South Sudan to be created under other CAMP projects. Outputs: Average of 10 pest or disease samples per year (over 8 years) identified by external service providers. Component 6: Developing tailored illustrated resources for field recognition of plant pests and diseases Activity 6.1: Develop and distribute (in paper and electronic format) at least three illustrated information resources per year for specific plant pests or diseases, chosen according to frequency and/or seriousness of farmers' losses reported at clinics, suitable for farmers and/or extension staff. Outputs: At least three illustrated information resources per year for specific priority plant pests or diseases developed and distributed to beneficiaries (in paper and electronic format). Activity 6.2: Undertake translation into relevant local languages (in paper and electronic format) of at least two illustrated information resources per year for specific crop pests or diseases, chosen according to frequency and/or seriousness of farmers' losses reported at clinics, suitable for farmers and/or extension staff. Outputs: At least two illustrated information resources per year for specific priority crop pests or diseases translated into local languages and distributed to beneficiaries (in paper and electronic format)[31].

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Primary service providers will be state and non-government extension staff providing advisory services to farmers. Secondary service providers will include MAFCRD Research Directorate and Plant Protection staff, university and training centre staff, national consultants and consultants from plant protection and research systems of neighbouring countries (chiefly Uganda and Kenya) engaged in providing capacity-building, quality control and back-stopping services in support of extension staff. Diagnostic services for plant pests and diseases will be commissioned as needed from national, regional or international sources.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are expected to be smallholder farmers and farmer groups growing more and better produce as a result of access to advisory services. Secondary beneficiaries will be front-line extension personnel at payam and county levels with enhanced skills, certification and resources for providing advisory services. Additional benefits will accrue to participating researchers and plant protection professionals operating as trainers and providing back-stopping, diagnostic or quality control services.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The main outcomes of the project will be: • Creation of an effective extension-based pest and disease diagnostic and advisory service providing support to smallholder (and other) farmers; • an operationalised integrated pest[32] management (IPM) approach to crop protection in which farmers use appropriate pesticides only when necessary and in a way which does not adversely impact natural enemy populations or cause harm to human health or the environment. • an accessible and growing global knowledge bank will provide up to date information on

[30] Gender reporting may be complicated by necessary moves to increase Plantwise outreach by asking farmer groups to send representatives to plant clinics with group problems who then report back to their group.

[31] Note that to save time and expense, some of these should be adaptations and translations into local languages of information leaflets already produced through donor investment in Plantwise in neighbouring countries.

[32] In IPM, the term "pest" is taken to include diseases and weeds.

Items	Information
	pests and diseases, incorporating a national pest database and early warning system for pest and disease outbreaks encountered by farmers, and acting as a basis for a demand-driven national pest and disease research programme and for phytosanitary pest regulation. • the national plant health system will be stronger, and more self-sustaining, with functional links among its members, requiring only limited external funding and support. The Impact will be that that farmers experience reduced crop losses to pests and diseases and weeds, and achieve improved crop health, yield and produce quality.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • While use of pesticides may increase somewhat from current low levels, it is expected that these will be less environmentally harmful products and will be used in combination with non-chemical methods as part of an IPM strategy which conserves the diversity of natural enemies of pests. (Positive) • The project is expected to have a broadly positive impact on the environment through advisory services enabling farmers to utilize their farmland for cropping more efficiently and therefore to reduce their requirement for opening additional farmland. • Some positive social impacts may result from enhanced household food security and livelihoods as a result of reduced crop losses due to following plant clinic advice. Additionally early warning of pest and disease upsurges could have wider positive impact.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number (or %) of extension staff who have received training in pest recognition and management in previous year • Number (or %) of farmers (in a given county) receiving specific crop-pest-related extension advice (individually or in groups) per year, pest problems identified, recommended prescriptions • Farmer estimates of crop losses (and their causes) in previous year • Annual estimated average crop yields of major crops
(2) Measurable indicators and situation at the end point:	• Number (or %) of extension staff who have received training in pest recognition and management in previous year • Number (or %) of farmers (in a given county) receiving specific crop-pest-related extension advice (individually or in groups) per year, pest problems identified, recommended prescriptions • Number of farmer prescription sheets requiring revision after review • Farmer estimates of crop losses (and their causes) in previous year • Numbers of plant clinics held and number of farmers attended to at plant clinics • Number of extension staff utilizing the Knowledge Bank, purpose of access and specific outcome of use • Number of leaflets developed for use by farmers or extension staff • Average % reduction in crop losses (and crop and cause of loss) estimated by farmers who have visited plant clinics • Annual estimated average crop yields of major crops
(3) Methods of measurement and sources of information:	• Protected Online Management System (POMS) records of numbers of clinics, numbers (and gender breakdown) of farmers receiving assistance, quality of plant doctor diagnoses and recommendations • Records of sample questionnaire surveys of farmers • Case studies of farmers attending plant clinics • AFIS crop yield surveys
(4) Responsible parties for the monitoring and evaluation:	Plantwise national secretariat; local NGOs/CBOs commissioned to undertake surveys among farmers; external evaluators appointed by development partner(s)

2.7 Required human resources

(1) Principle of human resources management:	• This project makes use of the pool of state agricultural extension staff distributed thinly across most counties (especially in the Greenbelt zone) who are currently underutilized and lack resources to meet with farmers and address their needs. The plant clinic activity is estimated to occupy, on average, no more than 20% of the time of any individual extension worker, leaving them time for other essential duties. • Intermittent use is also made of experienced national level staff of MAFCRD and

Items	Information
	universities to train and back-stop the state extension personnel. Initially some regional consultants will be utilized to enhance the skills of all actors in key areas of plant clinic operation. • A secretariat with full-time project staff will be created to manage the project, with a view to handing over to full MAFCRD responsibility in Year 1 of sub-project 3, after 104 months.
(2) Required human resources in the public sector (Positions, grades and numbers):	• MAFCRD Plantwise Liaison Officer (MSc,10 years experience) one • MAFCRD subject matter specialists / researchers, providing capacity-building, quality control and back-stopping services in support of extension staff to Plantwise (MSc, 10 years experience) 2 in Year 1 to ≤ 8 in Year 4 • County level public extension service personnel (at least certificate, preferably diploma or BSc for supervisors) (Two per plant clinic) • Local extension agents (school certificate) one per plant clinic [33]
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• Plantwise Project manager, South Sudan (Master's degree, at least 10 years experience): one[34] • Knowledgebase management & communications specialist (BSc, 7 years experience): one • Regional consultants from plant protection and research Systems of neighbouring countries (chiefly Uganda and Kenya) providing capacity-building, quality control and back-stopping services (Master's degree, at least 10 years experience): 4 • South Sudanese university or self-employed subject matter specialists / researchers providing capacity-building, quality control and back-stopping services in support of extension staff to Plantwise (MSc, 10 years experience) from 2 in Year 1 to ≤ 8 in Year 4[35] • Secretary (certificate, 5 years) one • Driver/handyman (school certificate, 5 years) one • Local extension agents (school certificate) one per plant clinic[36]

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	• Security risks could prevent access to significant areas of the country (as at present). This would mainly limit the spatial extent of project roll-out in sub-projects 2 and 3, unless security conditions deteriorate in areas currently considered reasonably secure. • There is currently a shortage of skilled professionals in agricultural specialities such as pest management, and especially plant pathology within MAFCRD and the universities who can act as trainers of trainers and provide diagnostic back-up. This is expected to be addressed by BSc degree and Masters degree level training over coming years.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Criteria for selecting target farmers should be discussed and decided with stakeholders in advance and the selection process should be transparent both for beneficiaries and stakeholders. Gender balance should also be considered for selection.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	• Extension support to farmers will continue at whatever level national and state governments, NGOs and development partners are able to support (transport and communication allowances). This should include at least part-time involvement of two state extension staff per county (in approx. 80 counties[37]) and a variable number of payam based local extension agents and NGO extension staff. • There will need to be ongoing training of scientists and technical staff in MAFCRD and the universities to maintain capacity to provide advisory support services for farmers. • Diagnostic services, especially for plant diseases (bacterial, fungal and viral) will require the maintenance of a permanent diagnostic laboratory capability, including professional and technical staff and access to normal services (water, electricity, internet).

[33] These junior extension assistants may or may not be formally employed by the state extension services.
[34] This position will be filled initially by a regional consultant with previous experience of running a Plantwise programme.
[35] The eight subject matter specialists may be sourced either from MAFCRD, university or self-employed specialists. The numbers from each source cannot be determined in advance since the skill-sets needed are in short supply.
[36] These junior extension assistants may or may not be formally employed by state extension services.
[37] A few counties may not justify dedicated extension input for plant clinics as they are mainly composed of pastoral or fishing communities. However, if necessary clinics in these counties could be supported from neighbouring counties.

01.29 National crop pest and disease control project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project		**2,464**	**2,014**	**1,715**	**1,857**	**2,044**	**2,089**	**2,133**	**2,207**	**1,983**	**1,009**	**984**	**1,020**													**21,520**	**5,380**	**85%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)		**480**	**480**	**210**	**210**	**210**	**210**	**210**	**210**	**210**																**2,430**	**608**	**10%**
1 Development of Web database		300	300																							600	150	2%
2 Maintenance of Web database				30	30	30	30	30	30	30																210	53	1%
3 Printing of illustrated information sources		120	120	120	120	120	120	120	120	120																1,080	270	4%
4 Printing of illustrated information sources (local languages)		60	60	60	60	60	60	60	60	60																540	135	2%
3 Procurement of professional services (contracted)		**1,252**	**1,328**	**1,294**	**1,399**	**1,468**	**1,476**	**1,514**	**1,553**	**1,227**	**606**	**576**	**576**													**14,269**	**3,567**	**56%**
1 International senior expert (project management)		480	480	480	480	480	480	480	480	320																4,160	1,040	16%
2 International expert (knowledge management /communication)		420	420	420	420	420	420	420	420	280																3,640	910	14%
3 Regional experts (training/quality control/back-stopping services)		140	140																							280	70	1%
4 PW Regional coordinator visits		30				30					30															90	23	0%
5 Local expert (quality control/back-stopping services)		67	134	202	269	269	269	269	269	269	269	269	269													2,822	706	11%
6 Secretary		48	48	48	48	48	48	48	48	32																416	104	2%
7 Driver		29	29	29	29	29	29	29	29	19																250	62	1%
8 Local extension agents		38	77	115	154	192	230	269	307	307	307	307	307													2,611	653	10%
4 Implementation of staff training		**685**	**114**	**75**	**66**	**139**	**130**	**91**	**82**	**139**	**130**	**91**	**82**													**1,828**	**457**	**7%**
1 Training for extension staff at Juba (per diem)		38	38			38	38			38	38															230	58	1%
2 Training for extension staff at Juba (transportation)		32	32			32	32			32	32															192	48	1%
3 Training for extension staff at state capital (per diem)				26	26			26	26			26	26													154	38	1%
4 Training for extension staff at state capital (transportation)				6	6			6	6			6	6													38	10	0%
5 Training for trainer/supervisor at Juba (per diem)		10	10			10	10			10	10															58	14	0%
6 Training for trainer/supervisor at Juba (transportation)		8	8			8	8			8	8															48	12	0%
7 Training for trainer/supervisor at state capital (per diem)				6	6			6	6			6	6													38	10	0%
8 Training for trainer/supervisor at state capital (transportation)				2	2			2	2			2	2													10	2	0%
9 Training for specialist at Juba (per diem)		5	5	5	5	5	5	5	5	5	5	5	5													58	14	0%
10 Training for specialist at Juba (transportation)		4	4	4	4	4	4	4	4	4	4	4	4													48	12	0%
11 Training on MPCP at Juba (per diem)		10	10	10	10	10	10	10	10	10	10	10	10													115	29	0%
12 Training on MPCP at Juba (transportation)		8	8	8	8	8	8	8	8	8	8	8	8													96	24	0%
13 Training on quality control at Juba (per diem)		5		5		5		5		5		5														29	7	0%
14 Training on quality control t Juba (transportation)		4		4		4		4		4		4														24	6	0%
15 In-service training for plant doctors at states (per diem)						13	13	13	13	13	13	13	13													102	26	0%
16 In-service training for plant doctors at states (transportation)						3	3	3	3	3	3	3	3													26	6	0%
17 Training visit to Kenya (course cost)		28																								28	7	0%
18 Training visit to Kenya (per diem)		480																								480	120	2%
19 Training visit to Kenya (transport)		54																								54	14	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector		**45**	**90**	**134**	**179**	**224**	**269**	**314**	**358**	**403**	**269**	**314**	**358**													**2,957**	**739**	**12%**
1 Operation of clinics (sub-project 1)		35	70	106	141	141	141	141	141	141																1,056	264	4%
2 Operation of clinics (sub-project 2)						35	70	106	141	141	141	141	141													915	229	4%
3 Operation of clinics (sub-project 3)										35	70	106	141													352	88	1%
4 Advertisement of clinics		10	19	29	38	48	58	67	77	86	58	67	77													634	158	2%
7 Operation and maintenance		**2**	**2**	**2**	**2**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**													**36**	**9**	**0%**
1 Fuel & services for visit clinic as rapid post-clinic quality control		2	2	2	2	4	4	4	4	4	4	4	4													36	9	0%

01.29 National crop pest and disease control project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4									Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
2 Construction of infrastructure and procurement of equipment		**464**	**296**	**296**	**296**	**462**	**296**	**296**	**296**	**312**	**296**	**296**	**296**													**3,902**	**976**	**15%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles		**190**	**40**	**40**	**40**	**190**	**40**	**40**	**40**	**40**	**40**	**40**	**40**													**780**	**195**	**3%**
1 Pick-ups		150				150																				300	75	1%
2 Motorbikes		40	40	40	40	40	40	40	40	40	40	40	40													480	120	2%
7 Procurement of equipment		**274**	**256**	**256**	**256**	**272**	**256**	**256**	**256**	**272**	**256**	**256**	**256**													**3,122**	**781**	**12%**
1 Office equipment		2																								2	1	0%
2 ICT equipment		16				16				16																48	12	0%
3 Data collection tablets		256	256	256	256	256	256	256	256	256	256	256	256													3,072	768	12%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)		**2,929**	**2,310**	**2,011**	**2,153**	**2,506**	**2,385**	**2,429**	**2,503**	**2,295**	**1,305**	**1,280**	**1,316**													**25,422**		**100%**
Total (USD '000)		**732**	**577**	**503**	**538**	**627**	**596**	**607**	**626**	**574**	**326**	**320**	**329**														**6,355**	
% to total		**12%**	**9%**	**8%**	**8%**	**10%**	**9%**	**10%**	**10%**	**9%**	**5%**	**5%**	**5%**													**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.30 National phytosanitay infrastructure project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop				
(2) Project name:	National phytosanitary infrastructure project				
(3) Project ID:	0 1 . 3 0	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2016/17		Ending FY: 2017/18	Duration (years):	2
(5) Total investment:	SSP 6,041,000		USD 1,510,000	Note: Not including recurrent cost	
(6) Name of this file (automatic):					

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:	CR.SA3		Public Infrastructure Development	Table 2-3
(2) Government organisation:	09	MAF-PP	Department of Plant Protection[38]	Table 2-6
	02	MAF-RE	Directorate of Research	Table 2-6
(3) Activity types:	209	SP-EI	Service delivery and infrastructure development – Economic Infrastructure Development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	

[38] The Plant Protection Department is not currently officially approved as a Directorate (November 2014).

Items	Information			
	61	FGI	Financed by generated income	X

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

Approximately 78% of households in South Sudan are engaged in agriculture[39], the majority of whom are subsistence farmers who cultivate crops for home consumption. Pests and Diseases have been identified as the highest constraint (21% of all constraints) on crop production[40]. Satti (2011[41]) listed 26 non-native insects of economic importance which have invaded Sudan (including areas now in South Sudan), mostly as a result of unregulated movements of infested plant material and he identified a further ten species of quarantine pests posing an imminent threat of establishment.

Many new invasive pests[42] have either already entered South Sudan in recent years, or are expected to gain access in the immediate future (e.g. several exotic fruit fly pests, larger grain borer, maize lethal necrosis disease, cassava brown-streak viruses, banana xanthomonas wilt). Each of these pests can cause serious economic production losses on impacted crops. In Kenya, maize lethal necrosis disease (MLND) has become a significant threat to national food security in just two years, with the 2014-15 long rains maize crop expected to be as much as 30% below the five-year national average of 2.7 million metric tons, due to below-average rains and losses to MLND[43], which have affected 70% of maize farmers.

Unregulated large-scale movements of food grains and cassava from Uganda and Kenya into South Sudan undertaken by relief agencies have substantially increased the risk of such accidental introductions. Mass movements of refugees fleeing from conflict zones, or subsequently returning to their home areas, are also a potential cause of accidental plant pest and disease introductions.

In late 2014 Southern Sudan acceded to the International Plant Protection Convention (IPPC). Under the IPPC rules the primary responsibility for phytosanitary regulation rests with the designated National Plant Protection Organization (NPPO), currently the Department of Plant Protection of MAFCRD[44]. Contracting parties are expected to exercise phytosanitary controls at national borders, to maintain up-to-date lists of regulated plant pests known to occur within their territories and to conduct surveillance to support non-records of occurrence as a basis for their quarantine regulations. Absence of such systems is recognised as a key constraint in negotiations on trade.

There is no current phytosanitary regulation in force in South Sudan. No national or state government phytosanitary personnel are currently monitoring the borders of South Sudan and no Ugandan phytosanitary staff have yet been posted to Uganda's border with South Sudan[45]. However small facilities originally intended for seed testing were constructed with funding from the Dutch (Netherlands) Government under the Support to Agriculture and Forestry Development Project (SAFDP) at three border crossing points (Nimule, Nadapal and Kaya).

MAFCRD is acutely aware of the vulnerability of South Sudan to the ingress of invasive species by infected or infested plant materials but currently lacks capacity and resources to develop the necessary regulatory apparatus. MAFCRD's Plant Protection Policy[46] is composed of six policy statements which include (No 6): "*Control and prevention of entry into the country of diseases and pests, contaminated seeds and planting materials*". MAFCRD has recently developed the first draft of a National Plant Protection Act. This is still incomplete, requiring a greater degree of detail and stronger linkages to the Constitution of South Sudan and to relevant international conventions (the World Trade Organization Agreement on Application of Sanitary and Phytosanitary measures, the International Plant Protection Convention, the Codex Alimentarius, and the International Chemical Conventions).

[39] NBS. 2012. *National Baseline Household Survey 2009.* p. 53.
[40] WFP / FAO / MAF. 2006. quoted in African Development Bank, 2013. *South Sudan: An Infrastructure Action Plan - A Program for Sustained Strong Economic Growth - Chapter 6 - Development of Agriculture in South Sudan*.
[41] Satti, A.A. 2011. Alien insect species affecting agriculture and natural resources in Sudan. *Agric. Biol. J. N. Am.*, 2011, 2(8): 1208-1221. http://scihub.org/ABJNA/PDF/2011/8/ABJNA-2-8-1208-1221.pdf
[42] The IPPC defines a pest as "any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products". The understanding of the term "pests" includes organisms that are pests because they directly affect cultivated/managed or uncultivated/unmanaged plants, indirectly affect plants, or indirectly affect plants through effects on other organisms (c.f. Annex 1 of ISPM 11:2004).
[43] http://www.fews.net/east-africa/kenya/food-security-outlook/october-2014
[44] https://www.ippc.int/countries/south-sudan
[45] Commissioner for Crop Inspection and Certification, Uganda, personal communication, November 2014.
[46] Approved by the Minister but still awaiting Parliamentary approval (as at November 2014).

Items	Information
	There is at present no diagnostic laboratory facility or national capacity to provide diagnostic services for insect and other invertebrate pests and for plant diseases caused by fungi, bacteria, viruses and other microbial pathogens. Field diagnosis of virus diseases based on visual recognition of foliage symptoms is unreliable and in the case of seed or cutting materials is inapplicable. The only definite diagnoses of plant viruses collected on the territory of South Sudan have been achieved by sending samples abroad for identification using polymerase chain reaction (PCR) techniques which detect and amplify viral DNA and RNA. FAO has sent samples of infected maize to the UK Food and Environment Research Agency (FERA), in 2014, free of charge, for diagnosis of maize viruses, but any future consignments are expected to be charged at normal commercial rates. In 2013 AGRA provided for samples of cassava to be sent to the Cassava Regional Center of Excellence at the National Crops Resources Research Institute (NACCRI), Namulonge, Uganda for identification of cassava mosaic virus and cassava brown streak viruses.
(2) Objectives:	To create the necessary basic phytosanitary infrastructure necessary to house and facilitate a national phytosanitary regulatory system for South Sudan[47], backed by law and regulations compliant with international conventions[48] and best practice, to: • protect human, animal or plant life or health within the territory of South Sudan from risks arising from the entry, establishment or spread of plant pests, plant diseases, plant disease-carrying organisms or plant disease-causing organisms; • prevent or limit other damage within the territory of South Sudan from the entry, establishment or spread of pests. • protect human, animal or plant life or health within the territory of South Sudan from risks arising from importation of chemical and biological pesticides and biocontrol agents, while enabling farmers adequately to protect their crops and stored produce from pests and diseases. • facilitate compliance with international and regional phytosanitary requirements by plant products exported from the territory of South Sudan.
(3) Overall description including temporal and spatial extent of project:	**Responsibility for Phytosanitary Regulatory System** The MAFCRD's Plant Protection Department, as NPPO is responsible for the phytosanitary import regulatory system, which prevents the introduction of quarantine pests and minimizes the entry of regulated non-quarantine pests with imported commodities and other regulated articles. A regulated article is any material capable of harbouring or spreading pests and deemed to require phytosanitary measures, particularly where international transportation is involved. This includes plants and plant products used for planting, consumption, or processing; packaging materials, including dunnage; soil, organic fertilizers, and related materials; potentially contaminated equipment, such as used agricultural and earth moving equipment; travelers' personal effects; and international mail[49]. The requirement for phytosanitary regulation of imports and exports of agricultural produce has been described in detail in the "Establishment of a national phytosanitary system project". **Phytosanitary service delivery** Phytosanitary inspection and regulatory actions must be consistent with the requirements of the IPPC and World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Measures ("the WTO SPS Agreement")[50] and in harmony with recent legislation in neighbouring countries within the region covered by the African Union Inter-African Phytosanitary Council (AU-IAPSC). They should also follow recommendations of the *International Convention on the Harmonization of Frontier Controls of Goods (UNECE 1982)* which aims to facilitate the cross-border exchange of goods by harmonizing and reducing formalities, as well as the number and duration of border controls. The proposed ENPSP will include technical assistance visits by an experienced international phytosanitary legal consultant to prepare a draft plant protection bill and phytosanitary regulation. This specialist will be guided by a national interministerial working group composed of key stakeholders drawn from among representatives of organizations involved in sanitary controls for livestock, standards for foodstuffs (Bureau of Standards), the Civil Aviation Authority, customs revenue and trade, as well as MAFCRD's Plant Protection Department, representatives of private sector trade bodies (e.g. Chambers of Commerce) and international organizations involved in crop protection with offices in South Sudan such as FAO.

[47] This project must be implemented with "Establishment of a national phytosanitary system project".
[48] Items a to d have been extracted (with the exclusion of references to animal diseases) from the WTO SPS Agreement's definition of an SPS measure.
[49] Kees van der Meer and Laura Ignacio. 2011. Chapter 16 *Sanitary and phytosanitary measures and border management*. pp 263-292. *In*: *Border Management Modernization*. Editors: Gerard McLinden, Enrique Fanta, David Widdowson, Tom Doyle. World Bank Washington, D.C. 2011. https://openknowledge.worldbank.org/bitstream/handle/10986/2544/588450PUB0Bord101public10BOX353816B.pdf?sequence=1
[50] WTO, 1994.

Items	Information
	Infrastructure for Phytosanitary regulation The proposed project will create appropriate basic infrastructure to enable the NPPO (the MAFCRD's Plant Protection Department) to conduct phytosanitary inspection of imports and exports of plants and plant products (including seeds) at national borders. This project is linked with the "Establishment of a national phytosanitary system project". A prioritized inventory of border crossing points should be agreed, based on those already tentatively proposed as sanitary control points for livestock inspection (Annex 1). For the purposes of this phytosanitary project, the immediate priority is a pilot system of three phytosanitary posts which can be brought into operation at the southern borders with Congo, Uganda, and Kenya. A fourth phytosanitary post should also be created in Juba airport, based on consultation and negotiation with the South Sudan Civil Aviation Authority. Prior to development partner funds being committed to construction or equipping of offices at border posts, assurances should be obtained from the national government that it has budgeted to finance the salaries and work of inspectors at the border posts in the next financial year. This will need to include provision of accommodation or housing allowances in addition to salaries and some form of mobility allowance. Border post structures, originally intended for seed inspection, have already been created at Nimule, Nadapal and Kaya, with Duthch (Netherlands) government funds provided through the SAFDP as support to the seed sector[51]. These facilities need to be physically assessed as to their suitability for phytosanitary use in terms of: • their location in relation to customs, immigration and other border services, • their access to services such as water and electricity (if any), • the ownership of the sites and rights of way to them, • their physical security (fencing, guarding, doors, windows, grilles, locks, telephone), and • the current completeness and condition of the office accommodation and the presence or absence of basic furnishings. • their fitness for purpose and any modification needed. The facilities at a border post should include, as a minimum, an office, a small basic laboratory, an incinerator and a lockable store. The facility will need access to water supply and electricity, at least during working hours. If necessary this will need to be provided by a generator. The laboratory should be provided with a bench and stools, with enough space to unpack, sort, examine and repack samples of produce. Office furnishings should include at least two desks, four chairs, a lockable metal cupboard, a lockable four-drawer filing cabinet and/or similar file storage. Equipment available at border posts should include: portable computer, printer, clipboards, recording forms, 3 x 1 inch screw-top plastic sample tubes, plastic bags, dissecting instruments (scalpels and forceps), magnifying glasses (10 x). Equipment for fumigation activities (tarpaulins, sand snakes, aluminium phosphide tablets (phostoxin) and related items) may also be required. **Inspection activities at border posts and airports** At the border, phytosanitary inspectors will check required papers (import permit, phytosanitary certificate, fumigation certificate etc), collect statistical and other information, and check whether the goods conform to the papers. The inspectors may carry out consignment integrity checks, verification of any treatment during shipment, and phytosanitary inspection. They may need to take samples, and perform simple tests or send samples to a diagnostic laboratory. Phytosanitary inspection of entire consignments is usually not practical and should be based on sampling. Initially inspectors would undertake a sensitization phase, warning importers of consignments of produce that they should obtain import permits by a stated date. After a suitable grace period, during which awareness raising activities would be conducted at border posts, substantive inspections and regulatory action would commence. Depending on the inspection results, a consignment might be detained in a post-entry quarantine station for inspection (if available[52]), testing, or treatment (e.g. fumigation), or its distribution or use might be restricted. Entry of any consignment lacking appropriate phytosanitary documentation could be might be refused entry, fumigated or destroyed.

[51] See: World Bank, 2013. Implementation Completion and Results Report (TF-91282, TF-93011) on Grants in the Amount of US$ 30.2 Million to the Government of Southern Sudan for a Support to Agriculture and Forestry Development Project. May 31 2013. Three vehicles were also provided to the seed project. Two of these are said to be available to the phytosanitary service (Cirino Oketayot, Director-General Research, personal Communication) but this needs to be verified.

[52] This project should assess the need for a post-entry station and review facilities already developed for seed importation and testing under Dutch (Netherlands) funding provide through the SAFDP. ote that because field detection of plant viruses and other pathogens is inherently unreliable, open field quarantine of imported plant materials is unacceptably dangerous as wind and vectors may carry undetected pathogens to adjoining fields. However standards for enclosed post-entry quarantine facilities (in the form of screen-houses or other closed facilities) are very exacting and require that ventilation and drainage from the facility are rigidly controlled. This, along with 24 hour electrical power requirement are unlikely to be achieved anywhere in South Sudan.

Items	Information
	Since there are no facilities for post-entry quarantine in South Sudan and no capacity at present to destroy large consignments, refusal of entry may be the preferred option for consignments of seed (or cuttings) intended for planting of food crops of national food security significance such as maize and cassava. For destruction of small consignments (e.g. of fruit without import permits and phytosanitary certificates that might carry fruit fly pests or plant diseases) simple brick-built batch incinerators[53] similar to those used by hospitals for medical waste could be installed near to border posts and at Juba airport. The alternative is to bag condemned plant materials in black plastic sacks and to bury them. However the labour of digging pits and covering waste with topsoil is likely to lead to non-observance of any SOP demanding burial, unless pits are pre-dug using an excavator, then fenced for safety and security of the contents, and gradually filled in as confiscated plant materials are buried. Fresh products would usually need to be checked and released (or rejected) at the border post. Other quarantined goods such as grain consignments with appropriate documentation might be sent to designated bonded warehouses operated by private contractors (if any), International Agencies (e.g WFP) or national or local government, where inspections could be carried out and from which the goods would be released after all diagnostic and any other requirements (e.g. fumigation) had been met. Confirmatory tests following internationally agreed protocols may be required to identify or confirm a visually detected pest, to check for infestations not detectable by inspection (if part of a requirement), and to check for latent infections. These would be carried out at a diagnostic laboratory. An example would be checking for seed-borne infections in maize seed for planting, such as maize lethal necrosis disease (MLND). In cases of noncompliance, such as the detection of a listed quarantine pest or a regulated non-quarantine pest in a consignment of plants for planting, measures such as detention, treatment, reshipment, or destruction may be taken. Administrative noncompliance, such as erroneous or incomplete phytosanitary certificates, would need to be resolved with the exporting country's national plant protection organization. **Pest and disease diagnostic laboratory facilities** In view of the phytosanitary threats posed by invasive plant diseases to South Sudan's agriculture, especially viruses, there is a need to develop national capacity to undertake plant virus diagnoses in South Sudan, rather than relying on diagnostic centres in countries which may themselves be exporting virus-infected planting materials to South Sudan. Creation of a laboratory diagnostic facility to identify pests and diseases associated with samples (intercepted at borders) of crops and stored produce[54] will be a component of this project. The accommodation within the proposed diagnostic facility should include a suite of rooms intended for virus diagnostics using polymerase chain reaction (PCR) techniques. This requires separate spaces for a sequence of processes in order to avoid nucleic acid contamination which might lead to false positive results[55]: A PCR laboratory should contain two functional work areas: a pre-amplification area and a post-amplification area. These two areas should ideally be in separate rooms, or when space constraints exist, separate work stations/biosafety cabinets in a single room. Supplies and equipment (including lab coats) should be dedicated to each work area and should not be interchanged between areas. The proposed pest and disease diagnostic unit has a small staff and is deliberately envisaged as a single national facility. This could conveniently be based within a working government research centre (e.g. YARC[56]) where its services would be of triple benefit: to extension, research and phytosanitary services. **Temporal extent and sustainability** The "National phytosanitary infrastructure project" is expected to have a duration of four years. This corresponds with the timeline already established for the "Establishment of a national phytosanitary system project". This short duration emphasizes that this project has closely-defined aims and its outputs needs to be put in place with all possible speed to counter the very real threats to national food security and food sovereignty posed by invasive plant pests and diseases. Provided that the necessary supporting legislation is

[53] The De Montfort Type 8a incinerator can be made locally at an estimated cost of less than $US1000 (2004 prices) exclusive of labour and can incinerate 12 Kg of medical waste per hour. A larger model can incinerate 50 Kg of waste per hour and costs $US 1500. http://www.mw-incinerator.info/en/101_welcome.html

[54] Such a diagnostic laboratory facility is also required for the "National crop pest and disease control project" and for support to ongoing crops research by MAFCRD's Directorate of Research.

[55] WHO, 2011. Establishment of PCR laboratory in developing countries. WHO Regional Office for SE Asia.

[56] Yei has a stable electricity supply and is situated close to the Ugandan border, conveniently placed for servicing quarantine-related diagnostic needs.

Items	Information
	put in place without delays, there is no reason why an initial network of phytosanitary posts should not be in place within the stated timeframe. The initial impact on the national budget of maintaining phytosanitary facilities is relatively small and consists largely of running costs related to electricity and water supply and minor repairs and maintenance of the structures of the border posts and a small central office at MAFCRD in Juba. Phytosanitary services include some actions for which fees are payable (e.g. phytosanitary certificates, fumigation certificates). This will provide a small but growing revenue stream to government[57]. However it is not expected that fees will be levied at border posts themselves. As the national phytosanitary service assumes its full mandate, widening its operations beyond the southern boundaries of the nation, additional border post facilities, based on the design developed under NPIP will be constructed. The incremental costs of the additional phytosanitary infrastructure therefore should easily be absorbed by a government budget benefiting from the peace dividend resulting from cessation of civil unrest. **Spatial extent** The NPIP will be a national level project, because the activities envisaged are mainly within the domain of the national government as the primary law-maker and signatory of international conventions. Border control points for phytosanitary checks may be situated ultimately in all ten states but under this project, which is intended to create and fine-tune a working system, operations will be restricted to the southern borders and to Juba international airport. The NPIP is designed to provide the necessary infrastructure for the phytosanitary system as a working model, based on prioritizing operations at the southern borders of the country through which the most serious phytosanitary threats are perceived to pass. It will be for the national government to extend this model to other borders as the improving security situation and the national budget allocation for agriculture may permit. It is envisaged that the states may enact their own legislation based on the national legislation, to protect their population, agriculture and environment from movements of pests, diseases and illegal plant protection products. The states may then decide to recruit, train and co-locate their own personnel alongside national phytosanitary staff at the border posts. There needs to be discussion between MAFCRD and the state Ministries of Agriculture and Forestry as to the extent and nature of any phytosanitary controls that may be exercised at state level. The essential priority is to prevent any unwarranted obstruction to international trade, in compliance with the IPPC and the WTO SPS agreement. South Sudan is not yet a member of the WTO[58], but its neighbours, Uganda, Kenya and Congo are all members and South Sudan will need to abide by WTO norms in order to trade with them.
(4) Component and activity structure:	Component 1: (Years 1-2) Develop infrastructure for a national phytosanitary inspection service backed by legislation and compliant with international conventions (IPPC and WTO SPS). Component 2: (Years 2-3) Develop infrastructure for a national plant pest and disease diagnostic facility.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Develop infrastructure for a national phytosanitary service backed by legislation and compliant with international conventions (IPPC and WTO SPS). Activity 1.1: Following completion of (i) recruitment of international phytosanitary consultant and development of TOR and Workplan (ENPSP Activity 1.1), (ii) conclusion of phytosanitary stakeholder assessment, capacity evaluation and prioritization (ENPSP Activity 1.2), (iii) mobilization of interministerial phytosanitary taskforce (ENPSP Activity 1.3), (iv) commencement of awareness raising activities (ENPSP Activity 1.4); (v) development of Draft Plant Protection Law and Draft Phytosanitary Regulation (ENPSP Activities 1.5 and 1.6) and (vi) training needs assessment and curriculum selection for phytosanitary inspection service staff (ENPSP Activity 1.7), TA Phytosanitary Law Specialist and MAFCRD Plant Protection Department prepare detailed design and tender documentation for offices, mini-labs, staff housing and any other accommodation requirement for phytosanitary border inspection posts. (Year 1, = Year 2 of ENPSP). Output 1.1: Detailed design specification for office accommodation and other requirements for four phytosanitary border inspection posts at Nimule, Nadapal, Kaya and Juba airport (including furnishings and equipment). Activity 1.2: Conduct tender process and let contracts for construction and equipping of agreed phytosanitary inspection posts, to be completed immediately following

[57] Ideally such revenue should be utilized to cover consumable costs of the service provided.
[58] http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm

Items	Information
	training in regional centre of excellence (COPE/KEPHIS), (carried out under ENPSP Activity 1.8) and ready for inception of phytosanitary service and in-service on-the-job training and mentoring of staff allocated to central office and border posts (ENPSP Activity 1.11). (Year 1, = Year 2 of ENPSP). Output 1.2: Completion reports for construction of phytosanitary facilities. Phytosanitary facilities operational and staffed. Component 2: Develop infrastructure for a national plant pest and disease diagnostic facility. Activity 2.1: Based on completed needs assessment conducted under ENPSP (ENPSP, Activity 2.1) and dependent on assignment of suitably qualified and trained staff by MAFCRD (ENPSP, Outputs 2.2, 2.3) TA International Plant Pathogen Diagnostic Specialist and National Plant Pathology Specialist prepare design for plant pest and disease diagnostic laboratory infrastructure (including office and laboratory facilities, staff housing, equipment and consumable supplies). (Year 2, = Year 3 of ENPSP) Output 2.1: Design specification for tendering of all infrastructure and equipment (including delivery to site and commissioning of all equipment with initial training on equipment use and provision of maintenance agreements). Activity 2.2: Conduct tender process and let contract for construction of agreed diagnostic laboratory facility (Year 2, = Year 3 of ENPSP). Outputs 2.2: Contract documents, building completion reports. Building for lab. ready for use. Activity 2.3: List, procure, install and commission equipment and initial consumable supplies for diagnostic services, according to needs determined under ENPSP (ENPSP, Activity 2.1). (Year 2, = Year 3 of ENPSP). Outputs 2.3: Lists of laboratory equipment to be procured (see partial indicative listing in Annex 2); reports of commissioning of equipment and summaries of diagnostic reports produced based on use of the facilities, in response to identification requests serviced. Lab. fully operational.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers will include International and regional TA providers, locally recruited construction companies, subject matter specialists of MAFCRD, especially the Research Directorate and Plant Protection Department and university staff.
(2) Description of beneficiaries within the framework of the project:	Initial beneficiaries will be: (i) staff of the MAFCRD provided with facilities within which to conduct phytosanitary inspections and pest and disease diagnoses; (ii) importers and exporters provided with clear and transparent instructions on phytosanitary requirements. The ultimate beneficiaries will be the nation and people of South Sudan whose food sovereignty and food security will be enhanced by reduction of phytosanitary threats to national crop production as a result of regulation of entry of agricultural produce at border crossing points, and correct diagnosis and regulatory actions against entry and establishment of exotic plant pests and diseases.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The main outcomes of the project will be: • Legitimate trade in agricultural produce between South Sudan and its southern neighbours will be regulated and facilitated by a legally constituted national phytosanitary inspection service operating at the southern borders and the main international airport; • Crop pests and diseases intercepted at border checkpoints or reported by farmers or researchers will be reliably identified and the associated risks they pose for national food security will be analysed and managed. The impact will be that South Sudan's food sovereignty and food security will be enhanced by reduction of phytosanitary threats to production.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Construction of border posts and diagnostic laboratory will have minor negative environmental impacts mainly during the construction phase, but these should be temporary and reversible and can be mitigated by careful siting and following appropriate environmental standards for small-scale construction projects[59].	

[59] See, for example: USAID, 2014. *Sector Environmental Guidelines, Small-Scale Construction*. 39 pp.

Items	Information
	(Positive) • The creation of phytosanitary inspection posts and diagnostic laboratory is likely to have a positive social impact because imported plant materials will be screened and therefore in the medium term will be less likely to introduce new pest and disease problems which would cause both social and environmental impacts.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and size (and %) of consignments of imported plant materials subjected to phytosanitary screening (and sampling) in previous year. • Number and size (and %) of consignments of imported plant materials found to contravene phytosanitary regulations in previous year. • Number of consignments of export produce receiving certification in previous year. • Number of plant pests and disease samples submitted for formal identification to specialists in-country in previous year. • Number of plant pests and disease samples submitted for formal identification to specialists outside South Sudan in previous year. • Number of virus diseases for which laboratory diagnosis can be undertaken in South Sudan.
(2) Measurable indicators and situation at the end point:	• Number and size (and %) of consignments of imported plant materials subjected to phytosanitary screening (and sampling) in previous year. • Number and size (and %) of consignments of imported plant materials found to contravene phytosanitary regulations in previous year. • Number of plant pests and disease samples submitted for formal identification to specialists in-country in previous year. • Number of plant pests and disease samples submitted for formal identification to specialists outside South Sudan in previous year. • Number of virus diseases for which laboratory diagnosis can be undertaken in South Sudan. • Number of samples submitted for pest and disease laboratory diagnosis in previous year.
(3) Methods of measurement and sources of information:	Statistical summaries from official records and reports of phytosanitary inspection service. Statistical summaries from official records and reports of the phytosanitary diagnostic laboratory
(4) Responsible parties for the monitoring and evaluation:	MAFCRD Plant Protection Department; M & E officials of MAFCRD (if any); external evaluators appointed by development partners.

2.7 Required human resources

(1) Principle of human resources management:	Short-term technical assistance will be provided to develop the design specification for procurement of the necessary infrastructure and associated equipment and initial consumable supplies for phytosanitary inspection posts and for a national phytosanitary diagnostic service laboratory, with the advice of a small pest and disease diagnostics expert panel composed of South Sudanese MAFCRD and university staff. Construction and provision of equipment and supplies will be tendered.
(2) Required human resources in the public sector (Positions, grades and numbers):	The required human resources for development of phytosanitary infrastructure include a small expert panel on pest and disease diagnostics composed of South Sudanese MAFCRD and university staff which will meet with the international TA Plant Pathogen Diagnostics Specialist to review the needs for diagnostic services, the specific design of the diagnostic laboratory and the requirements for equipment and consumables for entomology, plant pathology and virology.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• International TA phytosanitary law senior specialist (advanced degree, 15 years phytosanitary / legal experience, preferably partly in Africa) one (already recruited and budgeted under ENPSP). • International TA plant pathogen diagnostics specialist (advanced degree, 15 years experience) one, • National TA junior legal specialist (law degree, 5 years experience) one South Sudanese national with experience of legislation projects (already recruited and budgeted under ENPSP). • National plant pathologist (MSc or PhD, ten years experience) one

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The main risk in relation to creation of phytosanitary infrastructure will be from delays in handling of draft legislation by ministerial committees and parliament which may prevent the attainment of the major legislative outcomes (Acts and Regulations) within the lifetime of the project. Development partners wishing to finance the NPIP and the ENPSP should seek assurances at the highest level before entering into financing commitments. It is essential that infrastructure and training activities are carefully phased to follow passage into law of the enabling legislation, to avoid expenditure on infrastructure and capacity that will never be used for its intended purpose. Any programme involving placing staff and facilities at border posts carries the risk of loss

Items	Information
	or damage due to civil unrest. In particular for the time being it is not practicable to place staff at or near the northern border with Sudan. There is also a significant risk that staff will be unwilling to be posted to small communities situated at or near borders. Provision of transport (motorbike with fuel allowance) would enable staff to commute to their place of work from the nearest suitable town[60].

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	The phytosanitary border post facilities will require continuing provision of water, power supply, security, and renewable supplies for office functions and sampling. Minor repairs and maintenance of the structures of the border posts and a small central office will also be needed periodically. The diagnostic laboratory will require continuing provision of water, power supply, security, maintenance contracts for equipment and renewable supplies for tests.

[60] Note that two vehicles, originally provided to MAFCRD for seed inspection under the Support to Agriculture and Forestry Development Project are said to be available for phytosanitary activities. See footnote 16.

Annex 1: Republic of South Sudan. Proposed Border Check Points for Sanitary and Phytosanitary Control

S/N	Check point	County	State	Country & Administrative area bordered	Priority for Livestock sanitary control	Priority for Phytosanitary control
1	KajoKeji	KajoKeji	Central Equatoria State	Bordering Moyo / Uganda	Yes	
2	Kaya	Morobo		Bordering Koboko / Uganda Bordering Aliwara / Congo DRC	Yes	Yes
3	Lasu	Yei		Bordering Aba / Congo DRC		
4	Nadapal	Kapoeta East	Eastern Equatoria State	Bordering Lokichokio / Kenya	Yes	Yes
5	Nimule	Magwi		Bordering Atiak / Uganda	Yes	Yes
6	Tsertanya	Ikotos		Bordering Karamoja / Uganda		
7	Ezo	Ezo	Western Equatoria State	Bordering Dungu / Congo & DRC	Yes	
8	Nabiapai	Yambio		Bordering Banda / Congo DRC		
9	South Yubo	Tambura		Bordering Bambouti / Central Africa Republic		
10	Warguet / War-awar	Aweil East	Northern Bahr El-Ghazal State	Bordering Southern Kordufan / Sudan	Yes	Yes[61]
10a	Marial-baai	Awei West		Bordering Southern Kordufan / Sudan	No	Yes, but see footnote [62]
11	Kiir Adem / Gok Machar	Aweil North		Bordering Southern Darfur / Sudan	Yes, but see footnote 2	
12	Kafia Kanji / Timsaha	Raja	Western Bahr El-Ghazal State	Bordering Southern Darfur / Sudan		Yes, but see footnote 2
13	Boro	Raja		Bordering Southern Darfur / Sudan		Yes, but see footnote 2
14	Abyei	Abyei	Warrap State	Bordering Southern Kordufan / Sudan		See footnote
15	Abiemnhom	Abiemnhom	Unity State[63]	Bordering Southern Kordufan / Sudan		
16	Jau / Karsana	Pariang		Bordering Southern Kordufan / Sudan	Yes	Yes, but see footnote 2

Annex 1 (continued): Republic of South Sudan. Proposed Border Check Points for Sanitary and Phytosanitary Control

S/N	Check point	County	State	Country & Administrative area bordered	Priority for Livestock sanitary control	Priority for Phytosanitary control
17	Joda	Renk	Upper Nile State[64]	Bordering White Nile State / Sudan	Yes, but see footnote [2]	
18	Magenis / Wedakona	Manyo		Bordering Southern Kordufan / Sudan		
19	Kaka	Fashoda		Bordering Southern Kordufan / Sudan	Yes, but see footnote [2]	
20	Maban	Maban		Bordering Blue Nile State / Sudan	Yes, but see footnote [2]	
21	Dajo	Longochuk		Bordering Ethiopia		
22	Jikou	Maiwut		Bordering Ethiopia		
23	Nasser	Nasser		Bordering Ethiopia	Yes	
24	Ajwara	Pochala	Jonglei State[65]	Bordering Gambela region / Ethiopia		
25	Akobo	Akobo		Bordering Gambela region / Ethiopia	Yes	
26	Boma	Pibor		Bordering Dima region /		

61 War-awar is the main market in the area, a major trading point. Marielbay has also been suggested for phytosanitary control, but is of lesser importance.
62 Abyei is a contested area, currently partly controlled de facto by Sudan, and much of the border with Sudan is insecure. Hence it will be difficult to operate any SPS facility along this border (with the possible exception of War-awar) until these disputes are settled. See: http://www.polgeonow.com/2012/05/feature-sudan-south-sudan-border_26.html
63 Panthou (Higlig) and Abu Jabir have also been proposed as phytosanitary border posts. However it is not clear that this would not be duplication of the existing proposed sites.

64 Pagak has also been proposed as a phytosanitary border post. However it is not clear that this would not be duplication of the existing proposed sites.
65 Rart has also been proposed as a phytosanitary border post. However it is not clear that this would not be duplication of the existing proposed sites.

				Ethiopia		

Annex 2. Indicative equipment needs for diagnostic laboratory

Inventory of Equipment purchased under Great Lakes Cassava Initiative sub contract to UK FERA and installed at KEPHIS

(Source: Dr Julian Smith, FERA, personal communication).

Equipment	Supplier	Part No.	Quantity	Unit Price (UK£)	Carriage	Total	Total Price (UK£) inc VAT
Genogrinder	Spex CertiPrep	2010-230/01	1	9,885	50	9,935	11,922
KingFisher mL magnetic particle processor	Thermo	5400050	2	9,887	112	19,886	23,863
Incubator (e.g. Hybaid)	VWR	Hybaid 6240	1	3,490		3,490	4,188
Micro centrifuge	Sigma	1-14 Microfuge	2	775	20	1,570	1,884
Sigma Bench top centrifuge	SciQuip	4-16K	1	6,129	100	6,229	7,474
Rotor for plates	Qiagen	81031	1	1,341	50	1,391	1,669
Multichannel pipettes (5 -100ul) adjustable volume	BioHit	NA	2	392		784	941
Pipette 0.5 - 10	BioHit	NA	2	127		254	305
Pipette 10 - 100	BioHit	NA	2	119		238	285.6
Pipette 20 -200	BioHit	NA	2	119		238	285.6
Pipette 100 - 1000	BioHit	NA	2	119		238	286
Vortex mixer	Grant Bio	NA	2	142		284	341
Multi-stepper	Thermo	NA	2	138	13	289	347
Mini centrifuge	Sprout® Mini-Centrifuge	NA	1	105		105	126
							53,917

Note that for the purpose of equipping a diagnostic laboratory in South Sudan, the items and prices listed above are purely indicative and no liability is accepted for any errors or omissions. Laminar flow hoods and a range of less specialised laboratory equipment will also need to be provided, including refrigerators, freezers, protective clothing, glassware, reagents and disposable items and consumables.

01.30 National phytosanitary infrastructure project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project		**278**	**278**																							**555**	**139**	**9%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)		**278**	**278**																							**555**	**139**	**9%**
1 International TA Plant Pathogen Diagnostics Specialist		158	158																							315	79	5%
2 National Plant Pathologist		120	120																							240	60	4%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment			**5,486**																							**5,486**	**1,372**	**91%**
1 Construction of office buildings			**640**																							**640**	**160**	**11%**
1 Offices in border posts			640																							640	160	11%
2 Construction of research, training and other specialized buildings			**3,856**																							**3,856**	**964**	**64%**
1 Small basic laboratories at border posts			640																							640	160	11%
2 Lockable stores at border posts & HQ			200																							200	50	3%
3 National Plant Pest & Disease Diagnostic laboratory			96																							96	24	2%
4 Incinerator De Montfort Type			40																							40	10	1%
5 Staff housing at national diagnostic lab			2,240																							2,240	560	37%
6 Staff housing at border posts			640																							640	160	11%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment			**990**																							**990**	**248**	**16%**
1 Diagnostic lab PCR equipment			270																							270	68	4%
2 Diagnostic lab plant pathology equipment			250																							250	63	4%
3 Diagnostic lab entomology/nematology equipment			150																							150	38	2%
4 Diagnostic lab office equipment			200																							200	50	3%
5 Equipment for mini-labs at border posts			40																							40	10	1%
6 Office equipment at border posts			80																							80	20	1%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)		**278**	**5,764**																							**6,041**		**100%**
Total (USD '000)		**69**	**1,441**																								**1,510**	
% to total		**5%**	**95%**																							**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.31 Establishment of a national phytosanitary system project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector	Crop			
(2) Project name	Establishment of a national phytosanitary system project			
(3) Project ID:	0 1 . 3 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2015/16	Ending FY: 2018/19	Duration (years): 4	
(5) Total investment:	SSP 5,815,000	USD 1,454,000	Note: Not including recurrent cost	
(6) Name of this file (automatic):				

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:	SA1		Policy and Legal Framework Development	Table 2-3
(2) Government organisation:	09	MAF-PP	Department of Plant Protection[66]	Table 2-6
	13	MAF-AE	Directorate of Planning and Agricultural Economics	Table 2-6
	01	MAF-AF	Directorate of Administration and Finance	
(3) Activity types:	101	ID-LI	Institutional Development - Legal and Institutional Development	Table 2-12
	102	ID-AD	Institutional Development – Administrative Capacity Development	Table 2-12
	207	SP-PL	Service delivery and infrastructure development – Granting permissions and licenses	

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	
	06	PTL	Pastoral	
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	X

[66] The Plant Protection Department is not currently officially approved as a Directorate (November 2014).

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

Approximately 78% of households in South Sudan are engaged in agriculture[67], the majority of whom are subsistence farmers who cultivate crops for home consumption. Pests and Diseases have been identified as the highest constraint (21% of all constraints) on crop production[68]. Satti (2011[69]) listed 26 non-native insects of economic importance which have invaded Sudan (including areas now in South Sudan), mostly as a result of unregulated movements of infested plant material and he identified a further ten species of quarantine pests posing an imminent threat of establishment.

Many new invasive pests[70] have either already entered South Sudan in recent years, or are expected to gain access in the immediate future (e.g. several exotic fruit fly pests, larger grain borer, maize lethal necrosis disease, cassava brown-streak viruses, banana xanthomonas wilt). Each of these pests can cause serious economic production losses on impacted crops. In Kenya, maize lethal necrosis disease (MLND) has become a significant threat to national food security in just two years, with the 2014-15 long rains maize crop expected to be as much as 30% below the five-year national average of 2.7 million metric tons, due to below-average rains and losses to MLND[71], which have affected 70% of maize farmers.

Unregulated large-scale movements of food grains and cassava from Uganda and Kenya into South Sudan undertaken by relief agencies have substantially increased the risk of such accidental introductions. Mass movements of refugees fleeing from conflict zones, or subsequently returning to their home areas, are also a potential cause of accidental plant pest and disease introductions.

In late 2014 Southern Sudan acceded to the International Plant Protection Convention (IPPC). Under the IPPC rules the primary responsibility for phytosanitary regulation rests with the National Plant Protection Organization (NPPO), currently the Plant Protection Department (PPD) of MAFCRD[72]. Contracting parties are expected to exercise phytosanitary controls at national borders, to maintain up-to-date lists of regulated plant pests known to occur within their territories and to conduct surveillance to support non-records of occurrence as a basis for their quarantine regulations. Absence of such systems is recognised as a key constraint in negotiations on trade.

There is no current phytosanitary regulation in force in South Sudan and no national pest database. The previous Sudanese plant protection legislation, itself outdated and unfit for purpose, has not been applied in South Sudan. However Central Equatoria State has been using phytosanitary documentation based on Sudanese law. No national or state government phytosanitary personnel are currently monitoring the borders of South Sudan and no Ugandan phytosanitary staff have yet been posted to Uganda's border with South Sudan[73].

MAFCRD's Plant Protection Policy[74] is composed of six policy statements which include (No 2) "*Facilitate the establishment and promotion of plant protection industry to ensure access to appropriate plant protection materials and services*". However, there is currently no regulation for pesticides or other agro-chemicals in South Sudan. Use of pesticides has been discouraged by MAFCRD and no approved list has been gazetted. Input suppliers are not formally registered to sell pesticides, although a very restricted range of older pesticides is currently available in major towns. Informally, only MAFCRD is permitted to hold fumigation chemicals and to carry out fumigation. In this legislative vacuum, Central Equatoria State has prepared its own draft bill to regulate pest control products[75]. This should not be finalized until a national act or regulation has been gazetted which should then guide state legislation.

[67] NBS. 2012. *National Baseline Household Survey 2009.* p. 53.

[68] WFP / FAO / MAF. 2006. quoted in African Development Bank, 2013. *South Sudan: An Infrastructure Action Plan - A Program for Sustained Strong Economic Growth - Chapter 6 - Development of Agriculture in South Sudan*.

[69] Satti, A.A. 2011. Alien insect species affecting agriculture and natural resources in Sudan. *Agric. Biol. J. N. Am.*, 2011, 2(8): 1208-1221. http://scihub.org/ABJNA/PDF/2011/8/ABJNA-2-8-1208-1221.pdf

[70] The IPPC defines a pest as "any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products". The understanding of the term "pests" includes organisms that are pests because they directly affect cultivated/managed or uncultivated/unmanaged plants, indirectly affect plants, or indirectly affect plants through effects on other organisms (c.f. Annex 1 of ISPM 11:2004).

[71] http://www.fews.net/east-africa/kenya/food-security-outlook/october-2014

[72] https://www.ippc.int/countries/south-sudan . The Plant Protection unit is currently a Department, but the Plant Protection Policy, approved by the Minister but still to be approved by Parliament, calls for it to be upgraded to a Directorate.

[73] Commissioner for Crop Inspection and Certification, Uganda, personal communication, November 2014.

[74] Approved by the Minister but still awaiting Parliamentary approval (as at November 2014).

[75] "*The Seeds and Pest Control Products Control Order (Bill)*". Undated draft. Central Equatoria State Ministry of Agriculture. 3 pp.

Items	Information
	MAFCRD is acutely aware of the vulnerability of South Sudan to the ingress of invasive species by infected or infested plant materials but currently lacks capacity and resources to develop the necessary regulatory apparatus. The MAFCRD Draft Research Policy includes ten policy statements, of which No 2 is: "Ensure reduction of losses caused by pests and diseases in crops, livestock, fisheries and forestry". Six implementation strategies are identified, including programmes for the introduction, breeding, developing and promoting of pest and disease resistant varieties and strains; promotion of utilization of biological control agents; and development and promotion of the use of safe chemical pesticides. These are clearly appropriate strategies, but introduction of new plant varieties, biological control agents and development of safe chemical pesticides all require a regulatory framework to be set up to ensure the safety of farmers, consumers of produce and the environment. MAFCRD's Plant Protection Policy Statement No 6 calls for "Control and prevention of entry into the country of diseases and pests, contaminated seeds and planting materials". MAFCRD has recently developed the first draft of a National Plant Protection Act. This is still incomplete, requiring a greater degree of detail and stronger linkages to the Constitution of South Sudan and to relevant international conventions (the World Trade Organization Agreement on Application of Sanitary and Phytosanitary measures, the International Plant Protection Convention, the Codex Alimentarius, and the International Chemical Conventions). There is at present no diagnostic laboratory facility or national capacity to provide diagnostic services for insect and other invertebrate pests and for plant diseases caused by fungi, bacteria, viruses and other microbial pathogens. Field diagnosis of virus diseases based on visual recognition of foliage symptoms is unreliable and in the case of seed or cutting materials is inapplicable. The only definite diagnoses of plant viruses collected on the territory of South Sudan have been achieved by sending samples abroad for identification using polymerase chain reaction (PCR) techniques which detect and amplify viral DNA and RNA. FAO has sent samples of infected maize to the UK Food and Environment Research Agency (FERA), in 2014, free of charge, for diagnosis of maize viruses, but any future consignments are expected to be charged at normal commercial rates. In 2013 AGRA provided for samples of cassava to be sent to the Cassava Regional Center of Excellence at the National Crops Resources Research Institute (NACCRI), Namulonge, Uganda for identification of cassava mosaic virus and cassava brown streak viruses.
(2) Objectives:	To create a National Phytosanitary regulatory system for South Sudan, backed by law and regulations compliant with international conventions[76] and best practice, to: • protect human, animal or plant life or health within the territory of South Sudan from risks arising from the entry, establishment or spread of plant pests, plant diseases, plant disease-carrying organisms or plant disease-causing organisms; • prevent or limit other damage within the territory of South Sudan from the entry, establishment or spread of pests. • protect human, animal or plant life or health within the territory of South Sudan from risks arising from importation of chemical and biological pesticides and biocontrol agents, while enabling farmers adequately to protect their crops and stored produce from pests and diseases. • facilitate compliance with international and regional phytosanitary requirements by plant products exported from the territory of South Sudan.
(3) Overall description including temporal and spatial extent of project:	**Legislative framework and regulations for plant protection** The proposed project will create an overall legislative framework for plant protection, establishing the legal role of the Minister of Agriculture in oversight of the areas of phytosanitary control and pesticide regulation. It will draft regulations covering: • Phytosanitary control of imports and exports of plants and plant products (including seeds) • Regulation of importation, labelling, storage, use and disposal of pesticides, with early promulgation of an interim register of pesticides approved for importation and use[77]. • Creation of a pesticide registration body and the position of Pesticide Registrar. • Registers and licensing system for agro-dealers permitted to import pesticides and for public and commercial fumigation service providers. **Phytosanitary regulation** Phytosanitary inspection and regulatory actions need to be consistent with the

[76] Items a to d have been extracted, with the exclusion of reference to animal diseases, from the WTO SPS Agreement's definition of an SPS measure.
[77] Regulatory system for pesticides should be compliant with The International Code of Conduct on Pesticide Management (2013). See: http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/CODE_2014Sep_ENG.pdf

Items	Information
	requirements of the IPPC and World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Measures ("the WTO SPS Agreement")[78] and in harmony with recent legislation in neighbouring countries within the region covered by the African Union Inter-African Phytosanitary Council (AU-IAPSC). The detailed requirements for a phytosanitary import regulatory system provided in ISPM 20[79] should be followed. The basic structure of a Phytosanitary Law has been set out by Vapnek & Manzella (2007)[80]. The draft law/regulation will need to take account of national government policy with regard to genetically-modified organisms, referred to as living modified organisms (LMOs). Phytosanitary regulations should be made no more restrictive than is necessary to ensure protection of human, animal, and plant life or safety, or environmental protection. They should be based on the risks associated with noncompliance, which should be assessed according to available scientific and technical information, and the intended end uses of products. They should also follow recommendations of the *International Convention on the Harmonization of Frontier Controls of Goods (UNECE 1982)* which aims to facilitate the cross-border exchange of goods by harmonizing and reducing formalities, as well as the number and duration of border controls. A project component for this purpose will include technical assistance visits by an experienced international phytosanitary legal consultant to prepare a draft bill and regulations. Development of phytosanitary controls needs to include participation by representatives of organizations involved in sanitary controls for livestock, standards for foodstuffs (Bureau of Standards), the national airports authority, customs revenue and trade, as well as MAFCRD's PPD, subject matter specialists in universities[81], representatives of private sector trade bodies (e.g. Chambers of Commerce) and international organizations involved in crop protection with offices in South Sudan such as FAO. A national inter-ministerial working group will therefore be convened to review and validate draft legislation. Phytosanitary regulation will be best developed in close liaison with the phytosanitary services of neighbouring countries who should be invited to comment on draft legislation. Attendance at regional meetings convened by the AU-IAPSC and the IPPC may be financed for some senior staff to foster this cooperation. **Phytosanitary service** A functioning phytosanitary service will need to have national government agreement to finance the salaries and work of inspectors at the border posts. This will include provision of accommodation or housing allowances. A prioritized inventory of border crossing points should be agreed, based on those already tentatively proposed as sanitary control points for livestock inspection[82]. For phytosanitary purposes the immediate priority is a pilot system which can be brought into operation at the southern borders with Congo, Uganda, and Kenya. A phytosanitary office should also be created in Juba airport. The infrastructure needed for phytosanitary inspection posts will be created under CAMP by a companion project: the "National phytosanitary infrastructure project". Border post structures, originally intended for seed inspection, have already been created at Nimule, Nadapal and Kaya, through Dutch (Netherlands) government funds provided through the Support to Agriculture and Forestry Development Project (SAFDP) as support to the seed sector[83]. These facilities need to be reviewed as to their suitability in the phytosanitary infrastructure project. Most border phytosanitary checks should be administrative, carried out by reference to required documentation (Import permit, Phytosanitary Certificate). After a suitable grace period, during which awareness raising activities would be conducted at border posts, entry of any consignment lacking appropriate phytosanitary documentation would be prohibited and the consignment refused, fumigated or destroyed. Since there are no facilities for post-entry quarantine and no capacity at present to destroy consignments,

[78] WTO, 1994.

[79] International Standards for Phytosanitary Measures. ISPM 20. *Guidelines for a Phytosanitary Import Regulatory System* (2004). Secretariat of the International Plant Protection Convention, FAO, Rome. 20 pp.

[80] Jessica Vapnek and Daniele Manzella. 2007. *Guidelines for the Revision of National Phytosanitary Legislation*. FAO Legal Papers Online #63. January 2007. FAO, Rome. 38 pp. www.fao.org/fileadmin/user_upload/legal/docs/lpo63.pdf
See Box 2 for a skeleton outline and the appendix for the main provisions of a phytosanitary law, and links each to the articles/sections of the WTO/SPS, the IPPC and the ISPMs which are most relevant.

[81] Principally Juba University and Dr John Garang Memorial University of Science and Technology.

[82] Twenty six crossing points for sanitary control have been proposed by the CAMP livestock technical team. These are listed in "National phytosanitary infrastructure project".

[83] See: World Bank, 2013. Implementation Completion and Results Report (TF-91282, TF-93011) on Grants in the Amount of US$ 30.2 Million to the Government of Southern Sudan for a Support to Agriculture and Forestry Development Project. May 31 2013. Three vehicles were also provided to the seed project. Two of these are said to be available to the phytosanitary service (Cirino Oketayot, Director-General Research, personal communication) but this needs to be verified.

Items	Information
	refusal of entry may be the preferred option for consignments of seed (or cuttings) intended for planting of food crops of national food security significance such as maize and cassava. **Pest Risk Analysis (PRA)** Pest risk analysis provides the rationale for phytosanitary measures for a specified PRA area. It evaluates scientific evidence to determine whether an organism is a pest. If so, the analysis evaluates the probability of introduction and spread of the pest and the magnitude of potential economic consequences in a defined area, using biological or other scientific and economic evidence. If the risk is deemed unacceptable, the analysis may continue by suggesting management options that can reduce the risk to an acceptable level. Subsequently, pest risk management options may be used to establish phytosanitary regulations. The pest risks posed by the introduction of organisms associated with a particular pathway, such as a commodity (e.g. maize grain, cassava cuttings), should also be considered in a PRA. The commodity itself may not pose a pest risk but may harbour organisms that are pests (e.g. stored products pests, seed-borne diseases). Lists of such organisms are compiled during the initiation stage. Specific organisms may then be analysed individually, or in groups where individual species share common biological characteristics[84]. Pest risk analyses (PRAs) need to be undertaken as soon as possible for highest priority commodities (maize, cassava, sorghum, rice[85]) and the diseases of quarantine concern most likely to be accidentally introduced. For example these should include maize chlorotic mottle virus (MCMV), one of the causative agents of maize lethal necrosis disease in maize, which is not endemic in South Sudan. A risk assessment is also needed for cassava brown streak viruses (CBSVs) which may only be present in parts of Greater Equatoria and whose further spread should be prevented. In both cases the results of PRAs are likely to provide justification for a recommendation that certificates of origin should be required for all imports of seed (or cuttings) intended for planting. The Ministry of Agriculture in Uganda can supply such certificates for exporters of material raised in certified "mother gardens"[86]. **Pest and disease diagnostic laboratory facilities** In view of the phytosanitary threats posed by invasive plant diseases, especially viruses, there is a need to develop national capacity to undertake plant virus diagnoses in South Sudan, rather than relying on diagnostic centres in countries which may themselves be exporting virus-infected planting materials to South Sudan. Creation of a laboratory diagnostic capability to identify pests and diseases associated with samples (intercepted at borders) of crops and stored produce[87] will be a component of this project. The laboratory infrastructure needed for this facility will be created under CAMP by a companion project: the "National phytosanitary infrastructure project"**.** **Pesticide regulation and management system** A normative scheme for regulation of pesticide management is provided in Annex 1. The project component for this purpose will include technical assistance visits by an experienced international consultant to prepare the draft regulation and to facilitate the process of preparing a provisional list of permitted pesticides, licensing of importers and wholesalers of pesticides and licensing of fumigation service providers. Licensing of fumigators should meet standards set out in APPC, (2014)[88], or similar FAO standards and the methods approved and taught should comply with the requirements of the World Food Programme (WFP)[89]. A national stakeholder working group will be convened to review and validate draft legislation. Development of a pesticide regulatory system needs to include participation by representatives of organizations involved in large-scale farming, the smallholder subsector, the Environment Ministry, Bureau of Standards and representatives of the private sector input suppliers in addition to MAFCRD's PPD, subject matter specialists in universities and representatives of international organizations involved in crop protection

[84] Secretariat of the International Plant Protection Commission (IPPC). 2011. *International Standards for Phytosanitary Measures. ISPM 2. Framework for pest risk analysis.* (2007). 18 pp.
[85] This is not a prescriptive list. For example, fresh fruit and planting material of banana also need risk assessments because of the dangers of importing exotic fruit flies and xanthomonas wilt, respectively.
[86] Commissioner for Crop Inspection and Certification, Uganda, personal communication, November 2014
[87] Such a diagnostic laboratory facility is also required for the "National crop pest and disease management project" and for support to ongoing crops research by MAFCRD's Directorate of Research.
[88] The Asia and Pacific Plant Protection Commission (APPPC), 2014. *Regional standards for phytosanitary measures. Approval of Fumigation Facilities.* FAO Regional Office for Asia and the Pacific, Bangkok, 2014. www.fao.org/docrep/019/i3708e/i3708e00.htm
[89] http://documents.wfp.org/stellent/groups/public/documents/reports/wfp250916.pdf

Items	Information
	with offices in South Sudan such as FAO. While formulating pesticide legislation, to avoid delay in meeting farmers' needs there is a need to prepare and approve a provisional list of relatively low toxicity pesticide products (insecticides, fungicides and herbicides) which may be imported now and made available to farmers through existing agro-dealers, as well as a few restricted use chemicals reserved for use by licensed applicators (e.g. fumigants). This list should be issued by the Minister of Agriculture as either an administrative order or a ministerial decree, pending approval by Parliament. The international TA specialist will prepare a proposal for South Sudan to accede to the relevant international Pesticide Conventions[90]. The secretariats of these Conventions have funding available to assist developing country members to improve their compliance with the conventions and to improve their governance of pesticide safety issues such as persistent organic pollutants (POPs) and the Prior Informed Consent Procedure (PIC), which allows signatories to monitor and control the international trade of certain dangerous pesticides. **Enhancing private sector performance and compliance** As well as registering dealers and requiring them to meet minimum standards, it will be desirable to encourage the formation of an agro-input suppliers association for South Sudan. Some assistance has previously been provided (through development partners) to agro-input dealers in South Sudan to enable them to supply services (mainly seeds) of an appropriate quality to meet normal regulatory standards. For provision of pest management inputs, there is also a need for agro-dealers to increase their awareness of safety needs and to offer protective clothing for sale as well as reliable spraying equipment and good quality pesticides. They also need to upgrade their advice at point of sale to inform semi-literate or illiterate farmers about correct dosage and safety issues and to refer their clients to any available extension advice such as the plant clinics proposed under the "National crop pest and disease management project". A training course will be developed for pesticide importers, wholesalers and retailers covering the provisions and requirements of the Draft South Sudan Pesticide Regulation and International Code of Conduct for pesticide management (e.g. management of pesticide stocks, personal protective equipment, spraying equipment minimum requirements, permitted pesticide types and hazard classes, and requirements for provision of advice to semi-literate or illiterate clients about correct dosage and safety issues, etc). Separate training courses, with an element of training of trainers (ToT) will be designed and implemented to equip public (i.e government) and commercial fumigation service providers to utilize restricted-use fumigant pesticides safely to treat stored grain in warehouses. Skills of selected government plant protection staff will be refreshed and upgraded to be able to continue to provide similar training as a basis for certifying fumigation service providers post-project. An agrochemical suppliers' association would be the primary private sector partner to interact with the national government on policy and regulatory issues related to seed, fertilizers and pesticides. Such an association, which could be affiliated to CropLife Africa Middle East[91], with an appropriate code of conduct and training programme, could help to set minimum good practice standards within the industry. It would propose new plant protection products for certification and would also be able to lobby the national government to discourage sales of chemicals in markets and to take action against illegal, obsolete or fake pesticides being brought into the country. It is desirable that assistance to the private agro-input sector is coordinated with government policy. This project provides an opportunity to involve both governmental regulators and private sector service providers in raising standards. **Temporal extent and sustainability** The "Establishment of a national phytosanitary system project" (ENPSP) is expected to have a duration of four years. This corresponds with the typical timeline for most projects funded by development partners. This short duration emphasizes that this project has closely-defined aims and its outputs needs to be put in place with all possible speed to

[90] The *Codex Alimentarius*, and more specifically the Codex Committee on Pesticide Residues, operational since 1966; The *Montreal Protocol on Substances that Deplete the Ozone Layer*, adopted in 1987 and entered into force in 1989, and its subsequent amendments; *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, adopted in 1989 and entered into force in 1992; *The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, adopted in 1998 and entered into force in 2004; *The Stockholm Convention on Persistent Organic Pollutants*, adopted in 2001 and entered into force in 2004.

[91] http://www.croplifeafrica.org/?module=pages&method=view&conf[page]=website_home

Items	Information
	counter the very real threats posed to national food security and food sovereignty by invasive plant pests and diseases. Legislative projects in Africa have a history of unnecessary delays. In South Sudan development partners have already drawn attention to a serious backlog of policies and legislation awaiting final approval by parliament. If this issue can be addressed by government, then there is no reason why a functioning national phytosanitary system should not be in place within the stated timeframe. The initial impact on the national budget is relatively small and consists largely in staffing and resourcing border posts and a small central office, mostly using staff who are already in post but are unallocated or underemployed. Phytosanitary services include some actions for which fees are payable (e.g. phytosanitary certificates, fumigation certificates, fumigators' licenses). This will provide a small but growing revenue stream to government[92]. As the national phytosanitary service assumes its full mandate, widening its operations beyond the southern boundaries of the nation, in-service training should be provided to new entrants by existing staff initially trained under this project. The incremental costs of the phytosanitary service therefore should easily be absorbed by a government budget benefiting from the peace dividend resulting from cessation of civil unrest. The proposed pest and disease diagnostic unit has a small staff and is deliberately envisaged as a single national facility. This could conveniently be based within a working government research centre (e.g. YARC[93]) where its services would be of triple benefit: to extension, research and phytosanitary services. **Spatial extent** The ENPSP will be a national level project, because the activities envisaged are mainly within the domain of the national government as the primary law-maker and signatory of international conventions. The border control points for phytosanitary checks will be situated ultimately in all ten states but under this project, which is intended to create and fine-tune a working system, operations will be restricted to the southern borders and to Juba international airport. It is envisaged that the states may enact their own legislation based on the national legislation, to protect their population, agriculture and environment from movements of pests, diseases and illegal plant protection products. It will be desirable that the states (especially Central Equatoria) should then co-locate their own personnel alongside national phytosanitary staff at border posts. Early agreement to this arrangement will mean that training under this project can be extended to state plant protection personnel to facilitate their joint policing of border posts. The ENPSP is designed to create the phytosanitary system as a working model, based on prioritizing operations at the southern borders of the country through which the most serious phytosanitary threats are perceived to pass. It will be for the national government to extend this model to other borders as the improving security situation and the national budget allocation for agriculture may permit.
(4) Component and activity structure:	Component 1 (Years 1-3): Develop a national phytosanitary service backed by legislation and compliant with international conventions (IPPC and WTO SPS). Component 2 (Years 2-4): Create a national plant pest and disease diagnostic capability. Component 3 (Years 2-4): Develop a national pesticide management system backed by legislation (compliant with the international pesticide conventions and the International Code of Conduct). Component 4 (Year 3-4): Enhance professionalism and safety standards of agro-input dealers and crop storage fumigation service providers in conformity with the International Code of Conduct on Pesticide Management.
2.2 Detailed description of project component, activity and outputs	
(1) Component, activity and outputs	Component 1: Develop a national phytosanitary service backed by legislation and compliant with international conventions (IPPC and WTO SPS). Activity 1.1: Recruitment of international phytosanitary consultant and national legal specialist (Year 1). Output 1.1: TOR and work plan. Activity 1.2: Phytosanitary stakeholder assessment, capacity evaluation and prioritization (Year 1). Outputs 1.2 Reports of phytosanitary stakeholder assessment, capacity evaluation and prioritization. Activity 1.3: Draft TOR and convene inter-ministerial phytosanitary task force (Year 1). Output1.3: Detailed arrangements and TOR for inter-ministerial phytosanitary taskforce; minutes and participants lists for taskforce meetings (Year 1). Activity 1.4: Conduct awareness raising activities (at all stages. Years 1-4) Output 1.4: Reports of awareness raising activities addressing major stakeholders (Years 1-4).

[92] Ideally such revenue should be utilized to cover consumable costs of the service provided.
[93] Yei has a stable electricity supply and is situated close to the Ugandan border, conveniently placed for servicing quarantine-related diagnostic needs.

Items	Information
	Activity 1.5: Develop Draft Plant Protection Law for parliamentary approval (Year 2). Output 1.5: Final draft of Plant Protection Law (Year 2). Activity 1.6: Develop Draft Phytosanitary Regulation under Plant Protection Law (Year 2) Output 1.6: Final draft of Phytosanitary Regulation (Year 2). Activity 1.7: International TA specialist and MAFCRD PPD identify phytosanitary inspection service staff[94]; perform training needs assessment and visit Kenya[95] to discuss and agree required training curriculum with training provider (COPE / KEPHIS)[96] (see Annex 2: Training Content for COPE Phytosanitary Systems Short Courses). Training courses will be up to 8 weeks formal instruction (maximum) and up to two weeks attachment to phytosanitary service provider per trainee (Year 1). Output 1.7: Training needs and specific courses identified and attachments proposed (including for conducting PRAs) (Year 1). Activity 1.8: Train staff for central office and border posts (Year 2); Output 1.8: Trained staff ready for deployment (Year 2). Activity 1.9: Carry out PRAs for at least two priority pests and diseases (as part of training attachments in Activity 1.8) including listing of all priority quarantine pests (Year 2) Output 1.9: Completed PRA reports for at least two priority pests and diseases completed, and initial agreed list of priority quarantine pests (Year 2) Activity 1.10: List and create necessary documentation and standard operating procedures for phytosanitary service (Year 3); Output 1.10: List of Documentation and SOPs; individual SOPs, forms (Year 3); Activity 1.11: Set up web page with details of law and SOPs for public access and transparency. (Train one person to update webpage) (Year 3). Output 1.11: Webpage with clear description of law, regulation, SOPs and any downloadable forms needed for import/export etc. (Year 3). Activity 1.12: Implement Phytosanitary Inspection Service, with deployment of staff at three border posts and Juba international airport (Year 3). Output 1.12: Quarterly and annual reports of inspections carried out and related diagnoses, follow-up etc. (Year 3). Component 2: Create a national plant pest and disease diagnostic capability. Activity 2.1: International TA Phytosanitary specialist and MAFCRD PPD conduct needs-assessment and consultation for plant pest and disease diagnostic laboratory services in support of phytosanitary regulatory actions, farmer extension and crops research. Assess current and anticipated provision of diagnostic services (including facilities, staffing, equipment and consumable supplies) from other sources within or outside of CAMP, including the appropriateness of the actual or projected institutional assignment and location of such diagnostic capacity (Year 2). Output 2.1: Needs assessment report documenting any current or anticipated provision of diagnostic services (including facilities, staffing, equipment and consumable supplies) and any additional unmet needs (Year 2). Activity 2.2: If no adequate provision for diagnostic services exists, identify suitably qualified (in crop production, plant pathology or related disciplines) scientific and technical staff within MAFCRD who are available for training and assignment to diagnostic laboratory[97] (Year 2). Output 2.2: List of suitable scientific and technical staff within MAFCRD (up to 3 junior professional staff and 3 technical staff) identified for diagnostic training (Year 2); Activity 2.3: Undertake tendering to obtain regional or international diagnostic training for insect pests and natural enemies, plant pathology (including nematodes) and virology (plant viruses) to service the additional needs identified by activity 2.1 (Year 2); Output 2.3: (i) List of identified BSc-qualified young professional trainees and three certificate- or diploma-qualified technical trainees and description of proposed courses; (ii) reports showing up to three scientific and three technical staff trained to post-graduate diploma (1 year) or professional certificate (6 month) level respectively to undertake specific diagnostic activities related to relevant groups of pests and/or plant diseases (Years 3-4). Component 3: Develop a national pesticide management system backed by legislation

[94] Staff to be trained could include state as well as national staff, provided there is some agreement between MAFCRD and individual states to co-locate staff at border posts.

[95] Visit should require no more than 4-5 days including travel.

[96] Short-term training courses have been developed (with assistance from USAID–COMPETE) at the Centre of Phytosanitary Excellence (COPE) in Kenya. COPE is a virtual centre created as a joint venture of KEPHIS and the University of Nairobi. COPE has been endorsed as the sub-regional centre for phytosanitary training by the AU-IAPSC and COMESA.

[97] It is assumed that MAFCRD will not be able to increase its staff budget within the lifetime of this project. There is therefore a need either to retrain or upgrade capacity of existing MAFCRD staff or, as an alternative strategy, to develop the diagnostic facility and its trained staff within an Institute of Higher Education such as the University of Juba.

Items	Information
	(compliant with the international pesticide conventions and the International Code of Conduct on Pesticide Management). Activity 3.1: Recruitment of international pesticide management consultant and national legal specialist (Year 2). Output 3.1: TOR and Workplan (Year 2). Activity 3.2: Pesticide management stakeholder assessment (including listing of pesticide importers/dealers) and capacity evaluation (Year 2). Outputs 3.2 Report of pesticide management stakeholder assessment and capacity evaluation (Year 2). Activity 3.3: Draft TOR and convene pesticide registration advisory committee (Year 2). Output 3.3: Detailed arrangements and TOR for pesticide registration advisory committee; minutes and participants lists for committee meetings (Year 2). Activity 3.4: Conduct awareness raising activities (at all stages) (Years 2-3). Output 3.4: Quarterly and annual reports of awareness raising activities addressing major stakeholders (Year 2-3). Activity 3.5: Draft, review and promulgate provisional list of permitted pesticides (Year 3); Output 3.5: Provisional list of permitted pesticides (Year 2). Activity 3.6: Develop Draft Pesticide Management Regulation under Plant Protection Law (covering registration of pesticides, licensing of pesticide importers and licensing of fumigation service providers (Year 3). Output 3.6: Draft of Pesticide Management Regulation (Year 3) Activity 3.7: TA Specialist to prepare proposal for accession to the International Pesticides Conventions for Minister of Agriculture (Year 3). Output 3.7: Draft proposal for accession (Year 3). Activity 3.8: Identify staff for Pesticide Registrar's office; perform training needs assessment and agree required training curriculum with training provider(s) (Year 3). Output 3.8: Report documenting training needs and specific courses and attachments proposed (Year 3). Activity 3.9: Train staff for Pesticide Registrar's office (Year 4). Output 3.9: Reports of training received. Trained staff ready to deploy (Year 4). Activity 3.10: List and create necessary documentation and standard operating procedures for Pesticide Registrar's office (Years 3-4). Output 3.10: List of Documentation and SOPs; individual SOPs, forms (Years 3-4). Activity 3.11: Set up web page with details of law and SOPs for public access and transparency and train MAFCRD website manager to update page (Year 4). Output 3.11: Webpage with clear description of law, regulation, SOPs and any downloadable forms needed for registration etc. (Year 4) Activity 3.12: Operationalise Pesticide Registrar's office (Year 4). Output 3.12: Reports of registrations carried out and related inspections, follow-up etc. (Year 4). Component 4: Enhance professionalism and safety standards of agro-input dealers and crop storage fumigation service providers in conformity with the International Code of Conduct on Pesticide Management. Activity 4.1: Recruitment of regional agrochemical industry consultant (e.g. CropLife representative) (Year 3) Output 4.1: TOR and work plan for consultant (Year 3) Activity 4.1: Using list of pesticide dealers developed under Component 3, Activity 3.2, design short training course (1 week) curriculum covering (i) provisions and requirements of Draft South Sudan Pesticide Regulation and International Code of Conduct for pesticide management and (ii) steps required to set up a national association of agro-input importers / wholesalers / retailers and model content for an association code of practice (CoP) (Year 4). Output 4.1: training course curriculum and draft CoP for national association (Year 4). Activity 4.2: Conduct training workshop for agro-input importers /wholesalers facilitated by regional consultant (e.g. CropLife representative), including session to discuss formation of an agro-input suppliers association for South Sudan and formulation of an appropriate code of good practice for the industry, based on CropLife International's code of practice and the International Code of Conduct (Year 4). Output 4.2: Report of workshop, including participants' final statement on formation of an association and adoption of a draft code of conduct (Year 4). Activity 4.3: Regional (or international) TA fumigation and ToT consultant to design and implement short ToT refresher training course (1 week) for national PPD staff and selected non-governmental trainees, to equip them to provide training to public (i.e. national and state government) and commercial fumigation service providers as a

Items	Information
	preparation for the latter to be licensed to utilize restricted-use fumigant pesticides safely to treat stored grain in warehouses (Year 3)[98]. Output 4.3: Course training manual (for subsequent use by MAFCRD); list of government and non-government fumigation training providers trained. Activity 4.4: MAFCRD PPD staff, with supervision by TA consultant, undertake first certificated training course (5 days) for public (i.e. national and state government) and commercial fumigation service providers as a preparation for the latter to be licensed to utilize restricted-use fumigant pesticides safely to treat stored grain in warehouses (Year 4). Output 4.4: Report of training carried out and list of government and non-government fumigation service providers trained; annual list of licensed and certified service providers.
2.3 Service providers and beneficiaries	
(1) Description of service providers within the framework of the project:	Service providers to the project will include international and regional TA providers, locally recruited project staff, some subject matter specialists and managers of MAFCRD, especially the PPD and possibly some university staff. Junior staff will become service providers in the Phytosanitary Service and the Office of the Registrar of Pesticides, once trained. Training visits for MAFCRD staff to a regional centre of excellence are envisaged to build staff capacity to carry out the duties of the institutions to be created under this project.
(2) Description of beneficiaries within the framework of the project:	Initial beneficiaries will be: (i) staff of the MAFCRD receiving training in phytosanitary service provision and pest and disease diagnosis; (ii) importers and exporters provided with clear and transparent instructions on phytosanitary requirements; (iii) importers and wholesalers of pesticides receiving professional training. The ultimate beneficiaries will be the nation and people of South Sudan whose food sovereignty and food security will be enhanced by reduction of phytosanitary threats to production as a result of phytosanitary regulation, and whose health and safety will be enhanced by restriction of availability of unsafe pesticides and regulation and professionalization of agricultural pesticide suppliers.
2.4 Outcomes, impact and contributions to value added (i.e. economic growth)	
(1) Outcomes and impact:	The main outcomes of the project will be: • Legitimate trade in agricultural produce between South Sudan and its southern neighbours will be regulated and facilitated by a legally constituted national phytosanitary inspection service operating at the southern borders and the main international airport; • Crop pests and diseases intercepted at border checkpoints or reported by farmers or researchers will be reliably identified and the associated risks they pose for national food security will be analysed and managed. • Potential hazards to human health and the environment in South Sudan posed by pesticide importation and use will be substantially reduced by legally constituted government regulatory action and increased professionalization of private sector suppliers. The impact will be that South Sudan's food sovereignty and food security will be enhanced by reduction of phytosanitary threats to production, while the health and safety of its citizens will be enhanced by reduction in risks from use of unregistered pesticides.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)
2.5 Environmental and social impact, and mitigation measures	
(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: c Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The promulgation of a register of permitted pesticides backed by the force of law may cause a slight increase in the use of pesticides from current low levels. However the pesticide registration process will screen out more environmentally harmful pesticides in favour of safer alternative products. Registering pesticide importers/wholesalers and enhancing their professionalism and safety training may further reduce negative environmental and social impacts of pesticide use while increased income and food security resulting from better protection of crops and stored produce will have a positive social impact. (Positive)

[98] This course should include examination of participants and certificates of competence (not attendance) should only be awarded to those who (i) are present for all sessions and (ii) pass the examination.

Items	Information
	• The creation of a phytosanitary regulatory system supported by law is likely to have a positive social impact because imported plant materials will be screened and therefore in the medium term will be less likely to cause pest and disease problems.
2.6 Monitoring and evaluation for impact measurement	
(1) Measurable indicators and situation at a starting point:	• Number and size (and %) of consignments of imported plant materials subjected to phytosanitary screening (and sampling) in previous year. • Number and size (and %) of consignments of imported plant materials found to contravene phytosanitary regulations in previous year. • Number of consignments of export produce receiving certification in previous year. • Number of plant pests and disease samples submitted for formal identification by specialists in-country in previous year. • Number of plant pests and disease samples submitted for formal identification by specialists outside South Sudan in previous year. • Number of virus diseases for which diagnosis can be undertaken in South Sudan. • Number of unregistered pesticides offered for sale by agro-dealers. • Number of unlicensed importers of pesticides.
(2) Measurable indicators and situation at the end point:	• Number and size (and %) of consignments of imported plant materials subjected to phytosanitary screening (and sampling) in previous year. • Number and size (and %) of consignments of imported plant materials found to contravene phytosanitary regulations in previous year. • Number of plant pests and disease samples submitted for formal identification by specialists in-country in previous year. • Number of plant pests and disease samples submitted for formal identification by specialists outside South Sudan in previous year. • Number of virus diseases for which laboratory diagnosis can be undertaken in South Sudan. • Number of samples submitted for pest and disease laboratory diagnosis in previous year • Number of unregistered pesticides offered for sale by agro-dealers. • Number of registered pesticides. • Number of unlicensed importers of pesticides. • Number of licensed pesticide importers.
(3) Methods of measurement and sources of information:	Statistical summaries from official records and reports of phytosanitary inspection service. Statistical summaries from official records and reports of the Office of the Pesticide Registrar.
(4) Responsible parties for the monitoring and evaluation:	MAFCRD PPD; external evaluators appointed by development partners.
2.7 Required human resources	
(1) Principle of human resources management:	Short-term technical assistance will be provided to develop the necessary legislation and systems for phytosanitary and pesticide management regulation. Regional short-term training courses and attachments will be utilized to build the capacity of national staff to carry out their regulatory duties.
(2) Required human resources in the public sector (Positions, grades and numbers):	The project expects to deploy existing staff of the PPD and other directorates within the MAFCRD. The minimal requirement is for: • Executive Director of MAFCRD PPD, as the National Plant Protection Organization (NPPO) head having overall legal responsibility for the work of the new institutions (Pesticide Registrar's office and Phytosanitary Service) to be created under this project, in addition to other duties. • Senior Inspector in charge of Phytosanitary Services (one person, to be designated and assigned from existing MAFCRD staff) • Registrar of Pesticides and Deputy Registrar (two persons, to be designated and assigned from existing MAFCRD staff). • Administrative/accounting/financial officer and assistant for Registrar's Office (two persons, to be designated and assigned from existing MAFCRD staff); • Secretary to Registrar of Pesticides (one person, to be designated and assigned from existing MAFCRD staff) • Phytosanitary inspectors (x 4), assistant inspectors (x 4) (8 persons, to be designated and assigned from existing MAFCRD staff) • Diagnostic laboratory staff (to be assigned from Research Directorate and/or the PPD[99]. a) 3 professional staff (MSc or BSc plus five years experience) to be designated and assigned from existing MAFCRD staff) including Head of Laboratory who will be a professional specialist in addition to managing the two other specialists and three technical and three support staff. b) 3 technical staff (school certificate or training college certificate, or preferably

[99] As a support facility serving research, extension and phytosanitary services, the Pest and Disease Diagnostic Laboratory could be with the Research Directorate, as a unit within the Research Centre system.

Items	Information
	diploma) to be designated and assigned from existing MAFCRD staff. c) 3 ancillary staff (one office assistant, one cleaner, one security guard). • MAFCRD Website Manager (one suitably qualified and experienced specialist, part-time) This position should already exist within the MAFCRD system, but if not should be designated and assigned. This officer would maintain webpages initially created by the project to display information relating to the newly created institutions (Office of the Pesticides Registrar and the Phytosanitary Service).
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• International TA phytosanitary law senior specialist (advanced degree, 15 years phytosanitary / legal drafting experience, preferably partly in Africa) one • International TA pesticide regulation senior specialist (advanced degree, 15 years experience) one • Regional agrochemical association specialist (e.g. CropLife representative) (BSc degree, 10 years experience) one • Regional or international ToT provider for warehouse fumigation and licensing of fumigation service providers (BSc, certified trainer, 10 years experience) one in years 3 – 4, as necessary. • National TA junior legal specialists (law degree, 5 years experience) two, South Sudanese nationals with experience of legislation projects. • Web-design company commissioned to develop web pages for Phytosanitary Service and Office of Registrar of Pesticides and provide training for one MAFCRD staff member on website maintenance

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The main risk in relation to creation of phytosanitary or pesticide-related legislation will be from delays in handling of draft legislation by ministerial committees and parliament which may prevent the attainment of the major legislative outcomes (Acts and Regulations) within the lifetime of the project. Development partners should seek assurances from the national government at the highest level before embarking on legislative projects. Development partners should also ensure careful consultation and sequencing of activities between ENPSP and its sister CAMP project, the "National phytosanitary infrastructure project", to avoid expenditure on building and equipping infrastructure that may never be used for its intended purpose[100]. Infrastructure should only be commissioned once the development partner has received a written statement of intent by MAFCRD that staff and budgetary resources are available and that staff will be stationed in the proposed facilities. Any programme involving placing staff and facilities at border posts carries the risk of loss or damage due to civil unrest. In particular for the time being it is not practicable to place staff at or near the northern border with Sudan. There is also a significant risk that staff will be unwilling to be posted to small communities situated at or near borders. Provision of transport (motorbike with fuel allowance) would enable staff to commute to their place of work from the nearest suitable town[101]. In relation to functional training proposed under this project, there is a risk that training opportunities will be squandered by sending senior personnel who will not subsequently be involved in applying the learning gained through the training in their daily work[102]. It is absolutely essential that the proposed phytosanitary and diagnostic training is provided to early career professionals and technicians who will subsequently be expected to utilize what they have learnt in service delivery. There is also a danger that the course units advertised by COPE in their training manual may have ceased to be available due to staff turnover or failure of institutional support. The international consultant should visit KEPHIS to ascertain that the teaching staff, facilities, transport, field sites and training resources needed for the course, can in reality be made available, before committing project funding. Short courses offered by COPE should be tailored to South Sudan needs so that, for example, substantive pest risk analyses for maize and/or cassava are actually performed during the training, using the resources available at KEPHIS and other Kenyan centres. Course alumni should be expected to continue to perform similar tasks on return to South Sudan.	

2.9 Other special considerations and/or notes

[100] This has already occurred with MAFCRD under the SAFDP with the construction of three border posts, ostensibly for seed inspection, which are still lying empty and unused.
[101] Note that two vehicles, originally provided to MAFCRD for seed inspection under the Support to Agriculture and Forestry Development Project (SAFDP) are said to be available for phytosanitary activities. See footnote 16.
[102] This has repeatedly occurred in the recent past, without delivering visible improvement in performance of the Plant Protection Unit, absorbing management time better spent in managing staff to achieve priority tasks.

Items	Information
(1) Other special considerations and/or notes:	

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	At least two trained senior level scientists and three trained laboratory assistants/technicians will be needed to staff the diagnostic laboratory, with at least 3 ancillary staff (one office assistant, one cleaner, one security guard). The pesticide registration system created under ENPSP will require a small permanent secretariat (Registrar of Pesticides, Deputy Registrar, accounting assistant, administrative assistant) which can be situated within the MAFCRD or in an independent unit, depending on decisions made in creating the legislative basis for the Registrar's Office. New pesticides for registration are normally proposed by companies which wish to register their products. There should be a fee for this process so the Office of the Pesticide Registrar is a source of limited revenue.

Annex 1: Normative content for pesticide legislation[103]

- Primary legal instrument governing pesticide or agrochemical control (Act of parliament/law, etc.)
  - Organisation responsible for pesticide registration and control
    - Governing body or board making decisions
    - Mandate to form specialist committee to register pesticides; to recommend registration (or refusal) to the governing body
    - Mandate to co-opt experts to advise on registration and evaluate
  - Basic definitions
    - Pesticide/pest control product/agricultural remedy
    - Classification of pesticides according to use and hazard (see below)
    - Key definitions for registration system (see below)
  - Power to make regulations or other secondary legislation
  - Registration system
    - Registrar or equivalent
    - Register of pesticides and certificate of registration
    - Registration 'committee' – see above
    - Defined categories of registration (or power to create these categories); mandate to revoke or modify registration status; data and documentary requirements:
      - Full
      - Provisional (pending supply of further data)
      - Experimental use
    - Provisions governing labelling, packaging, advertising
    - Due process in registration (transparency, timelines, etc.)
    - Pesticide use categories based on risk of adverse effects, e.g.:
      - General use
      - Restricted use
      - Severely restricted use
      - Prohibited
  - Inspection and monitoring
    - Appointment of inspectors
    - Duties of inspectors
    - Powers of inspectors to enter premises, take samples, etc.
  - Provision for monitoring post-registration use

N.B. Pesticide legislation should recognise and make provision for regulation of microbial biopesticides. Importation of other living biological control agents which are not necessarily applied in the same way as pesticides may also be covered and should be provided for and controlled by phytosanitary legislation.

[103] AATF [African Agricultural Technology Foundation]. 2013. *A Guide to the Development of Regulatory Frameworks for Microbial Biopesticides in Sub-Saharan Africa*. Nairobi: African Agricultural Technology Foundation.

Annex 2: Training Content for COPE Phytosanitary Training Courses. Source COPE, undated [2012][104].

Course Unit		Duration	Mode of delivery	Assessment
Core units				
1	Introduction to International Treaties and Standards in phytosanitary systems	32 hrs	Lectures, exercises, group discussions and presentations, role plays case studies	CATs, quizzes, reports
2	Pest Risk Analysis (PRA)	40 hrs	Lectures, exercises on use of data bases, group discussions and presentations, practicals, case studies	CATs, quizzes, group reports
3	Phytosanitary import regulations and export certification systems	32 hrs	Lectures, field practicals, exercises, group discussions, role plays and presentations, case studies	CATs, quizzes, reports
4	Pest surveillance in phytosanitary system	32 hrs	Lectures, exercises, group discussions and presentations, field practicals, case studies, field visits	CATs, quizzes, group reports, examination
5	Pest Diagnostics in phytosanitary systems	40 hrs	Lectures, laboratory exercises, field visits	CATs, quizzes, reports
10	Pre and post-harvest phytosanitary management	16 hrs	Lectures, field visit, practical exercises, case studies and presentations	CATs, quizzes, practical and group reports
6	Practical Field Visits	32 hrs	Guided field visits	Field reports
Total Core Units Contact Time		**224 hrs**	28 days (or 6 weeks) equivalent	

[104] From: "*Training Contents for Phytosanitary Systems Short Courses*". COPE, Nairobi, undated [2012]. xii+ 498 pp.

Annex 2 (continued): COPE Phytosanitary Training Courses. Source COPE, undated [2012]

Support units				
7	Emerging issues in phytosanitary systems	16 hrs	Lecture, exercises, group discussions and presentations, practicals	CATS, quizzes, group reports
8	Phytosanitary capacity evaluation (PCE) tool	6 hrs	Lectures, exercises using PCE software, group discussions and presentations	Group reports
9	Management and Ethics in phytosanitary systems	4 hrs	Lectures, exercises, group discussions and presentations	CATs, group reports
11	Standard Operating Procedures (SOPs) in phytosanitary systems	6 hrs	Lectures, exercises	CATs, quizzes, term papers
12	Introduction to basic communication skills	8 hrs	Lectures, exercises, group discussions and presentations	CATs, group reports
13	Development and certification of planting materials in phytosanitary systems	16 hrs	Lectures, field visit, exercises and presentations	CATs, quizzes, practical and reports
Total Support Units Contact Time		**56 hrs**	7 days (or 2 week) equivalent	

01.31 Establishment of a national phytosanitary system project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**861**	**3,903**	**764**	**245**																						**5,772**	**1,443**	**99%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**795**	**1,464**	**695**	**84**																						**3,038**	**760**	**52%**
1 International TA Phytosanitary Law Senior Specialist	315	315																								630	158	11%
2 National TA Junior Legal Specialists	480	480																								960	240	17%
3 Web-design company				40																						40	10	1%
4 International TA Pesticide Regulation Senior Specialist		189	189																							378	95	7%
5 National TA Junior Legal Specialists		480	480																							960	240	17%
6 Regional Fumigation & ToT Specialist			26	44																						70	18	1%
4 Implementation of staff training	**63**	**2,437**	**31**	**93**																						**2,624**	**656**	**45%**
1 Training preparation	39																									39	10	1%
2 Training preparation (Transportation)	24																									24	6	0%
3 Training content for COPE Phytosanitary Systems Short Courses (per di		957																								957	239	16%
4 Training content for COPE Phytosanitary Systems Short Courses (Trans		40																								40	10	1%
5 Training in pest & disease diagnostics		1,440																								1,440	360	25%
6 ToT Fumigation course per diem			21																							21	5	0%
7 ToT Fumigation course transport			10																							10	3	0%
8 Fumigation course run by trained staff supervised by consultant: per diems				63																						63	16	1%
9 Fumigation course run by trained staff: transport				30																						30	8	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector			**35**	**62**																						**97**	**24**	**2%**
1 Regional Agrochemical Association Specialist			35																							35	9	1%
2 Training workshop for Agro-input suppliers: per diems				42																						42	11	1%
3 Training workshop for Agro-input suppliers: travel				20																						20	5	0%
7 Operation and maintenance	**2**	**2**	**2**	**6**																						**14**	**3**	**0%**
1 Running inter-ministerial committee	2	2	2	2																						10	2	0%
2 Operation of pesticide registrar's office				4																						4	1	0%
2 Construction of infrastructure and procurement of equipment		**18**	**24**																							**42**	**11**	**1%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment		**18**	**24**																							**42**	**11**	**1%**
1 Office equipment		2																								2	1	0%
2 ICT equipment		16																								16	4	0%
3 Fumigation equipment			24																							24	6	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												

01.31 Establishment of a national phytosanitary system project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**861**	**3,921**	**788**	**245**																						**5,815**		**100%**
Total (USD '000)	**215**	**980**	**197**	**61**																							**1,454**	
% to total	**15%**	**67%**	**14%**	**4%**																						**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.32 Quality standards and quality control for agricultural products project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop				
(2) Project name:	Quality standards and quality control for agricultural products project				
(3) Project ID:	0 1 . 3 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2023/24		Ending FY: 2029/30	Duration (years): 7	
(5) Total investment:	SSP 20,851,000		USD 5,213,000	Note: Not including recurrent cost	
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx				

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA9	Production, research and management	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agriculture Production and Extension Services	Table 2-6
(3) Activity types:	210	SP-SI	Service delivery and infrastructure development – Social infrastructure development	Table 2-12

1.3 Project characteristics:

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Currently, there are no clear national standards for crop products in South Sudan. Thus, size and quality of crop products vary by producer and market. Consumers do not always have access to safe products (pesticide residues) of uniform quality. To remedy this, both in South Sudan and for export, it is necessary to develop a regulatory framework for quality standards for crop products and implement quality control of these standards. Quality standards, including criteria for grading, sizing, marking (labelling for quality, origin etc.), and packing, need to be established. It is the responsibility of the National Bureau of Standards (NBS) to determine and promote standards specifications, including for agricultural products. However, the NBS has not established standards or controlled the quality at markets. Since MAFCRD has a mandate to control and regulate both quality and standards of quality for crop products, it should take the initiative and collaborate with NBS to develop standards for crop products and strengthen systems for enforcement. In Africa, there are several organisations that develop and promote standards for the quality and safety of crop products. These include the Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Southern African Development Community (SADC), Africa Cooperation in Accreditation (AFRAC), and African Regional Standardisation Organisation (ARSO). They also try to harmonise their standards. For example, COMESA, EAC, and SADC have jointly developed and adopted principles and procedures for tripartite standards since 2008. These three organisations have also tried to collaborate with ARSO. Considering the future possibility of exporting crop products from South Sudan to other African countries, South Sudan needs to conform to the harmonised and/or adopted standards by these organisations and other countries. Existing guidelines related to harmonised standards should be used to develop a South Sudanese regulatory framework. Standards developed by FAO and WHO (CODEX Alimentarius) and the International Organisation for Standardisation (ISO) should also be integrated since these are accepted internationally. A new enforcement system needs to be established based on the new regulatory framework and quality standards. The knowledge and skill levels of government officers, whose work includes quality control and standards, need to be improved. The role of inspectors of food quality needs to be clarified under the new framework. Those who implement quality control need to be equipped with appropriate tools and instruments.
(2) Objectives:	Ensure that crop products produced in South Sudan are of a high quality through the development of quality standards, procedures for quality control and capacity building of concerned staff about food quality and standards.
(3) Overall description including temporal and spatial extent of project:	A survey needs to be conducted to identify the general quality of crop products in markets and to assess the knowledge of quality and safety regarding the major crop products by farmers, retailers, wholesalers, and traders in all the 10 states. The necessary information to establish quality standards and grading will be gathered through this activity. It will take 3 months including survey design and report writing. A similar end of project survey will be conducted. The roles of the NBS and MAFCRD need to be clarified for standards and enforcement of quality control; both NBS and MAFCRD should jointly develop the regulatory framework, quality standards, and procedures necessary for quality control. The NBS would be in charge of enforcement of quality control and developing legislation for crop product standards. MAFCRD will be responsible for training and disseminating information about the new quality standards through the extension system. During the first year of the project the regulatory framework will be established and quality standards, including pesticide residues, defined for the major crop products. Developing detailed criteria for grading, sizing, marking, and packing will also be important activities. Sampling procedures and inspection methods need to be established. Enforcement strategies, including penalties for noncompliance should be considered. An inspection and grading unit (section) would be established in NBS. In the second year major crops will be targeted. A training curriculum will be developed and training conducted for all relevant government officers of MAFCRD and the state ministries, agricultural extension officers (AEOs), community development officers (CDOs), cooperative officers (COs), NBS staff, community based extension workers

Items	Information
	(CBEWs), NGO staff, and employees of private sector agricultural companies. Training includes information about quality standards and exercises for grading and marking of major crops, vegetables and fruit. The equipment required for inspection and grading will be provided to NBS staff. In the fourth year other crops will be targeted in the same way – development of standards, training etc. Although the quality standards established by the new legislation will be compatible with regional and international standards, it is envisaged that they will be implemented gradually. In the third year implementation of the quality standards for major crops will start plus monitoring them. Large scale and progressive farmers will be the first targets. Activities will include raising awareness of the advantages of quality standards, in particular with respect to the premium prices obtained for properly inspected and packaged products. This should encourage large producers to invest in proper packing facilities and later to allow exports. Smallholders will be the next priority, plus confirmation that large scale and progressive farmers are using the quality standards.
(4) Component and activity structure:	Component 1: Assessment of regulatory framework regarding quality standards in neighbouring countries, and status of quality and safety of crop products at major markets in South Sudan Component 2: Establishment of regulatory framework and development of quality standards and procedures for control Component 3: Provision of training and equipment for grading and quality control Component 4: Implementation of quality control activities and dissemination of information about quality standards to farmers

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment of regulatory framework regarding quality standards in neighbouring countries, and status of quality and safety of crop products at major markets in South Sudan Activity 1.1: Conduct research on regulatory framework regarding standards in neighbouring countries and South Sudan Outputs: Report on regulatory framework in neighbouring countries and South Sudan Activity 1.2: Conduct baseline survey on quality and safety conditions of crop products in 10 states Outputs: Status of quality and safety conditions oft crop products known, as well as challenges Activity 1.3: Investigate possibilities for joining international and/or regional organisations responsible for quality standards and quality control of products Outputs: Report about possibilities of joining international and/or regional organisations; presentation to senior and/or top level government officers. Component 2: Establishment of regulatory framework and development of quality standards and procedures for quality control Activity 2.1: Hold a meeting to clarify roles of the NBS and MAFCRD and develop an implementation strategy for quality standards and enforcement of quality control Outputs: Document specifies roles of NBS and MAFCRD, a strategic plan for quality standards and enforcement of quality control Activity 2.2: Establish regulatory framework includes defining quality standards for all the major crop products including detailed criteria for grading and marking procedures Outputs: Established regulatory framework and quality standards for major crop products (quality standards including standards for grades/classes, sizes, colours, packing requirements, amount of pesticide residues for grading and marking). A manual describing criteria for grading and marking procedures for major crop products Activity 2.3: Establish sampling procedures and develop inspection methods Outputs: Manual for quality control which shows established sampling procedures and inspection methods Activity 2.4: Establish an inspection and grading unit in NBS, and develop an implementation mechanism with state government officers Outputs: Inspection and Grading unit with clear responsibilities and assigned staff, clear demarcation between inspection and grading unit of NBS and state government staff with implementation mechanism on quality control Activity 2.5: Define quality standards for the remaining crop products, including detailed criteria for grading and marking procedures Outputs: Established quality standards for the other crop products, including standards for classes, sizes, colours, packing requirements, amount of pesticide residues for grading and marking. A manual describing criteria for grading and marking procedures for other crop products Activity 2.6: Develop crop product standards legislation and submit to parliamentary process

Items	Information
	Outputs: Passed and published regulations about crop product standards Component 3: Provision of training and equipment for grading and quality control Activity 3.1: Prepare training contents covering regulatory framework, implementation mechanism, quality standards including criteria for grading and marking as well as sampling procedures and inspection methods Outputs: Developed training contents and materials, training schedules and venues arranged Activity 3.2: Conduct training for staff of MAFCRD, NBS, state ministry of agriculture, AEOs, CDOs, and COs Outputs: Government staff who are knowledgeable about quality standards and quality control for the major crop products (Training covers the contents indicated in the activity 3.1, only major crop products are covered in this round of training.) Activity 3.3: Procure and provide necessary equipment for inspection, grading, and marking to NBS staff Outputs: NBS staff able to enforce quality control of crop products Activity 3.4: Conduct training for CBEWs, NGO staff, and employees of private companies Outputs: CBEWs NGOs and private sector knowledgeable about quality standards and quality control for crop products (Training covers the contents indicated in the activity 3.1, but only major crop products are covered in this round of training.) Activity 3.5: Conduct training for staff of MAFCRD, NBS, state ministry of agriculture, AEOs, CDOs, and COs on the remaining crop products Outputs: Trained government staff who are knowledgeable about quality standards and quality control of the remaining crop products Activity 3.6: Conduct training for CBEWs, NGO staff, and private seed companies on the remaining crop products Outputs: CBEWs, NGOs and private sector knowledgeable about quality standards and quality control for remaining crop products Component 4: Implementation of quality control activities and dissemination of information about quality standards to farmers Activity 4.1: Establish monitoring and evaluation system on enforcement of quality control Outputs: Functioning monitoring and evaluation system on quality control activities Activity 4.2: Implement and monitor the activities for quality control such as inspecting, grading, and marking, etc. Outputs: On-going and reviewed quality control activities Activity 4.3: Develop a flyer about the new quality standards and inspection methods; AEOs, CDOs, COs and CBEWs explain about them to farmers Outputs: Quality standards and inspection methods understood by farmers through regular extension activities Activity 4.4: Conduct end of project survey to identify quality and safety conditions of crops products in 10 states Outputs: Survey report

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	NBS, Directorate of Agriculture Production and Extension Services of MAFCRD, state ministries of agriculture, AEOs, CDOs, COs, CBEWs, NGOs, and private companies
(2) Description of beneficiaries within the framework of the project:	Farmers from large scale to small scale, South Sudanese consumers, possibly consumers in other countries, if export of crop products becomes possible.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Quality and safety conditions of crop products are improved in general. For some crop products, quality and safety levels will meet the standards of other African countries and possibly other countries, allowing exports.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) Not applicable

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation	(Negative) • This project does not require construction of any facilities. Development and adaptation of new quality standards of crop products will not influence the environment negatively. (Positive)	

Items	Information
measures:	• Newly developed quality standards will include criteria about the amount of pesticide residues. Pesticide residues need to be reduced to meet the standard. Thus, use of pesticides will be minimised once the inspection and enforcement activities are started. It would reduce negative impacts on soil condition as well as human bodies. If the new standards meet the standards of regional and/or international organisations, the value and reputation of South Sudanese crop products would be raised, and exports of some products may be possible. This would cause increases in prices and production volumes in South Sudan which impacts on South Sudanese farmers positively.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Existence of quality standards and an inspection procedure for crop products • Existence of regulatory framework for quality control on crop products • Number of inspectors who have appropriate knowledge and equipment about food inspection and inspected crop products
(2) Measurable indicators and situation at the end point:	• Operational quality standards and an inspection procedure for crop products • Number of crop products which have quality standards • Number of NBS inspectors, AEOs, CBEWs, and other government staff and employees in the private sector trained about the new quality standards on crop products • Number of farmers which adopt and follow the quality standards • Number of crop products which meet the quality standards
(3) Methods of measurement and sources of information:	Documents about quality standards, guideline and manual for the inspection procedure and sampling methods, project report, training records, monitoring reports
(4) Responsible parties for the monitoring and evaluation:	NBS, Directorate of Agriculture Production and Extension Services of MAFCRD, state ministries of agriculture

2.7 Required human resources

(1) Principle of human resources management:	Officers of NBS need to cooperate with the project implementation. NBS should assign suitable officers to work with the project team members from MAFCRD. Appropriate and sufficient numbers of officers need to be assigned to the inspection and grading unit at NBS to operate quality control activities across the country. Coordination with the relevant state officers needs to be carried out by NBS and MAFCRD. A baseline survey and an end of project survey will be subcontracted with local consultants and/or NGO.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3 or 4) • Project staff from MAFCRD (two staff, one staff from the Directorate of Agricultural Production and Extension Services, one staff from Directorate of Plant Protection) and project staff from NBS (two staff with appropriate knowledge about food quality and safety) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • Senior inspector in the state Ministry of Agriculture (one from each state) (These project staff from the state Ministry of Agriculture support the above project team to implement the project.)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Expert for quality control about agricultural products (BA or BSc, 10-years experience or more): One • Extension and training expert (BA or BSc, 5-years experience or more): One • Project coordinator (BA in Agriculture desirable, 3-years experience or more): One • Training will be provided by government training centres and Yei Agricultural Training Centre • Baseline and end of project survey in 10 states will be outsourced to local NGOs and/or local consultants

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M (L: Low M: Medium H: High (select an indicator from the list))
(2) Explanation of expected risks:	It is expected to take time for the quality standards to be adopted by farmers and at markets since currently there are no quality standards for crop products. Large scale farmers have more capability to adopt and follow the quality standards, but small scale farmers may not have the financial capacity and human resources to adopt and follow them in the short term. Even if a penalty is set to follow the standards, some people may resist accepting the quality standards if there are no incentives. It would be better to propagate quality standards gradually starting with the large scale and progressive farmers and major crops. Other measures to promote and enforce quality standards need to be considered.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	• Working with NBS in a cooperative manner will be a key for the success of this project. However, the aim of this project is crucial for the future of the agricultural sector in the country. Failure of the project due to miscommunication and lack of collaboration between NBS and MAFCRD must be avoided. Thus, pre-discussions and development of consensus between these two governmental entities would be a prerequisite before

Items	Information
	seeking funds. • Development of crop products standards legislation and submission to parliament to make it operational will be critical for enforcement of quality standards developed. This must be done swiftly after collecting all the necessary information and discussing with the stakeholders. • Joining a regional and/or international organisation such as COMESA, EAC, AFRAC and/or ARSO could make the export of crop products easier. However, this point needs to be considered carefully including economic and social impacts caused by free trade of non-agricultural products. Selecting the most beneficial options for South Sudan must be decided by top level government officers.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Routine inspection on different crop products according to the quality standards and inspection procedures, monitoring and evaluation on quality control activities, maintenance cost for equipment for inspection, grading and marking, budget for recurrent cost for quality control activities as well as maintain the inspection and the grading unit in NBS

01.32 Quality standards and quality control for agricultural products project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4									Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project									**3,081**	**3,804**	**2,887**	**2,412**	**3,410**	**1,829**	**3,356**											**20,779**	**5,195**	**100%**
1 Deployment of government staff									**94**		**14**															**108**	**27**	**1%**
1 Visiting Kenya to collect information and interview (transportation)									22																	22	5	0%
2 Visiting Kenya to collect information and interview (per diem)									72																	72	18	0%
3 Implementation and monitoring activities for QC (transportation)											4															4	1	0%
4 Implementation and monitoring activities for QC(											11															11	3	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)									**2,782**	**1,916**	**1,683**	**1,510**	**1,042**	**1,119**	**2,454**											**12,506**	**3,126**	**60%**
1 International consultant (project management)									850	850	630	630	330	460	660											4,410	1,103	21%
2 Expert for quality control about agricultural products									550	550	550	500	300	300	400											3,150	788	15%
3 Extension and training expert									70	140	129	130	162	35	90											756	189	4%
4 Project coordinator									352	374	374	250	250	324	344											2,268	567	11%
5 Local consultants and/or local NGOs (baseline survey)									960																	960	240	5%
6 Local consultants and/or local NGOs (end of project survey)															960											960	240	5%
7 Local NGOs. (development of training contents)										2																2	0	0%
4 Implementation of staff training									**205**	**1,888**	**1,190**	**902**	**2,368**	**710**	**902**											**8,165**	**2,041**	**39%**
1 Meeting for standardizations and enforcement (transportation)									18																	18	5	0%
2 Meeting for standardizations and enforcement (per diem)									22																	22	5	0%
3 Meeting for establishing regulatory framework (transportation)									54																	54	14	0%
4 Meeting for establishing regulatory framework (per diem)									81																	81	20	0%
5 Meeting for crop product standards act and training (transportation)									19																	19	5	0%
6 Meeting for crop product standards act and training (per diem)									12																	12	3	0%
7 Training session for NBS staff at CTC Yei (transportation)										8																8	2	0%
8 Training session for NBS staff at CTC Yei (per diem)										96																96	24	0%
9 Training sessions for AEOs, CDOs, and COs (transportation)										80	80															160	40	1%
10 Training sessions for AEOs, CDOs, and COs (per diem)										400	400															800	200	4%
11 Training sessions for MAFCRD (transportation)										8																8	2	0%
12 Training sessions for MAFCRD (per diem)										40																40	10	0%
13 Training sessions for state government staff (transportation)										6																6	2	0%
14 Training sessions for state government staff (per diem)										30																30	8	0%
15 Training sessions for CBEWs (transportation)										220	110	110														440	110	2%
16 Training sessions for CBEWs (per diem										1,000	600	600														2,200	550	11%
17 Training sessions for NGOs and private companies												32														32	8	0%
18 Training sessions for NGOs and private companies												160														160	40	1%
19 Training session for NBS staff at CTC Yei (transportation)													8													8	2	0%
20 Training session for NBS staff at CTC Yei (per diem)													96													96	24	0%
21 Training sessions for AEOs, CDOs, and COs (transportation)													160													160	40	1%
22 Training sessions for AEOs, CDOs, and COs (per diem)													800													800	200	4%
23 Training sessions for MAFCRD and state staff (transportation)													14													14	4	0%
24 Training sessions for MAFCRD and state staff (per diem)													70													70	18	0%
25 Training sessions for CBEWs (transportation)													220	110	110											440	110	2%
26 Training sessions for CBEWs (per diem)													1,000	600	600											2,200	550	11%
27 Training sessions for NGOs and private companies (transportation)															32											32	8	0%
28 Training sessions for NGOs and private companies (per diem)															160											160	40	1%

01.32 Quality standards and quality control for agricultural products project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment										**39**			**33**													**72**	**18**	**0%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment										**39**			**33**													**72**	**18**	**0%**
1 Diagnostic test kits										15			15													30	8	0%
2 Test kit to measure nutritional contents										14			13													27	7	0%
3 portable measures and scales										10			5													15	4	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)									**3,081**	**3,843**	**2,887**	**2,412**	**3,443**	**1,829**	**3,356**											**20,851**		**100%**
Total (USD '000)									**770**	**961**	**722**	**603**	**861**	**457**	**839**												**5,213**	
% to total									**15%**	**18%**	**14%**	**12%**	**17%**	**9%**	**16%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.33 Tractor assembly plant establishment support project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop						
(2) Project name:	Tractor assembly plant establishment support project						
(3) Project ID:	0 1 . 3 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development					
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2017/18		Duration (years): 3		
(5) Total investment:	SSP 5,758,000		USD 1,440,000		Note: Not including recurrent cost		
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx						

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA4	Private sector projects and businesses	Table 2-3
(2) Government organisation:	12	MAF-PE	Directorate of Agricultural Production and Extension Services	Table 2-6
(3) Activity types:	302	PS-MF	Private sector - Manufacturing	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	In South Sudan, farming generally has been carried out by hand and/or primitive hand tools. Labour availability for farming is limited and costly across the country. Thus, the majority of farmers have to rely on family members to carry out farming, especially smallholders. Very limited availability of farm tractors makes the cost of hiring farm tractor services high. The availability of tractors is limited because all tractors are imported and expensive. Spare parts for any type of tractors are difficult to procure. They are only available from Uganda and/or Kenya or other neighbouring countries. The limited number of competent tractor operators and maintenance technicians is another reason. On the other hand, demand for tractor use is high across the country according to the CAMP situation analysis report (SAR). Not only large scale and progressive farmers want to use tractors, but also small scale farmers are seeking opportunities to use a tractor to improve the efficiency of their farming and/or expand their farm lands. Many farmers have to wait a long time to utilise tractor hire services. In this current situation, farmers would not be able to improve either their yields or income levels. For farmers to earn a living from agriculture as an economic activity they cannot count on hand tools alone, they need to have access to relevant equipment to operate their farms. If more farm tractors were available domestically at lower prices with easily available spare parts, more farmers would be able to utilise farm tractors. Additionally, there are many large scale farmers in Renk, Upper Nile State. This area has potential for large scale commercial farming; the soil condition is suitable for using farm tractors. Promoting large scale farming with farm tractors in suitable areas is one approach to transform agriculture in South Sudan. There are two other possible CAMP projects which would contribute to improve mechanisation of agriculture. These are the "Enhancement of tractor hire service providers project" and the "Tractor operator training project." This project should promote the establishment of a farm tractor assembly plant to provide farm tractors at more reasonable prices, so that the availability of farm tractors is significantly improved.
(2) Objectives:	Establish an integrated facility for assembling and testing agricultural tractors up to 80 Horse Power (HP) for 4 wheel drive and 75 HP for 2 wheel drive, plus matching agricultural implements e.g. disc ploughs, harrows, tillers, agriculture trailers.
(3) Overall description including temporal and spatial extent of project:	The project will start with activities to prepare for the establishment of a tractor assembly plant. Registering a company and finding appropriate land may take time, but must be completed in the first year, prior to the construction of the assembly plant, with strong support by the project. Availability of land will be critical to determine the location. The project must support the company to find the most appropriate place for their business. Considering accessibility and availability of government organisations and the other private companies, the location of the assembly plant should be in and/or around Juba area. Once land has been identified, the rest of the activities for component 1 could be implemented concurrently with the activities of components 2 and 3. Construction of the plant should not take more than a year and a half, but this will be decided by the private company which will be the owner and operator of the assembly plant.
(4) Component and activity structure:	Component 1: Support for constructing and operating a tractor assembly plant and developing a conducive business environment Component 2: Construction of tractor assembly plant and agriculture implements assembly workshop Component 3: Establish a supply chain of genuine spare parts for the tractors manufactured by the assembly plant

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Support for constructing and operating a tractor assembly plant and developing a conducive business environment Activity 1.1: Conduct feasibility study on establishing a tractor assembly plant in South Sudan Outputs: Study report Activity 1.2: Develop standards and guidelines on the requirements for establishing a farm tractor assembly plant Outputs: Standards and guidelines made available to prospective investors

Items	Information
	Activity 1.3: Identify a private company to establish a farm tractor assembly plant in South Sudan; establish project team of MAFCRD and the company Outputs: A company which understands the objective of the project is confirmed and a project team is developed. Activity 1.4: Facilitate development of detailed plans for construction of the assembly plant Outputs: Detailed plans including details about plant capacity, and cost analysis, as well as man power requirements and training plans in the context of South Sudan (developed by the company and facilitated as necessary by MAFCRD). Activity 1.5: Select land and obtain rights to use it for the establishment of an assembly plant (The project team provides technical and administrative support to the company to find land and obtain rights to it.) Outputs: Land with rights to be used for establishing an assembly plant Activity 1.6: Support the company to register their business with the government Outputs: Company officially registered to do business in South Sudan (The project team provides technical and administrative support to the company to register with the government.) Activity 1.7: Support developing and passing a bill to provide tax exemption to newly established private farm tractor assembly company for the first ten years (The project team support the MAFCRD to develop and submit a bill.) Outputs: Tax exemption for newly established private farm tractor assembly company for the first ten years Activity 1.8: Support developing and passing a bill to make loans available to private sector agro-input providers at lower interest rates from a government bank for the first ten years of business (The project team support the MAFCRD to develop and submit a bill.) Outputs: Lower interest rate loans available to private sector agro-input providers for the first ten years of business (these loans may be from the existing government bank – Agricultural Bank of South Sudan) Activity 1.9: Hold a business forum to support the tractor company and its potential customers as well as other private companies in agricultural sector Outputs: Strengthened linkages among the tractor company and other related stakeholders as well as large scale and progressive farmers Component 2: Construction of tractor assembly plant and agriculture implements assembly workshop Activity 2.1: Develop a plan for environmental impact assessment (EIA) and conduct it Outputs: EIA report Activity 2.2: Support and monitor process of constructing a tractor assembly plant and a workshop to assemble implements (The project team provides technical and administrative support to the company for better preparation.) Outputs: Assembly plant and workshops with required equipment and tools Activity 2.3: Assist with inauguration of the assembly plant Outputs: Inauguration ceremony Component 3: Establish a supply chain of genuine spare parts for the tractors manufactured by the assembly plant Activity 3.1: Hold periodic meetings with the project staff of the "Enhancement of tractor hire service providers project". This project will establish spare part supply chains. These supply chains should include parts for tractors assembled by the new plant Outputs: Spare parts available for tractors assembled by the new plant through the established supply chain Activity 3.2: Conduct end of project survey to assess situation of the assembly plant and availability of farm tractors in different parts of the country Outputs: Survey report

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	A private company which will be the owner and operator of a tractor assembly plant, Department of Agricultural Mechanization: Directorate of Agricultural Production and Extension Services of MAFCRD
(2) Description of beneficiaries within the framework of the project:	Direct beneficiaries will be subsistence, medium and large scale farmers. Indirect beneficiaries will be farm machinery contractors and tractor hire service agencies.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Introduction of modern equipment and technologies for farming practices • Stable supply of genuine tractor parts for tractors produced by the company establishing the assembly plant • Generation of employment opportunities at the assembly plant • Improve efficiency of farming by farm tractor users

Items	Information
(2) EIRR and/or FIRR, and/or other economic analysis	(if applicable) N/A

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Considering the expected size and functions of the plant, significant environmental impacts are expected. Water residues and other chemical disposals need to be properly processed and handled to avoid creating contamination of the surrounding environment. Noise created by the plant also should be treated to make it as small as possible to avoid conflict with the neighbouring residents. EIA has to be conducted and sessions held for explaining to the neighbouring residents prior to the construction. The location of the plant should be in an industrial area to be identified by the government according to town plans to minimise social and environmental negative impacts. The government should support the process of finding an appropriate site. • Another concern would be forest destruction. If a large number of farm tractors are sold and used by farmers in South Sudan, there is likely to be more cultivated farm lands. For that, more trees would be cut down. (Positive) • The most positive impacts through this project will be improvement of efficiency of farming. If a reasonable farm tractor was available at more affordable prices to farmers, it would be purchased by many large scale and/or progressive farmers. More efficient farming would lead to increase of yields. Increase of total harvest volume would support farmers to improve profit levels and create business opportunities. • Another positive impact would be the creation of employment opportunities. A large numbers of staff and technicians would be necessary to operate the assembly plant. This project could provide employment opportunities to many people. • A successfully operating tractor assembly plant in South Sudan could show that the business environment for agri-business is becoming better for the private sector. It could lead to establishment of other tractor related businesses and/or bring other investments. All this would have a significant positive impact on the South Sudanese economy.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number and price of available farm tractors • Number and price of available implements for farm tractors
(2) Measurable indicators and situation at the end point:	• Number and price of available farm tractors • Number and price of available implements for farm tractors • Number of trained engineers who have sufficient skills for assembling tractors and farm tractor implements
(3) Methods of measurement and sources of information:	Feasibility study and end project surveys, other project reports, information from the Department of Agricultural Mechanization: Directorate of Agricultural Production and Extension Services of MAFCRD
(4) Responsible parties for the monitoring and evaluation:	MAFCRD (Department of Agricultural Mechanization: Directorate of Agricultural Production and Extension Services of MAFCRD) in collaboration with the Ministry of Industry and Mining, Ministry of Environment and any related line Ministries

2.7 Required human resources

(1) Principle of human resources management:	Both human and physical resources are required for the success of the project. The private sector/government need to put much emphasis on employing local staff, taking into consideration their technical know-how/area of specialization that is relevant to the required assignment/job. In case there is a position for which no national is qualified, a foreigner should be contracted to fill the position and to train a national for the position. However, at least 80% of the work force is expected to be South Sudanese.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3) • Project staff from MAFCRD (two inspectors of mechanical engineering, technicians for agricultural implements from the Directorate of Agricultural Production and Extension Services, Department of Agricultural Mechanization and Department Agricultural Extension Services) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project manager (Master's degree or more, 15-year experience): One • Farm machinery specialist (BSc. Mechanization, 10 years' experience or more): One • Business development specialist (BSc. Or BA, 5 years' experience or more): One • Project coordination (BA. or BSc, 3 years' experience or more): One

Items	Information

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The feasibility study includes examination of demand for farm tractors and should be conducted carefully to include financial capability of customers. Cost projections to operate the plant also need to be carefully made when the plant is designed. Since the assembly plant is owned and operated fully by a private company, the operational plan of the plant needs to be realistic and profit must be generated.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Selection of the project /plant area should not be close to residential areas due to both direct and indirect environmental impacts associated with the plant. The state government and the local communities of the selected area should be involved from the beginning to be a part of the explanation processes for the surrounding residents. Several large scale generators will be necessary to operate the assembly plant. Purchasing, operation and maintenance cost for these generators need to be counted in construction and recurrent costs which the company needs to be responsible for. This project is related to the "Enhancement of tractor hire service providers project" especially about establishment of a supply chain for genuine tractor spare parts.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Routine training and monitoring for improvement of staff's skills for efficient tractor assembly and implements assembly will be necessary. Periodic monitoring on the compliance of the factory to government regulations and standards will also be necessary.

01.33 Tractor assembly plant establishment support project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**2,614**	**2,081**	**1,032**																							**5,727**	**1,432**	**99%**
1 Deployment of government staff		**29**	**25**																							**54**	**14**	**1%**
1 Business forum at state (per diem)		11																								11	3	0%
2 Business forum at state (transportation)		18																								18	5	0%
3 Assessment survey (per diem)			16																							16	4	0%
4 Assessment survey (transportation)			9																							9	2	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,608**	**2,052**	**1,001**																							**5,660**	**1,415**	**98%**
1 International consultant (project manager)	756	756	504																							2,016	504	35%
2 International consultant (farm machinery)	540	540	270																							1,350	338	23%
3 International consultant (business development)	454	378	76																							907	227	16%
4 International consultant (project coordination)	378	378	151																							907	227	16%
5 Local consultant (feasibility study)	360																									360	90	6%
6 Local consultant (EIA)	120																									120	30	2%
4 Implementation of staff training	**6**																									**6**	**2**	**0%**
1 Meeting for development of plan	6																									6	2	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance		**1**	**6**																							**6**	**2**	**0%**
1 Fuels for site visit		1																								1	0	0%
2 Fuels for assessment survey			6																							6	1	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans	**14**	**18**																								**32**	**8**	**1%**
1 Provision of cash and/or in-kind subsidies		**18**																								**18**	**5**	**0%**
1 Inauguration ceremony of the plant		18																								18	5	0%
2 Provision of training services to the private sector	**14**																									**14**	**3**	**0%**
1 Meeting for prospective investors	14																									14	3	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**2,627**	**2,099**	**1,032**																							**5,758**		**100%**
Total (USD '000)	**657**	**525**	**258**																								**1,440**	
% to total	**46%**	**36%**	**18%**																							**100%**		
4 Private sector co-finance (land acquisition and plant construction)																												
Total (SSP '000)									**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**1,412**	**24,000**		
Total (USD '000)									**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**		**6,000**	
% to total									**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

2.4.34 Establishment of a firm legislative framework project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop								
(2) Project name:	Establishment of firm legislative framework project								
(3) Project ID:	0	1	.	3	4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2015/16		Ending FY:	2017/18		Duration (years):	3	
(5) Total investment:	SSP 8,844,000			USD 2,211,000			Note: Not including recurrent cost		
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx								

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA1	Policy and legal framework development	Table 2-3
(2) Government organisation:	13	MAF-AE	Directorate of Planning and Agriculture Economics	Table 2-6
(3) Activity types:	101	ID-LI	Institutional development – Legal and institutional development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	A legislative framework would provide an enabling environment for the crop subsector. It would bring discipline, direction, opportunities and organised systems to the subsector. Legislation is lawmaking; the legislative process is a series of steps that a legislative body takes to evaluate, amend, and vote on proposed legislation. In South Sudan most legislation is enacted by the national and state assemblies. Implementation of legislation is left to other entities, such as law enforcement agencies, the courts, community leaders, and other government agencies. Typically the government 1) formulates a policy, 2) passes laws to implement the policy, 3) provides additional regulations, and 4) finally enforces it. This project will address the first 3 components of the legislative framework: 1) policy framework, 2) legal framework, 3) regulatory framework. The enforcement framework is addressed in "Enhancement of laws and regulations enforcement project". In the agriculture sector, there is a policy entitled the "Agricultural Sector Policy Framework 2012-2017 (ASPF)." It was passed by the National Legislative Assembly (NLA) which is South Sudan's national parliament in December 2012. ASPF is the most current comprehensive policy document containing subsector policy guidelines. ASPF consists of vision, mission, goal, targets, key policy choices, guiding principles, subsector policy guidelines etc. It will be an important policy document to refer when establishing a legislative framework. MAFCRD also has formulated other subject specific policies. These are in the areas of plant protection, horticulture, agriculture mechanisation, soil health and conservation (use of fertilisers etc.), seed, agricultural research, training and capacity development, extension, rural development, rural finance, agricultural marketing, food security etc. The policy for extension was developed with the Ministry of Livestock and Fisheries Industry (MLFI) to make it more comprehensive by combining policies of the two ministries. There are other policies proposed bills and approved acts that impact the crop subsector such as the "Environmental Protection Bill", "South Sudan National Environmental Policy", "South Sudan Land Policy", "South Sudan Land Act", "South Sudan Water Policy", and "Wildlife Conservation and National Parks Act." Laws and regulations have not been formulated from all these policies. Some of the above policies, bills and acts may be contradictory; there may be duplication and policy gaps. For instances, laws and regulations regarding trade, labour, market, safety and quality standards, agro-inputs, and intellectual property rights may be weak or insufficient. Analysis is needed to identify these shortcomings. This analysis would help develop a legislative framework which is comprehensive. It needs to be developed within the context of the "Transitional Constitution of the Republic of South Sudan." To fill gaps in the legislative framework, new policies, acts and regulations may need to be developed so as to develop a comprehensive legislative framework. Approval of bills so they become law is also an important process. The established legislative framework would assist in establishing an enforcement framework as well as generally raising the credibility of South Sudan and its crop products.
(2) Objectives:	Major objective of this project is to establish a firm and comprehensive legislative framework for the crop subsector. Other objectives to achieve the major objective are listed below. • Identify gaps in existing policies, laws, and regulations. • Harmonise policies, laws and regulations at national, state and local levels. • Support MAFCRD to develop necessary policies, laws and regulations.
(3) Overall description including temporal and spatial extent of project:	In the beginning of the project, the existing national legislative framework (policies, laws, regulations and enforcement) of the crop subsector should be reviewed to find duplications and gaps. Since there is a large volume of policies and laws, this activity may require several months. Clarification of which Directorates and other government institutions are responsible will be part of the review process. This review is crucial to understand the actual situation regarding the legislative framework. Based on the review, a draft comprehensive legislative framework would be prepared with a comparison to the existing legislative framework. This would be completed by end of the 1st year. Based on the draft legislative framework, there will be consultations with key staff of state and local governments in all ten states. The purpose of this is to understand the legislative

Items	Information
	framework existing at state and local levels with the aim of harmonising the different levels. A final draft of the legislative framework will incorporate feedback from state and local level governments and stakeholders. The final draft would be ready by the middle of the 2nd year. When the draft legislative framework is ready, training will be conducted on the legislative process (policy development, identifying policy gaps, formulating necessary policies, laws and regulations, enforcement etc.). Directorates responsible for creating/amending policies/laws etc. will be determined (based on the draft framework) and schedules set up. Policies/bills will be created/amended and submitted to parliament. The project team would support MAFCRD in these activities. The project also will provide technical support for MAFCRD to collaborate with other ministries whose policies/laws affect the crop subsector and may require revising; this will continue until the end of the project. The project team needs to interact with the "Legal and regulatory framework enhancement project".
(4) Component and activity structure:	Component 1: Review existing national policies, laws and regulations related to crop subsector Component 2: Develop a comprehensive legislative framework for crop subsector Component 3: Harmonise national, state and local policies, laws and regulations Component 4: Develop capacity and provide support for developing and/or revising policies, laws and regulations

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Review existing national policies, laws and regulations related to crop subsector Activity 1.1: Review contents of the existing national policies, laws and regulations Outputs: Report on existing policies, laws and regulations Activity 1.2: Analyse report for policy/law gaps, duplications, contradictions etc. in existing policies, laws and regulations Outputs: Identification of shortcomings in the existing policies, laws and regulations; responsible Directorates for existing policies identified Component 2: Develop a comprehensive legislative framework for crop subsector Activity 2.1: Develop a legislative framework for crop subsector Outputs: A draft legislative framework developed; necessary additional policies and laws identified with a timeframe to develop them Activity 2.2: Clarify which Directorates and other related Ministries and/or institutions are responsible for implementing the new legislative framework (policy/laws/regulations/enforcement) Outputs: Directorates and other Ministries and/or institutions responsible for the new legislative framework identified Activity 2.3: Establish a periodic review system of policies and laws, and how well they function; and of the parliamentary process for approval Outputs: Laws and policies are reviewed periodically and a monitoring system developed that includes tracking the progress of legislation through the legislative process. Periodic meeting should be held by the members of the monitoring committee. Meetings will be held every other month. Component 3: Harmonise national, state and local policies, laws and regulations Activity 3.1: Collect and review information about state and local legislative frameworks; compare to draft national legislative framework Outputs: State and local legislative frameworks identified and compared to draft national legislative framework Activity 3.2: Discuss with state, county, payam and boma officers a plan for hamonisation of legislative frameworks Outputs: Relations among the various frameworks, opinions of state and local level officers for hamonisation obtained, necessary actions clarified and documented Component 4: Develop capacity and provide support for developing and/or revising policies, laws and regulations Activity 4.1: Identify team members and establish task teams for formulation of required policies and bills Outputs: Members for formulation of policies and laws determined, task teams formed if necessary Activity 4.2: Prepare and conduct training for related government officers and task teams on policy analysis, policy and laws development; how the legislative process works from policy to enforcement and how to monitor it Outputs: Training contents and materials, government officers and task teams trained Activity 4.3: Support development of required policies and bills Outputs: Developed and/or revised draft policies and bills submitted for parliamentary

Items	Information
	approval

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Directorate of Planning and Agriculture Economics, other concerned Directorates of MAFCRD, and other related Ministries and/or governmental institutions
(2) Description of beneficiaries within the framework of the project:	Development of a comprehensive legislative framework will be beneficial for farmers and others working in the crop subsector. Officers of MAFCRD, state, county, payam, and boma as well as staff of government research and training centres would be beneficiaries of a better legislative framework.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A legislative framework would create a better enabling environment for farmers and other stakeholders for crop products so as to enhance their businesses which would lead to agricultural development. The firm legislative framework would generally raise the credibility of South Sudan and its crop production and products. Capacity of national government officers will be strengthened.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) N/A

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • No significant negative impacts are expected through this project. (Positive) • Establishment of a legislative framework will show weaknesses and necessary work in legal areas clearer. Development of required policies and acts/bills would create a better enabling environment for government officers and farmers to develop the crop subsector. In the long term, the framework would be basis for agricultural development and transformation. Harmonisation of different levels of laws and regulations would be beneficial for all the stakeholders to understand who is responsible for what (their jurisdiction).	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Numbers of existing laws and policies related to crop subsector • Capacity of policy/law formulation of officers of MAFCRD
(2) Measurable indicators and situation at the end point:	• Numbers of existing laws and policies related to crop subsector • Existence of legislative framework • Capacity of policy/law formulation of officers of MAFCRD • Availability of task teams and a monitoring committee • Numbers of bills and policies drafted and submitted to parliament
(3) Methods of measurement and sources of information:	Policy documents, project reports, training materials and training records, drafted bills and policies submitted to the Parliament
(4) Responsible parties for the monitoring and evaluation:	Members of the monitoring committee (Responsible officers of Directorate of Planning and Agriculture Economics and responsible officers from the related Directorates and Ministries)

2.7 Required human resources

(1) Principle of human resources management:	Capacity building of concerned officers of MAFCRD for analysis, formulation, and knowledge of the legislative process (from policy to enforcement) will be the most crucial factor for the success of the project.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Planning and Agriculture Economics, grade 3 or 4) to supervise and manage the project implementation • Project staff from MAFCRD (three staff from any of the concerned Directorates) for project detailed design, conduct of needs assessment, project implementation and management, logistics, and monitoring, etc. • Director or deputy director of the state Ministry of Agriculture (all states) should be assigned as a focal point to support the above project team to implement the project.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Expert for policy formulation (BA or BSc, 10-years experience or more): One • Training and project coordinator (BA in Agriculture desirable, 7-years experience or more): One • Expert for intellectual property rights (BA or BSc, 10-years experience or more): One • Expert for labour market or economic analysis (BA or BSc, 10-years experience or more): One

Items	Information
	• Expert for quality and safety standards of crop products (BA or BSc, 10-years experience or more): One Training will be provided at CTC Yei.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Failure to get feedback from officers of state, county, payam, and boma offices about the existing policies and laws. Possible interference by persons and/or groups whose vested interests could be restricted by establishing a comprehensive legislative framework.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Inter-Ministerial collaborations are necessary since the policies and laws cover areas beyond MAFCRD. Harmonisation of laws and policies among the national, state and local levels may take time. Officers at the state, county, payam, and boma levels may have a difficult time to understand and accept all the existing policies and laws; they probably have not received prior information about them. Time management would be critical to complete this component. Formulation of bills and policies to fill gaps in the legislative framework may also be time consuming. Activities related to the 4th component needs to take place immediately after the training is conducted. Close collaboration with the project staff and government officers engaged in the "Enhancement of laws and regulations enforcement project" would be important to ensure that laws/regulations are enforced.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Periodic reviews of laws and policies need to be undertaken. How the legislative framework functions and the legislative process itself should be monitored. Both activities are conducted by the monitoring committee composed of responsible officers of MAFCRD and/or other ministries with support from the project team. Periodic meetings should be held every other month.

01.34 Establishment of firm legislative framework project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**2,991**	**2,999**	**2,855**																							**8,844**	**2,211**	**100%**
1 Deployment of government staff		**68**																								**68**	**17**	**1%**
1 Harmonise meetings (per diem)		41																								41	10	0%
2 Harmonise meetings (transportation)		27																								27	7	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)	**2,916**	**2,376**	**2,376**																							**7,668**	**1,917**	**87%**
1 International consultant (project manager)	756	756	756																							2,268	567	26%
2 International consultant (policy formulation)	540	540	540																							1,620	405	18%
3 International consultant (training and project coordinator)	540	540	540																							1,620	405	18%
4 International consultant (intellectual property rights)	360	180	180																							720	180	8%
5 International consultant (labour market and economic analysis)	360	180	180																							720	180	8%
6 International consultant (quality & safety standard of crop products	360	180	180																							720	180	8%
4 Implementation of staff training	**75**	**555**	**479**																							**1,109**	**277**	**13%**
1 Meetings for development of draft legislative framework (per diem)	30																									30	8	0%
2 Periodical meetings for review (per diem)	45	45																								90	23	1%
3 Harmonise meetings at states (per diem)		450																								450	113	5%
4 Harmonise meetings at states (transportation)		60																								60	15	1%
5 Workshop for development of training contents(per diem)			23																							23	6	0%
6 Trainings for government officers at Yei (per diem)			180																							180	45	2%
7 Trainings for government officers at Yei (transportation)			60																							60	15	1%
8 Workshops to review and finalize bills and policies			216																							216	54	2%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**2,991**	**2,999**	**2,855**																							**8,844**		**100%**
Total (USD '000)	**748**	**750**	**714**																								**2,211**	
% to total	**34%**	**34%**	**32%**																							**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

2.4.35 Enhancement of laws and regulations enforcement project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Crop								
(2) Project name:	Enhancement of laws and regulations enforcement project								
(3) Project ID:	0	1	.	3	5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY:	2016/17		Ending FY:	2025/26		Duration (years):	10	
(5) Total investment:	SSP 11,701,000			USD 2,925,000			Note: Not including recurrent cost		
(6) Name of this file (automatic):	CAMP Project profile format v9.1.docx								

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		CR.SA1	Policy and legal framework development	Table 2-3
(2) Government organisation:	13	MAF-AE	Directorate of Planning and Agriculture Economics	Table 2-6
	01	MAF-AF	Directorate of Administration and Finance	Table 2-6
(3) Activity types:	101	ID-LI	Institutional development – Legal and institutional development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Legislation is lawmaking; the legislative process is a series of steps that a legislative body takes to evaluate, amend, and vote on proposed legislation. In South Sudan most legislation is enacted by the national and state assemblies. Implementation of legislation is left to other entities, such as law enforcement agencies, the courts, community leaders, and other government agencies. Typically the government 1) formulates a policy, 2) passes laws to implement the policy, 3) provides additional regulations, and 4) finally enforces it. The "Establishment of firm legislative framework project" will address the the first 3 components of the legislative framework:: 1) policy framework, 2) legal framework, 3) regulatory framework. The enforcement framework is addressed in this project. Currently enforcement of laws and regulations is weak. Also, there are several areas that lack laws and regulations, which means that legislation in the form laws and regulations needs to be developed to cover the gaps. If enforcement remains weak or non-existent in the agriculture sector, the development of laws and regulations is meaningless. Proposed legislation to improve quality and production volumes, and reduce production losses will not be enforced and the desired results of the legislation not achieved. Strengthening enforcement of laws and regulations concerning crops would generally raise the credibility of South Sudan and its crop products. In order to strengthen enforcement functions, an enforcement framework is necessary. The system should include clear rules and procedures describing how laws and regulations will be enforced (inspection procedures, non-compliance penalties etc.). The responsibilities of the relevant Directorates and/or Departments will be defined. Enforcement needs guidelines and manuals at the implementation level. Since different Directorates are responsible for enforcing different laws and regulations, a coordination committee of the different Directorates of MAFCRD and other related institutions would be useful to standardise procedures and share information about enforcement of laws and regulations. Building the enforcement capacity of government enforcement officers is essential. Also, ensuring that farmers, the private sector, aid organisations etc. understand the new and existing laws and regulations is necessary for efficient enforcement. Laws and regulations may need to be created or strengthened.
(2) Objectives:	Major objective of the project is to enhance the enforcement of laws and regulations related to the crop subsector. Other detailed objectives of the project follow. • An enforcement framework of rules and procedures, and institutional arrangements will be made to strengthen the enforcement system, based on the current institutional settings and capacity of MAFCRD. • The project will ensure details including procedures, guidelines, penalties for enforcing laws and regulations will be developed and implemented. • A monitoring and evaluation system for the laws and regulations enforcement will be established.
(3) Overall description including temporal and spatial extent of project:	Firstly, a review of existing laws, regulations, and rules and procedures will examine current enforcement functions and analyse causes of non-compliance and weak enforcement. A regulatory framework will be developed and rules and procedures established. Institutional arrangements, including establishment of an enforcement body, need to be made in the early part of the project, in the first and the second year. Developing guidelines and manuals would be important activities. These will be used to make government officers, farmers, agro-input providers, traders, wholesalers, and other stakeholders aware of the rules and regulations related to agricultural products. To assist in this, training will be provided to them. These activities will be done from the early to the middle periods of the project. Monitoring and evaluating needs to be performed on: compliance with the rules and regulations; functionality of the enforcement framework, effectiveness of guidelines and manuals, impact of training contents and materials etc. A monitoring and evaluation system needs to be developed early in the project. Monitoring and evaluation will continue to the end of the project, by which time it needs to become routine work for the government.

Items	Information
	In the early years of the project, MAFCRD and a coordination committee will be the main implementing bodies of enforcement, due to the limited capacity of the state governments. During the project period, the capacity of state staff responsible for enforcement will be improved; in the mid to long term, enforcement functions (inspections etc.) will be moved from the national to the state level. The project team will provide support for these activities. Full and effective enforcement of all laws and regulations may take time. A gradual approach to enforcement needs to be taken. Priorities will need to be established, criteria may be certain laws and regulations, directorates and/or departments, or geographical areas. These priorities need to be discussed once the project is started.
(4) Component and activity structure:	Component 1: Establishment of enforcement framework Component 2: Develop guidelines and manuals and training courses for enforcement of existing laws and regulations Component 3: Provide training on enforcement activities Component 4: Support implementation of laws and regulations enforcement Component 5: Conduct monitoring and evaluation for enforcement activities

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Establishment of enforcement framework Activity 1.1: Review existing laws, regulations, and rules and procedures to examine current enforcement functions; analyse causes of non-compliance and weak enforcement; clarify responsible directorates and their functions Outputs: Current enforcement environment described. Activity 1.2: Develop an enforcement framework, including penalties for non-compliance and rules and procedures for enforcement of laws and regulations Outputs: Enforcement framework including sampling methods, penalties and enforcement procedures; clarified roles of both national and state level government bodies; schedule for moving enforcement functions (inspection etc.) to the states Activity 1.3: Establish institutional arrangements to ensure enforcement of laws and regulations Outputs: Coordination committee with members from responsible directorates and departments with clear responsibilities/information channels etc., enforcement unit in all directorates and departments with enforcement responsibilities (both national and state) Activity 1.4: Support the coordination committee to hold periodic meetings with key staff from other related projects Outputs: Shared information and discussions with key staff of other related projects ("Quality standards and quality control for agricultural products project", "Enhancement of private sector agro-input providers project," and "Establishment of a National Phytosanitary System project."); better coordination of enforcement activities from these projects Activity 1.5: Support the coordination committee to interact with governments from neighbouring countries and international organisations to learn about enforcement of laws and regulations Outputs: The coordination committee with knowledge about enforcement of laws and regulations in neighbouring countries Component 2: Develop guidelines and manuals and training courses for enforcement of laws and regulations Activity 2.1: Decide on priority laws and regulations to strengthen enforcement Outputs: Priority laws and regulations identified by the coordination committee Activity 2.2: Develop guidelines and manuals for the priority laws and regulations Outputs: Guidelines and manuals for enforcement of laws and regulations Activity 2.3: Develop training content and material; with practices for trainers Outputs: Training becomes ready to conduct regarding enforcement of laws and regulations (will be used in component 3) Component 3: Provide training on enforcement activities Activity 3.1: Conduct training for government officers Outputs: Trained officers of MAFCRD, state government officers, staff of National Bureau of Standards (NBS), staff of training centres and research centres, agricultural extension officers (AEOs), community development officers (CDOs), Cooperative officers (COs), enforcement officers in county, payam, and boma offices Activity 3.2: Conduct training for key staff of UN agencies, NGOs, aid organisations and community development extension workers (CBEWs), Outputs: Trained staff of UN, major NGOs, major aid organisations and CBEWs Activity 3.3: Conduct training for major private business owners, traders, wholesalers,

Items	Information
	selected farmers Outputs: Trained business owners such as agro-input providers, tractor service providers, traders, wholesalers, and selected farmers. Component 4: Support implementation of laws and regulations enforcement Activity 4.1: Support responsible national directorates and/or departments to implement enforcement of laws and regulations according to the priorities set by the coordination committee Outputs: Laws and regulations enforced by MAFCRD Activity 4.2: Support movement of enforcement functions responsible state units and/or departments Outputs: Enforcement functions done at the state level according to the enforcement framework, rules, and guidelines developed Component 5: Conduct monitoring and evaluation for enforcement activities Activity 5.1: Visit offices of responsible directorates and enforcement sites by type (food standard, pesticides, fertilisers, packaging, etc.) for monitoring Outputs: Monitoring and evaluation report to provide supervision and analysis made for improvement Activity 5.2: Provide suggestions and information for improvement of framework, rules, procedures, institutional arrangements, guidelines, manuals, training contents and materials to the coordination committee Outputs: Improved enforcement functions

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Responsible directorates for enforcement of laws and regulations at the national level, responsible unit and/or department at the state level, and NBS
(2) Description of beneficiaries within the framework of the project:	Consumers, farmers, private business owners, traders, wholesalers, concerned government officers

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Improved government enforcement functions of laws and regulations related to crop • Better compliance by stakeholders • Better quality and volumes of crop products • Better impression of crop products of South Sudan
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable) N/A

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: c Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • This project will not require construction of any facilities so it is not expected to have negative environmental impacts. However, enforcing laws and regulations could be resisted by affected farmers and the private sector. They would be reluctant to comply with the laws and regulations. A gradual approach for enforcement with sufficient explanations would be critical to implement enforcement. (Positive) • If enforcement of laws and regulations was enhanced to ensure compliance across the country, not only the reputation of South Sudanese crops would be improved but also quality and production volumes could be improved. It may lead to more business opportunities for farmers and the private sector.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Existing framework and system for enforcement of laws and regulations related to crop • How well are the existing laws and regulations complied with
(2) Measurable indicators and situation at the end point:	• Existing framework and system for enforcement of laws and regulations related to crop • How well are the existing laws and regulations complied with • Number of government staff who have better knowledge and skills for laws and regulations enforcement • Number of farmers and people of the private sector who have better knowledge and skills for laws and regulations enforcement • Number/areas that were enforced
(3) Methods of measurement and sources of information:	Assessment report, project report, guidelines, manuals, training materials, and training records, monitoring and evaluation report
(4) Responsible parties for the	Directorate of Planning and Agriculture Economics

Items	Information
monitoring and evaluation:	

2.7 Required human resources

(1) Principle of human resources management:	A large number of people need to understand laws and regulations, enforcement criteria and procedures; this will be critical for the success of the project. Obtaining appropriate skills among the enforcement officers will also be essential for effective enforcement of laws and regulations.
(2) Required human resources in the public sector (Positions, grades and numbers):	• Project manager from MAFCRD (one senior staff from the MAFCRD, Directorate of Agricultural Production and Extension Services, grade 3 or 4) • Project staff from MAFCRD (two staff from the Directorate of Agricultural Production and Extension Services) for project detailed design, conduct of needs assessment, project implementation and management, procurement, logistics, and monitoring, etc. • One senior inspector and another inspector with lower grade in each state Ministry of Agriculture (Two staff from each state from the state Ministry of Agriculture should be assigned and support the above project team to implement the project.) • Staff from NBS - one staff with appropriate knowledge about food quality and safety should be assigned should support this project as a focal person.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Consultants in the field of: • Project management (Master's degree, 15-years experience): One • Expert for enforcement of laws and regulations (BA or BSc, 10-years experience or more): One • Training and project coordinator (BA in Agriculture desirable, 7-years experience or more): One • Expert for quality control of agricultural products (BA or BSc, 10-years experience or more): One • Expert for agricultural seed (BA or BSc, 10-years experience or more): One • Expert for plant protection or agro-inputs (BA or BSc, 10-years experience or more): One Training will be provided at government training centres. Assessment for enforcement of laws and regulations will be conducted by the project staff. No outsourcing to local consulting company and/or NGOs would be expected.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Compliance of laws and regulations fully may take time. The strategy and timing of adopting penalties must be carefully considered since it requires fines for violators and there is no history of penalties of this kind in South Sudan. Some people may resist accepting the enforcement of laws and regulations. Large numbers of people need to understand the importance of laws and regulations and compliance.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is related to the "Quality standards and quality control for agricultural products project", "Enhancement of private sector agro-input providers project," and "Establishment of a National Phytosanitary System project." These projects have components concerning establishment of regulatory frameworks, development of standards, guidelines, procedures for quality control and/or enforcement of quality control for each subject area. Thus, close coordination with these projects will be very important to share information as well as to avoid duplication of work. The coordination committee should play a role to hold periodic meetings with concerned people, including project staff, to exchange information on how to better enforce laws and regulations.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Conducting monitoring and evaluation (M&E) should be routine activities for the Directorate of Planning and Agriculture Economics and other responsible Directorates and/or Departments by MAFCRD. Results of M&E should be utilised by the coordination committee for improvement of the framework, rules, procedures, institutional arrangements, guidelines, manuals, training contents and materials; this will be a continuous process. Costs for M&E need to be made part of the budget of concerned Directorates and Departments during the project.

01.35 Enhancement of laws and regulations enforcement project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project		**2,781**	**4,035**	**3,513**	**36**	**36**	**36**	**36**	**36**	**36**	**558**															**11,101**	**2,775**	**95%**
1 Deployment of government staff		**133**	**119**	**79**	**34**	**34**	**34**	**34**	**34**	**34**	**34**															**571**	**143**	**5%**
1 Reviews at states (per diem)		32																								32	8	0%
2 Reviews at states (transportation)		27																								27	7	0%
3 Study tour on enforcement of laws (per diem)		10	10																							20	5	0%
4 Study tour on enforcement of laws (transportation)		64	64																							128	32	1%
5 Trainings of government officers (per diem)			27	27																						54	14	0%
6 Trainings of government officers (transportation)			18	18																						36	9	0%
7 M&E at states (per diem)				16	16	16	16	16	16	16	16															130	32	1%
8 M&E at states (transportation)				18	18	18	18	18	18	18	18															144	36	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)		**2,466**	**2,106**	**1,746**							**522**															**6,840**	**1,710**	**58%**
1 International consultant (project manager)		756	756	756							252															2,520	630	22%
2 International consultant (enforcement of laws and regulations)		630	450	270							90															1,440	360	12%
3 International consultant (training and project coordinator)		540	720	720							180															2,160	540	18%
4 International consultant (quality control of agricultural product)		270	90																							360	90	3%
5 International consultant (agricultural seed)		270	90																							360	90	3%
4 Implementation of staff training		**182**	**1,810**	**1,688**	**2**	**2**	**2**	**2**	**2**	**2**	**2**															**3,690**	**922**	**32%**
1 Meeting for development of framework (per diem)		49																								49	12	0%
2 Meeting for development of framework (transportation)		18																								18	5	0%
3 Meeting for development of framework (per diem)		38																								38	9	0%
4 Meeting for establishment of coordination (per diem)		32																								32	8	0%
5 Meeting for establishment of coordination (transportation)		18																								18	5	0%
6 Meeting for establishment of coordination (per diem)		25																								25	6	0%
7 Periodic meetings of coordination committee (per diem)		2	2	2	2	2	2	2	2	2	2															15	4	0%
8 Meetings for prioritized laws (per diem)			24																							24	6	0%
9 Meetings for prioritized laws (transportation)			18																							18	5	0%
10 Meetings for prioritized laws (per diem)			19																							19	5	0%
11 Meeting for development guidelines (per diem)			38																							38	9	0%
12 Meeting for development guidelines (transportation)			14																							14	4	0%
13 Meeting for development guidelines (per diem)			10																							10	2	0%
14 Trainings for government officers (per diem)			405	405																						810	203	7%
15 Trainings for government officers (transportation)			81	81																						162	41	1%
16 Trainings for key staff of UNs/NGOs, and CBEWs (per diem)			1,000	1,000																						2,000	500	17%
17 Trainings for key staff of UNs/NGOs, and CBEWs (transportation)			200	200																						400	100	3%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												

01.35 Enhancement of laws and regulations enforcement project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans			**300**	**300**																						**600**	**150**	**5%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector			**300**	**300**																						**600**	**150**	**5%**
1 Trainings for business owners (per diem)			250	250																						500	125	4%
2 Trainings for business owners (transportation)			50	50																						100	25	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)		**2,781**	**4,335**	**3,813**	**36**	**36**	**36**	**36**	**36**	**36**	**558**															**11,701**		**100%**
Total (USD '000)		**695**	**1,084**	**953**	**9**	**9**	**9**	**9**	**9**	**9**	**139**																**2,925**	
% to total		**24%**	**37%**	**33%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**5%**															**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3. Livestock Subsector

3.1 Investment Planning Space

3.1.1 Investment Planning Space by Development Theme

Subsector / Development Theme / Project ID / Project name	Phase I 2015/16	2016/17	2017/18	2018/19	2019/20	Phase II 2020/21	2021/22	2022/23	2023/24	2024/25	Phase III 2025/26	2026/27	2027/28	2028/29	2029/30	Phase IV 2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	Year	SSP ('000)	USD ('000)	Responsi-bility
02 Livestock Subsector																											**371,476**	**92,869**	
T1 Reconstruction and recovery																											**21,946**	**5,487**	
02.01 Grazing allotments and land-tenure project																										10	5,533	1,383	N/NS/S/SC
02.02 Livestock census, disease surveillance and information management project																										3	6,673	1,668	NS
02.03 National and State livestock policy and legal framework establishment and maintenance project																										8	9,740	2,435	NS
T2 Food and nutrition security																											**169,102**	**42,276**	
02.04 Creation of animal diagnostic laboratories, early disease response, and quarantine system project																										10	43,937	10,984	NS
02.05 Development of a central and regional veterinary drug stores project																										10	6,926	1,731	NS
02.06 Development of feed testing and analysis laboratory project																										10	7,462	1,865	PPP
02.07 Development of livestock marketing project																										5	5,456	1,364	PPP
02.08 Development of livestock water catchment and watering areas project																										10	16,833	4,208	N/NS/S/SC
02.09 Formulation of animal health and disease control plan project																										10	4,322	1,080	NS
02.10 Veterinary services delivery project																										5	84,167	21,042	NS
T3 Economic growth and livelihood improvement																											**81,372**	**20,343**	
02.11 Beekeeping extension project																										7	3,207	802	PPP/P
02.12 Dairy production and processing extension project																										10	3,505	876	NS/PPP
02.13 Development of feed mills project																										10	8,406	2,102	PPP/P
02.14 Forage crops production project																										8	2,374	593	PPP/P
02.15 Hides and skins processing extension project																										8	6,577	1,644	PPP/P
02.16 Livestock auction facility improvement and management project																										5	35,611	8,903	NS
02.17 Livestock harvest facilities improvement and management project																										7	5,224	1,306	PPP/P
02.18 Livestock identification and traceability project																										5	2,912	728	N
02.19 Meat production and processing extension project																										10	4,886	1,221	PPP/P
02.20 Pig production extension project																										10	4,403	1,101	NS
02.21 Poultry production and processing extension project																										10	4,266	1,067	NS
T4 Agriculture sector transformation																											**18,964**	**4,741**	
02.22 Enhancement of demonstration farms project																										10	12,453	3,113	NS
02.23 Enhancement of livestock producer associations project																										6	626	156	NS
02.24 Rangeland management project																										10	5,885	1,471	N/NS/S/SC
T5 Institutional development																											**80,092**	**20,023**	
02.25 Creation of livestock research centers project																										10	8,414	2,104	NS
02.26 Development of livestock extension systems including community animal health workers project																										10	18,726	4,681	NS
02.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination pr																										5	94	23	N
02.28 Livestock public sector institutions capacity development project																										10	52,858	13,215	NS

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

Public sector project
Routine work by government
Private sector project
Routine work by private sector

3.1.2 Investment Planning Space by CAADP Pillar

Subsector / CAADP Pillar / Project ID	Project name	Phase I 2015/16	2016/17	2017/18	2018/19	2019/20	Phase II 2020/21	2021/22	2022/23	2023/24	2024/25	Phase III 2025/26	2026/27	2027/28	2028/29	2029/30	Phase IV 2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	Year	SSP ('000)	USD ('000)	Responsi-bility
02 Livestock Subsector																											**371,476**	**92,869**	
P1 Pillar 1: Land and water management																											**37,992**	**9,498**	
02.01	Grazing allotments and land-tenure project																										5,533	1,383	N/NS/S/SC
02.03	National and State livestock policy and legal framework establishment and maintenance project																										9,740	2,435	NS
02.08	Development of livestock water catchment and watering areas project																										16,833	4,208	N/NS/S/SC
02.24	Rangeland management project																										5,885	1,471	N/NS/S/SC
P2 Pillar 2: Market access																											**83,644**	**20,911**	
02.05	Development of a central and regional veterinary drug stores project																										6,926	1,731	NS
02.07	Development of livestock marketing project																										5,456	1,364	PPP
02.11	Beekeeping extension project																										3,207	802	PPP/P
02.12	Dairy production and processing extension project																										3,505	876	NS/PPP
02.13	Development of feed mills project																										8,406	2,102	PPP/P
02.14	Forage crops production project																										2,374	593	PPP/P
02.15	Hides and skins processing extension project																										6,577	1,644	PPP/P
02.16	Livestock auction facility improvement and management project																										35,611	8,903	NS
02.18	Livestock identification and traceability project																										2,912	728	N
02.20	Pig production extension project																										4,403	1,101	NS
02.21	Poultry production and processing extension project																										4,266	1,067	NS
P3 Pillar 3: Food supply and hunger																											**188,568**	**47,142**	
02.02	Livestock census, disease surveillance and information management project																										6,673	1,668	NS
02.04	Creation of animal diagnostic laboratories, early disease response, and quarantine system project																										43,937	10,984	NS
02.06	Development of feed testing and analysis laboratory project																										7,462	1,865	PPP
02.09	Formulation of animal health and disease control plan project																										4,322	1,080	NS
02.10	Veterinary services delivery project																										84,167	21,042	NS
02.17	Livestock harvest facilities improvement and management project																										5,224	1,306	PPP/P
02.19	Meat production and processing extension project																										4,886	1,221	PPP/P
02.22	Enhancement of demonstration farms project																										12,453	3,113	NS
02.23	Enhancement of livestock producer associations project																										626	156	NS
02.26	Development of livestock extension systems including community animal health workers project																										18,726	4,681	NS
02.27	Enhancement of inter-government, donor agencies, civil society, and private sector coordination pr																										94	23	N
P4 Pillar 4: Agricultural research																											**61,272**	**15,318**	
02.25	Creation of livestock research centers project																										8,414	2,104	NS
02.28	Livestock public sector institutions capacity development project																										52,858	13,215	NS

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

Public sector project
Routine work by government
Private sector project
Routine work by private sector

3.1.3 Investment Planning Space by Subsector Area/Programme

Subsector Subsector area/programme Project ID Project name	Phase I				Phase II				Phase III				Phase IV				Year	SSP ('000)	USD ('000)	Responsi-bility
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40			
02 Livestock Subsector																											**371,476**	**92,869**	
Policy and legal framework development																											**15,273**	**3,818**	
02.01 Grazing allotments and land-tenure project																										10	5,533	1,383	N/NS/S/SC
02.03 National and State livestock policy and legal framework establishment and maintenance project																										8	9,740	2,435	NS
Public sector institution and management capacity development																											**150,617**	**37,654**	
02.02 Livestock census, disease surveillance and information management project																										3	6,673	1,668	NS
02.04 Creation of animal diagnostic laboratories, early disease response, and quarantine system project																										10	43,937	10,984	NS
02.06 Development of feed testing and analysis laboratory project																										10	7,462	1,865	PPP
02.22 Enhancement of demonstration farms project																										10	12,453	3,113	NS
02.25 Creation of livestock research centers project																										10	8,414	2,104	NS
02.26 Development of livestock extension systems including community animal health workers project																										10	18,726	4,681	NS
02.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination pr																										5	94	23	N
02.28 Livestock public sector institutions capacity development project																										10	52,858	13,215	NS
Public infrastructure development																											**63,554**	**15,888**	
02.08 Development of livestock water catchment and watering areas project																										10	16,833	4,208	N/NS/S/SC
02.16 Livestock auction facility improvement and management project																										5	35,611	8,903	NS
02.17 Livestock harvest facilities improvement and management project																										7	5,224	1,306	PPP/P
02.24 Rangeland management project																										10	5,885	1,471	N/NS/S/SC
Animal health and disease control services																											**98,326**	**24,581**	
02.05 Development of a central and regional veterinary drug stores project																										10	6,926	1,731	NS
02.09 Formulation of animal health and disease control plan project																										10	4,322	1,080	NS
02.10 Veterinary services delivery project																										5	84,167	21,042	NS
02.18 Livestock identification and traceability project																										5	2,912	728	N
Livestock production and processing enhancement																											**34,674**	**8,669**	
02.07 Development of livestock marketing project																										5	5,456	1,364	PPP
02.11 Beekeeping extension project																										7	3,207	802	PPP/P
02.12 Dairy production and processing extension project																										10	3,505	876	NS/PPP
02.14 Forage crops production project																										8	2,374	593	PPP/P
02.15 Hides and skins processing extension project																										8	6,577	1,644	PPP/P
02.19 Meat production and processing extension project																										10	4,886	1,221	PPP/P
02.20 Pig production extension project																										10	4,403	1,101	NS
02.21 Poultry production and processing extension project																										10	4,266	1,067	NS
Private sector organisation and market enhancement																											**9,032**	**2,258**	
02.13 Development of feed mills project																										10	8,406	2,102	PPP/P
02.23 Enhancement of livestock producer associations project																										6	626	156	NS

Public sector project
Private sector project
Routine work by government
Routine work by private sector

Note: N: National government; S: State government; P: private sector
PPP: Public and private sector partnership

3.2 Summary of funding requirement

3.2.1 Summary of project cost and scaling-up cost

SSP/USD = 4.00

Subsector			Phase I					Phase II					Phase III					Phase IV								SSP	USD
Development Theme			15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	(million)	(million)
Project ID																													
Project name																													
00 CAMP Investment Plan total		Project cost	130.6	178.1	333.0	322.9	299.5	316.6	316.4	284.3	255.3	262.2	233.0	204.9	113.1	97.4	115.7	76.4	71.6	66.0	78.9	66.6	61.4	76.6	60.2	46.0	45.4	4,112.1	1,028.0
		Scaling-up cost	0.1	2.2	3.1	13.1	23.5	53.4	74.7	89.8	80.8	90.4	213.0	203.8	360.2	374.4	329.1	469.5	505.4	545.6	513.6	581.9	666.0	689.5	823.6	863.7	915.1	8,485.3	2,121.3
		Grand total	130.7	180.2	336.1	336.1	323.0	370.0	391.1	374.0	336.1	352.6	446.0	408.8	473.2	471.8	444.8	545.9	577.0	611.6	592.4	648.5	727.4	766.1	883.8	909.7	960.5	12,597.3	3,149.3
02 Livestock Subsector		Project cost	8.0	8.8	7.1	7.0	5.7	62.2	62.5	63.4	41.9	35.9	25.2	16.4	7.8	7.6	6.6	1.1	1.1	1.1	1.1	1.1						371.5	92.9
		Scaling-up cost				3.2	4.8	4.8	6.5	6.4	10.7	10.6	67.0	59.1	50.3	49.1	49.1	95.4	104.1	104.1	91.7	97.4	132.7	128.2	131.4	136.4	162.4	1,505.5	376.4
		Subsector total	8.0	8.8	7.1	10.3	10.5	67.1	69.0	69.8	52.5	46.4	92.2	75.6	58.0	56.7	55.7	96.5	105.2	105.2	92.8	98.5	132.7	128.2	131.4	136.4	162.4	1,877.0	469.2
T1	Reconstruction and recovery	Project cost	7.9	8.8	3.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2																21.9	5.5
		Scaling-up cost				3.2	4.8	4.8	6.5	6.4	8.3	8.2	11.1	9.3	8.0	8.0	8.0	8.0	8.1	8.2	8.6	9.0	10.0	10.2	10.6	11.1	13.3	183.6	45.9
		Theme total	7.9	8.8	3.8	3.5	5.0	5.0	6.7	6.6	8.5	8.4	11.1	9.3	8.0	8.0	8.0	8.0	8.1	8.2	8.6	9.0	10.0	10.2	10.6	11.1	13.3	205.6	51.4
02.01	Grazing allotments and land-tenure project	Project cost	1.6	2.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2																5.5	1.4
		Scaling-up cost											3.0	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.7	2.4	2.5	2.6	3.1	34.2	8.5
		Project total	1.6	2.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.0	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.7	2.4	2.5	2.6	3.1	39.7	9.9
02.02	Livestock census, disease surveillance and information management project	Project cost	3.5	3.1																								6.7	1.7
		Scaling-up cost				3.2	4.8	4.8	6.5	6.4	6.4	6.5	6.4	5.6	4.9	4.8	4.8	4.9	4.8	5.0	5.2	5.4	5.8	6.2	6.4	6.7	8.0	123.3	30.8
		Project total	3.5	3.1		3.2	4.8	4.8	6.5	6.4	6.4	6.5	6.4	5.6	4.9	4.8	4.8	4.9	4.8	5.0	5.2	5.4	5.8	6.2	6.4	6.7	8.0	129.9	32.5
02.03	National and State livestock policy and legal framework establishment and maintenance project	Project cost	2.8	3.4	3.4	0.0	0.0	0.0	0.0	0.0																		9.7	2.4
		Scaling-up cost									1.9	1.7	1.7	1.5	1.3	1.3	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.6	1.7	1.8	2.1	26.2	6.6
		Project total	2.8	3.4	3.4	0.0	0.0	0.0	0.0	0.0	1.9	1.7	1.7	1.5	1.3	1.3	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.6	1.7	1.8	2.1	36.0	9.0
T2	Food and nutrition security	Project cost				1.6	2.1	36.3	43.0	38.4	20.7	16.1	2.2	2.2	2.2	2.2	2.2											169.1	42.3
		Scaling-up cost									2.3	2.3	36.8	32.2	27.6	27.6	27.6	40.9	54.0	54.8	43.1	45.8	48.5	51.2	53.8	56.5	67.3	672.5	168.1
		Theme total				1.6	2.1	36.3	43.0	38.4	23.0	18.5	39.0	34.4	29.8	29.8	29.8	40.9	54.0	54.8	43.1	45.8	48.5	51.2	53.8	56.5	67.3	841.6	210.4
02.04	Creation of animal diagnostic laboratories, early disease response, and quarantine system project	Project cost						2.8	16.8	14.2	3.4	1.4	1.1	1.1	1.1	1.1	1.1											43.9	11.0
		Scaling-up cost																3.7	8.1	7.4	3.6	3.9	4.1	4.3	4.5	4.8	5.7	50.1	12.5
		Project total						2.8	16.8	14.2	3.4	1.4	1.1	1.1	1.1	1.1	1.1	3.7	8.1	7.4	3.6	3.9	4.1	4.3	4.5	4.8	5.7	94.0	23.5
02.05	Development of a central and regional veterinary drug stores project	Project cost						2.2	1.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4											6.9	1.7
		Scaling-up cost																2.0	2.0	2.0	2.1	2.2	2.4	2.5	2.6	2.7	3.3	23.7	5.9
		Project total						2.2	1.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	2.0	2.0	2.0	2.1	2.2	2.4	2.5	2.6	2.7	3.3	30.7	7.7
02.06	Development of feed testing and analysis laboratory project	Project cost						2.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6											7.5	1.9
		Scaling-up cost																2.7	2.5	2.5	2.6	2.8	2.9	3.1	3.3	3.4	4.1	29.9	7.5
		Project total						2.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.7	2.5	2.5	2.6	2.8	2.9	3.1	3.3	3.4	4.1	37.4	9.3
02.07	Development of livestock marketing project	Project cost				1.6	2.1	0.8	0.4	0.5																		5.5	1.4
		Scaling-up cost									2.3	2.3	2.3	2.0	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.9	35.4	8.9
		Project total				1.6	2.1	0.8	0.4	0.5	2.3	2.3	2.3	2.0	1.7	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.9	40.9	10.2
02.08	Development of livestock water catchment and watering areas project	Project cost						2.9	7.5	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0											16.8	4.2
		Scaling-up cost																2.5	11.4	11.8	2.6	2.8	2.9	3.1	3.3	3.4	4.1	47.8	12.0
		Project total						2.9	7.5	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	11.4	11.8	2.6	2.8	2.9	3.1	3.3	3.4	4.1	64.7	16.2
02.09	Formulation of animal health and disease control plan project	Project cost						3.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1											4.3	1.1
		Scaling-up cost																2.5	2.5	2.6	2.6	2.8	3.0	3.1	3.3	3.5	4.1	30.0	7.5
		Project total						3.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	2.5	2.5	2.6	2.6	2.8	3.0	3.1	3.3	3.5	4.1	34.3	8.6

SSP/USD = 4.00

Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV										SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
02.10 Veterinary services delivery project	Project cost						22.1	16.1	16.1	16.1	13.6																84.2	21.0
	Scaling-up cost											34.5	30.2	25.9	25.9	25.9	25.9	25.9	26.7	27.6	29.3	31.1	32.8	34.5	36.2	43.1	455.5	113.9
	Project total						22.1	16.1	16.1	16.1	13.6	34.5	30.2	25.9	25.9	25.9	25.9	25.9	26.7	27.6	29.3	31.1	32.8	34.5	36.2	43.1	539.6	134.9
T3 Economic growth and livelihood improvement	Project cost			3.3	5.2	2.8	10.6	8.6	13.1	11.3	9.9	7.6	1.6	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8						81.4	20.3
	Scaling-up cost											18.5	17.1	14.2	13.1	13.1	31.1	33.0	34.0	32.9	34.9	38.3	42.8	43.6	44.3	52.7	463.7	115.9
	Theme total			3.3	5.2	2.8	10.6	8.6	13.1	11.3	9.9	26.1	18.7	15.3	14.3	14.3	31.9	33.8	34.8	33.7	35.7	38.3	42.8	43.6	44.3	52.7	545.1	136.3
02.11 Beekeeping extension project	Project cost				1.9	1.4	0.0	0.0	0.0	0.0	0.0																3.2	0.8
	Scaling-up cost											2.4	1.2	1.0	1.0	1.0	1.0	1.0	1.8	1.1	1.1	1.2	1.3	1.4	1.4	1.7	19.6	4.9
	Project total				1.9	1.4	0.0	0.0	0.0	0.0	0.0	2.4	1.2	1.0	1.0	1.0	1.0	1.0	1.8	1.1	1.1	1.2	1.3	1.4	1.4	1.7	22.8	5.7
02.12 Dairy production and processing extension project	Project cost						1.7	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0											3.5	0.9
	Scaling-up cost																2.6	2.6	2.9	2.8	2.9	3.1	3.3	3.4	3.6	4.3	31.5	7.9
	Project total						1.7	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.9	2.8	2.9	3.1	3.3	3.4	3.6	4.3	35.0	8.8
02.13 Development of feed mills project	Project cost											1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8						8.4	2.1
	Scaling-up cost																					1.0	1.0	1.1	1.2	1.4	5.7	1.4
	Project total											1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.1	1.2	1.4	14.1	3.5
02.14 Forage crops production project	Project cost			1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0																2.4	0.6
	Scaling-up cost											1.8	1.6	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.2	23.5	5.9
	Project total			1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.6	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.2	25.9	6.5
02.15 Hides and skins processing extension project	Project cost			1.6	2.8	1.4	0.7	0.0	0.0	0.0	0.0																6.6	1.6
	Scaling-up cost											2.3	2.0	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2.0	2.2	2.3	2.4	2.8	30.0	7.5
	Project total			1.6	2.8	1.4	0.7	0.0	0.0	0.0	0.0	2.3	2.0	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2.0	2.2	2.3	2.4	2.8	36.6	9.2
02.16 Livestock auction facility improvement and management project	Project cost						2.9	2.7	10.5	9.8	9.8																35.6	8.9
	Scaling-up cost											12.0	12.4	10.1	9.0	9.0	9.0	10.6	10.5	9.6	10.2	10.8	13.4	13.5	12.6	15.1	168.0	42.0
	Project total						2.9	2.7	10.5	9.8	9.8	12.0	12.4	10.1	9.0	9.0	9.0	10.6	10.5	9.6	10.2	10.8	13.4	13.5	12.6	15.1	203.6	50.9
02.17 Livestock harvest facilities improvement and management project	Project cost									0.0		4.5	0.2	0.2	0.2	0.2											5.2	1.3
	Scaling-up cost																4.8	4.8	5.0	5.1	5.5	5.8	6.1	6.4	6.7	8.0	58.2	14.5
	Project total									0.0		4.5	0.2	0.2	0.2	0.2	4.8	4.8	5.0	5.1	5.5	5.8	6.1	6.4	6.7	8.0	63.4	15.9
02.18 Livestock identification and traceability project	Project cost											1.8	0.6	0.2	0.2	0.2											2.9	0.7
	Scaling-up cost																1.7	2.0	1.4	1.5	1.5	2.0	2.5	1.8	1.9	2.3	18.6	4.7
	Project total											1.8	0.6	0.2	0.2	0.2	1.7	2.0	1.4	1.5	1.5	2.0	2.5	1.8	1.9	2.3	21.5	5.4
02.19 Meat production and processing extension project	Project cost						1.0	2.2	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0											4.9	1.2
	Scaling-up cost																4.4	4.4	4.6	4.7	5.0	5.3	5.6	5.9	6.2	7.4	53.8	13.5
	Project total						1.0	2.2	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.4	4.6	4.7	5.0	5.3	5.6	5.9	6.2	7.4	58.7	14.7
02.20 Pig production extension project	Project cost						2.2	0.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0											4.4	1.1
	Scaling-up cost																2.7	2.7	2.8	2.9	3.1	3.2	3.4	3.6	3.8	4.5	32.7	8.2
	Project total						2.2	0.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.8	2.9	3.1	3.2	3.4	3.6	3.8	4.5	37.1	9.3
02.21 Poultry production and processing extension project	Project cost						2.0	1.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0											4.3	1.1
	Scaling-up cost																1.8	1.8	1.9	1.9	2.1	2.2	2.3	2.4	2.6	3.0	22.1	5.5
	Project total						2.0	1.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.9	1.9	2.1	2.2	2.3	2.4	2.6	3.0	26.3	6.6

SSP/USD = 4.00

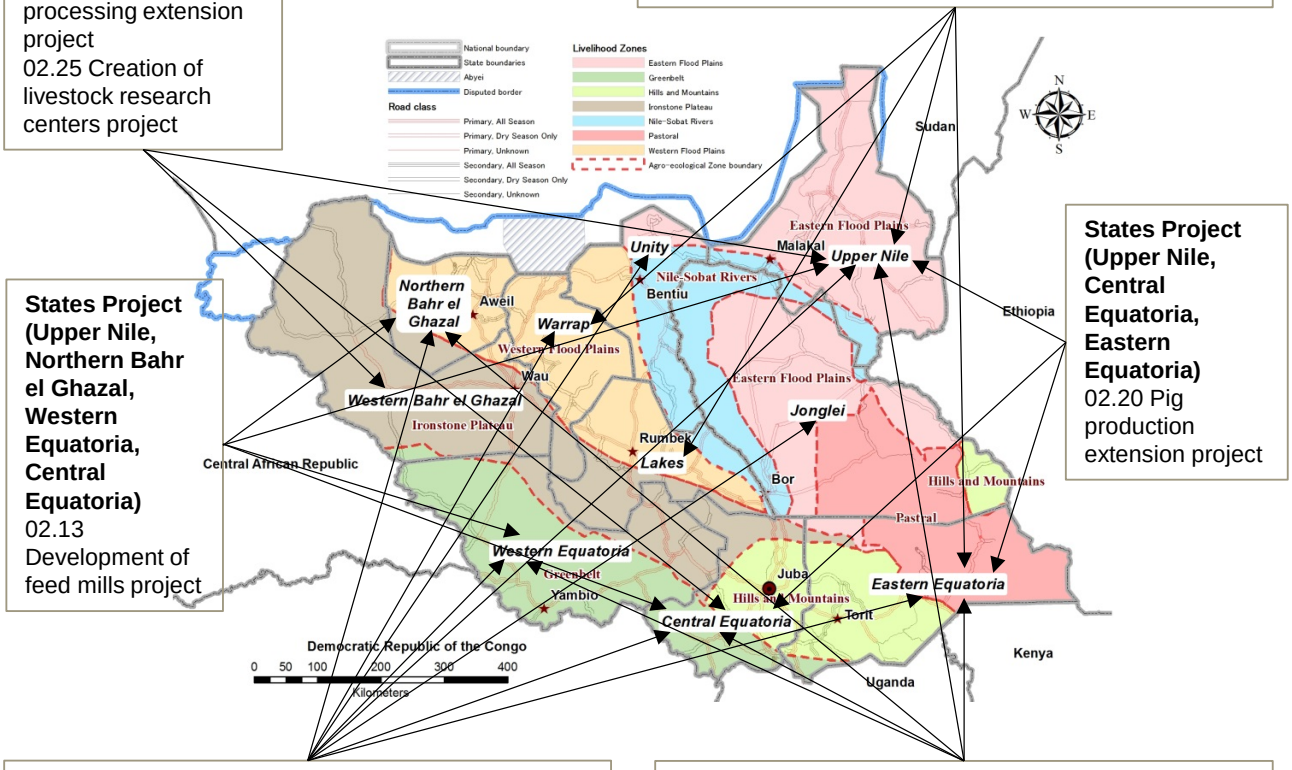
Subsector / Development Theme / Project ID / Project name		Phase I					Phase II					Phase III					Phase IV										SSP (million)	USD (million)
		15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40		
T4 Agriculture sector transformation	Project cost					0.5	0.0	0.0	0.0	0.0	0.0	12.4	2.0	1.2	1.2	0.2	0.2	0.2	0.2	0.2	0.2						19.0	4.7
	Scaling-up cost											0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	25.0	15.5	14.3	15.0	17.9	92.3	23.1
	Theme total					0.5	0.0	0.0	0.0	0.0	0.0	13.0	2.5	1.7	1.7	0.7	0.7	0.7	0.7	0.7	0.7	25.0	15.5	14.3	15.0	17.9	111.3	27.8
02.22 Enhancement of demonstration farms project	Project cost											10.7	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2						12.5	3.1
	Scaling-up cost																					20.6	10.9	11.5	12.1	14.4	69.5	17.4
	Project total											10.7	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	20.6	10.9	11.5	12.1	14.4	81.9	20.5
02.23 Enhancement of livestock producer associations project	Project cost					0.5	0.0	0.0	0.0	0.0	0.0																0.6	0.2
	Scaling-up cost											0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	7.6	1.9
	Project total					0.5	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	8.2	2.1
02.24 Rangeland management project	Project cost											1.7	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0						5.9	1.5
	Scaling-up cost																					3.8	4.0	2.3	2.4	2.8	15.3	3.8
	Project total											1.7	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	4.0	2.3	2.4	2.8	21.2	5.3
T5 Institutional development	Project cost	0.0	0.0	0.0	0.0	0.0	15.1	10.6	11.7	9.7	9.7	3.0	10.7	3.2	3.0	3.0	0.1	0.1	0.1	0.1	0.1						80.1	20.0
	Scaling-up cost						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9	8.6	6.6	6.8	7.2	10.9	8.5	9.0	9.4	11.2	93.4	23.3
	Theme total	0.0	0.0	0.0	0.0	0.0	15.2	10.6	11.7	9.7	9.7	3.0	10.7	3.2	3.1	3.1	15.0	8.7	6.6	6.8	7.3	10.9	8.5	9.0	9.4	11.2	173.5	43.4
02.25 Creation of livestock research centers project	Project cost											0.0	7.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1						8.4	2.1
	Scaling-up cost																					3.3	0.5	0.5	0.5	0.6	5.3	1.3
	Project total											0.0	7.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.3	0.5	0.5	0.5	0.6	13.7	3.4
02.26 Development of livestock extension systems including community animal health workers project	Project cost						7.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2											18.7	4.7
	Scaling-up cost																9.2	2.8	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.7	40.8	10.2
	Project total						7.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	9.2	2.8	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.7	59.5	14.9
02.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination project	Project cost	0.0	0.0	0.0	0.0	0.0																					0.1	0.0
	Scaling-up cost						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2
	Project total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.2
02.28 Livestock public sector institutions capacity development project	Project cost						7.5	9.4	10.4	8.5	8.5	1.7	1.7	1.7	1.7	1.7											52.9	13.2
	Scaling-up cost																5.7	5.7	3.6	3.7	3.9	4.2	4.4	4.6	4.9	5.8	46.7	11.7
	Project total						7.5	9.4	10.4	8.5	8.5	1.7	1.7	1.7	1.7	1.7	5.7	5.7	3.6	3.7	3.9	4.2	4.4	4.6	4.9	5.8	99.5	24.9

3.3 Project Location Map

Nation-wide Projects
02.01 Grazing allotments and land-tenure project
02.02 Livestock census, disease surveillance and information management project
02.03 National and State livestock policy and legal framework establishment and maintenance project
02.04 Creation of animal diagnostic laboratories, early disease response, and quarantine system project
02.05 Development of a central and regional veterinary drug stores project
02.06 Development of feed testing and analysis laboratory project
02.08 Development of livestock water catchment and watering areas project
02.09 Formulation of animal health and disease control plan project
02.10 Veterinary services delivery project
02.11 Beekeeping extension project
02.12 Dairy production and processing extension project
02.14 Forage crops production project
02.16 Livestock auction facility improvement and management project
02.18 Livestock identification and traceability project
02.21 Poultry production and processing extension project
02.23 Enhancement of livestock producer associations project
02.24 Rangeland management project
02.26 Development of livestock extension systems including community animal health workers (CAHWs) project
02.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination project

States Projects (Upper Nile, Western Bahr el Ghazal, Central Equatoria)
02.15 Hides and skins processing extension project
02.25 Creation of livestock research centers project

States Projects (Upper Nile, Warrap, Lakes, Eastern Equatoria)
02.17 Livestock harvest facilities improvement and management project
02.19 Meat production and processing extension project



States Project (Upper Nile, Central Equatoria, Eastern Equatoria)
02.20 Pig production extension project

States Project (Upper Nile, Northern Bahr el Ghazal, Western Equatoria, Central Equatoria)
02.13 Development of feed mills project

States Project (Upper Nile, Jonglei, Unity, Warrap, Northern Bahr el Ghazal, Western Equatoria, Central Equatoria, Eastern Equatoria)
02.07 Development of livestock marketing project

States Project (Upper Nile, Northern Bahr el Ghazal, Western Equatoria, Central Equatoria, Eastern Equatoria)
02.22 Enhancement of demonstration farms project

3.4 Project Profiles

3.4.1 Grazing allotments and land-tenure project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Grazing allotments and land-tenure project			
(3) Project ID:	0 2 . 0 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2015/16	Ending FY: 2024/25	Duration (years): 10	
(5) Total investment:	SSP 5,533,000	USD 1,383,000	Note: Not including recurrent cost	

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA1	Policy and legal framework development	Table 2-3
(2) Government organisation:	05;08	MLFI-AP;EX	Directorate of Animal Production and Range Management/Directorate of Livestock and Fisheries Extension	Table 2-6
:	01	MLFI-PL	Directorate of Planning	Table 2-6
(3) Activity types:	101	ID-LI	Institutional development- Legal and institutional development	Table 2-12
	103	ID-PP	Institutional development- Policy formulation and planning	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	X
	04	SC	State-County project	X
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Years of conflict have displaced tens of thousands of families. With this displacement and the eventual return of families to their lands there will be a substantial need for legislation and policies on land-tenure and ownership. Those that will suffer the most with land issues include women, those who left their land and are returning, and IDP's. There have been two pieces of legislation that have helped address land tenure in South Sudan. Those are the Land Act in 2009 and Land Policy adopted in 2013. Even with these policies in place, land administration and enforcement are weak due to continuing lack of overall infrastructure and on-going conflict. South Sudan has enormous potential when it comes to livestock grazing. However, this potential will never be reached until a comprehensive, inclusive land tenure policy is established and more importantly enforced. It is essential however that grazing rights and allotments are developed so that rangelands are allowed to recover after grazing. Proper range management, grazing allotments, timing of grazing, and number of animal units allowed to graze a particular range area are necessary to maintain quality rangeland to supply the nutrient needs of livestock. Clearly demarcated, concise grazing allotments could also help to avoid future conflict because livestock producers will know when and where their livestock should be grazing and therefore not infringe on another producer's grazing rights. Along with the legal policies of grazing allotments and land tenure should be comprehensive range management policies enforced by government livestock or land officers. This project will focus on the review, amending, and development of policy and legislation.
(2) Objectives:	To review and revise current land tenure and grazing allotment policies for South Sudan. A comprehensive policy for the livestock sector concerning land-tenure rights and grazing allotment policies with a review and enforcement process.
(3) Overall description including temporal and spatial extent of project:	The project is to review the current sector and subsector policy; develop and/or amend policy to align with strategic goals; enhance laws and regulations governing land tenure and grazing allotments; develop range management and improvement protocols for grazing lands, and develop enforcement policies for grazing rights and land ownership. The implementation of rangeland management and grazing methods will be covered more completely in the CAMP "rangeland management project".
(4) Component structure:	Component 1: Review all national and local policies. Component 2: Develop comprehensive sector policy. Component 3: Harmonize policy with OIE and surrounding countries. Component 4: Harmonize national policy with states and local stakeholders. Component 5: Develop a regulatory and enforcement branch of government. Component 6: Develop food safety and grades and standards regulations. Component 7: Develop a policy review process with recognized information channels.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Policy review Activity 1.1: Natural Resource sector policy review Activity 1.2: Livestock sector review Activity 1.3 State livestock policy review Outputs: Comprehensive and transparent review of existing policy documents outlining land rights and grazing allotments. Component 2: Develop comprehensive land tenure and grazing allotment policies Activity 2.1: Natural Resource sector Activity 2.2: Livestock sector Activity 2.3 Rangeland or pastoral sector Outputs: Comprehensive policy document outlining land rights and grazing allotments. Component 3: Harmonization with World Organisation for Animal Health (OIE) and surrounding countries. Activity 3.1: Work with OIE to ensure harmonization of national policy with international policy Activity 3.2: Work with Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) to harmonize regional policy with surrounding countries. Outputs: Policies that are harmonized with OIE and surrounding countries. Component 4: Harmonization between national and state policies Activity 4.1: Harmonize national and state policy. Activity 4.2: Harmonize national, state and local (tribal) policy Outputs: National and state policies and responsibilities are harmonized. Component 5: Develop a regulatory branch that ensures compliance and enforces laws. Activity 5.1: Develop and harmonize a national and state agency that ensures

Items	Information
	enforcement of policies. Activity 5.2: Develop a protocol of penalties when individuals, companies and other groups fail to follow policy, including imprisonment and fines. Outputs: A national and state recognized regulatory and enforcement agency is implemented. Component 6: Develop range management protection, preservation, and best practice standards to ensure sustainable use of grazing lands for livestock Activity 6.1: Develop policy. Activity 6.2: Harmonize policy with state and local governments. Activity 6.3: Develop oversight process that reviews and certifies standards. Outputs: A published document with best practice ideas for range management protection, preservation, and grazing standards to ensure sustainable use of grazing lands for livestock. Component 7: Standardize review mechanisms and information channels. Activity 7.1: Outline review process and share with all stakeholders. Activity 7.2: Establish a regulatory body that reviews standards and enforces laws and regulations. Outputs: A published and understood policy review process with transparent information channels available to all stakeholders.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The service providers will be primarily international policy experts in range management and livestock.
(2) Description of beneficiaries within the framework of the project:	Producers and consumers of South Sudan. Policies will be harmonized for all producers to ensure protection and advancement of the industry. The harmonized policy will ensure safe protein supplies for all consumers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Standardized, internationally accredited land tenure and grazing policies and regulations with a transparent enforcement system and a transparent system for input and change. It is essential that this project is organized and then implemented in conjunction with the CAMP “rangeland management project”.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • No known negative environmental and social impact for this project. (Positive) • Standardization of land tenure and grazing allotment policies will have a positive and significant impact on the environment because the policies will be developed to ensure that the rangeland environment is improved, monitored, and rehabilitated when needed. Furthermore the standardized policies will allow for healthier rangelands which will also improve riparian areas, improving water quality for rivers and lakes.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Lack of focused and harmonized internationally accepted policy document.
(2) Measurable indicators and situation at the end point:	A harmonized internationally accepted policy document focused on land tenure, grazing allotments, and range management.
(3) Methods of measurement and sources of information:	• Recorded and shared policy document.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production; Directorate of Livestock and Fisheries Extension; Directorate of Planning

2.7 Required human resources

(1) Principle of human resources management:	Senior staff need the ability to write function policy and regulations for this sector. They need a general understanding of the sector in addition to training in policy and regulation development, for example, a background in law and land legislation. They need to communicate with industry experts and work with International staff and agencies to write policy. They need support staff that maintains records and assists in routine activities.

Items	Information
	The regulation division needs to have a background in monitoring and enforcement.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2- Senior grade administrators • 6- Senior grade policy developers – Large ruminants, small ruminants, water, range or pastoral management, environment, judicial • 10- Mid-grade administrative staff • 20 (2 for each state)- Conservation officers with enforcement and regulatory authority
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	International Policy experts in livestock affairs, land use and tenure, range management, environment to work with: • World Organisation for Animal Health (OIE) • Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN)

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Given the current situation with minimal focus on the subsector, this project could be delayed or not given resources to accomplish given tasks. It has the potential to have a significant impact on the livestock industry and grazing lands/environment but has many places in which approaches and regulations as well as enforcement can be negatively influenced.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Transparency and high ethics are required for all individuals working in this sector.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2- Senior grade administrators • 6-Senior grade policy developers – Large ruminants, small ruminants, water, range or pastoral management, environment, judicial • 10-Mid-grade administrative staff • 20 (2 for each state)- Conservation officers with enforcement and regulatory authority Other on-going costs: • Cost of maintaining archives • Cost of computers • Communication allowances (cell-phones and internet services) • Office maintenance • Record keeping costs • Transportation (vehicles and fuel) for staff to monitor rangeland quality and enforce grazing allotments

02.01 Grazing allotments and land-tenure project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**1,375**	**2,088**	**377**	**125**	**125**	**125**	**125**	**125**	**125**	**125**																**4,719**	**1,180**	**85%**
1 Deployment of government staff	**58**	**143**	**97**	**97**	**97**	**97**	**97**	**97**	**97**	**97**																**980**	**245**	**18%**
1 Regular meeting (per diem, etc.)	11																									11	3	0%
2 Regular meeting (transportation)	18																									18	5	0%
3 Regular meeting (per diem, etc.)	11																									11	3	0%
4 Regular meeting (transportation)	18																									18	5	0%
5 Workshop in state (per diem for central office staff)		41																								41	10	1%
6 Workshop in state (transportation for central office staff)		45																								45	11	1%
7 Regular meeting (per diem, etc.)		22																								22	5	0%
8 Regular meeting (transportation)		36																								36	9	1%
9 Review & enforcement seminar at state(per diem for staff)			16	16	16	16	16	16	16	16																130	32	2%
10 Review & enforcement seminar at state(transportation)			18	18	18	18	18	18	18	18																144	36	3%
11 Review & enforcement seminar at county(per diem for staff)			32	32	32	32	32	32	32	32																253	63	5%
12 Review & enforcement seminar at county(transportation)			32	32	32	32	32	32	32	32																253	63	5%
2 Procurement of administrative services (contracted)		**400**																								**400**	**100**	**7%**
1 Publish documents		400																								400	100	7%
3 Procurement of professional services (contracted)	**1,260**	**1,512**	**252**																							**3,024**	**756**	**55%**
1 Policy expert in Livestock affair, land use and tenure	1,260	1,512	252																							3,024	756	55%
4 Implementation of staff training	**30**	**5**																								**35**	**9**	**1%**
1 Harmonization meeting at Juba (venue)	5																									5	1	0%
2 Harmonization meeting at Juba (per diem, etc.)	1																									1	0	0%
3 Harmonization meeting at Juba (transportation)	24																									24	6	0%
4 Workshop in state (per diem for state officials)		5																								5	1	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**28**																**280**	**70**	**5%**
1 Office supplies in Juba	4	4	4	4	4	4	4	4	4	4																40	10	1%
2 Office utilities & communication in Juba	10	10	10	10	10	10	10	10	10	10																100	25	2%
3 Office supplies in 10 states	4	4	4	4	4	4	4	4	4	4																40	10	1%
4 Office utilities & communication in 10 states	10	10	10	10	10	10	10	10	10	10																100	25	2%
2 Construction of infrastructure and procurement of equipment	**258**																									**258**	**65**	**5%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment	**258**																									**258**	**65**	**5%**
1 ICT equipment (laptops) in head office at Juba	72																									72	18	1%
2 ICT equipment (printers) in head office at Juba	6																									6	2	0%
3 ICT equipment (copier) in head office at Juba	20																									20	5	0%
4 ICT equipment (laptops) in state office	80																									80	20	1%
5 ICT equipment (copier) in state office	80																									80	20	1%
3 Subsidies, equity and loans		**200**	**45**	**45**	**45**	**45**	**45**	**45**	**45**	**45**																**556**	**139**	**10%**

02.01 Grazing allotments and land-tenure project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector		**200**	**45**	**45**	**45**	**45**	**45**	**45**	**45**	**45**																**556**	**139**	**10%**
1 Workshop in state (per diem for local stakeholders)		100																								100	25	2%
2 Workshop in state (transportation for local stakeholders)		100																								100	25	2%
3 Review & enforcement seminar at state			5	5	5	5	5	5	5	5																40	10	1%
4 Review & enforcement seminar at county			40	40	40	40	40	40	40	40																316	79	6%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**1,633**	**2,288**	**422**	**170**	**170**	**170**	**170**	**170**	**170**	**170**																**5,533**		**100%**
Total (USD '000)	**408**	**572**	**105**	**42**	**42**	**42**	**42**	**42**	**42**	**42**																	**1,383**	
% to total	**30%**	**41%**	**8%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.2 Livestock census, disease surveillance, and information management project

Items	Information

Part 1: Project profile administration

1.1 Project identification:

(1) Subsector:	Livestock				
(2) Project name:	Livestock census, disease surveillance and information management project				
(3) Project ID:	0 2 . 0 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2015/16		Ending FY: 2016/17	Duration (years):	2
(5) Total investment:	SSP 6,673,000		USD 1,668,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	01	MLFI-PL	Directorate of Planning	Table 2-6
		MLFI-All	All other MLFI Directorates	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12
	201	SP-IM	Service delivery and infrastructure development- Information management and analysis	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The exact number of livestock and poultry within South Sudan is unknown. Several estimates have been provided and there is limited agreement between the sources. The United Nations Food and Agriculture Organization (FAO) estimates are the best source and that information is severely limited in accuracy. The latest census failed to include all the country and only focused on a few areas. Currently the Ministry of Livestock and Fisheries Industry (MLFI) has control of the purchase and distribution of vaccines for economically important diseases as outlined by the World Organisation for Animal Health (OIE). To properly plan and ensure that all animals are vaccinated within South Sudan an accurate number of livestock and poultry is needed. There is unreliable information concerning the number of livestock diseases and their prevalence in South Sudan. Surveys of the types of diseases and location of disease outbreak are essential in maintaining a healthy livestock population. Along with the general livestock census ongoing surveillance of diseases prevalent in the country is needed. This surveillance data needs to be maintained in a secure database and updated constantly to monitor disease outbreaks and control measures taken.
(2) Objectives:	Develop a reliable database (baseline) with quantifiable and verifiable livestock numbers and country-wide disease information.
(3) Overall description including temporal and spatial extent of project:	A rapid census of the livestock and poultry industry as well as livestock diseases and their location within South Sudan will be undertaken to quantify the number of each species and diseases. This will allow for a better economic understanding of the industry and develop a baseline for monitoring while allowing officials a more accurate means of calculating the potential economic benefit to South Sudan.
(4) Component structure:	Component 1: Develop a reliable, quantifiable, and secure database of livestock and poultry numbers for use by all stakeholders. Component 2: Develop a reliable, quantifiable, and secure database of livestock and poultry diseases with affected regions for use by all stakeholders.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Develop a reliable, quantifiable, and secure database of livestock and poultry numbers for use by all stakeholders. Activity 1.1: Develop and test survey form for use to quantify livestock/poultry numbers and disease information. Activity 1.2: Identify and train surveyors how to use and complete the form. One potential source are the community animal health workers Activity 1.3: Community meetings with Paramount Chiefs, Chiefs, Sub-chiefs and elders explain program and obtain cultural permission. Activity 1.4: Implement the project to collect field information. Activity 1.5: Enter the data into a searchable, reliable and secure data base. Activity 1.6: Share data with all stakeholders. Outputs: A searchable, reliable and secure data base that contains the number of livestock and poultry in the country as well as disease outbreak information (specific to regions). Component 2: Develop a reliable, quantifiable, and secure database of livestock and poultry diseases with affected regions for use by all stakeholders. Activity 2.1: Design and test a survey instrument for collection of livestock and poultry numbers and disease information. Activity 2.2: Train field staff of Community Animal Health Workers (CAHW) on how to use instrument Activity 2.3: Community meetings recorded and permission granted Activity 2.4: Field implementation (Surveys collected) Activity 2.5: Enter information into database Activity 2.6: Share information Outputs: A searchable, reliable and secure data base that contains the number of livestock and poultry in the country as well as disease outbreak information (specific to regions).

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Services to design survey instrument. Services to complete the survey in the field. Services to enter information into database. Services to design and maintain database.
(2) Description of beneficiaries within the framework of the project:	• All stakeholders and other entities needing reliable data concerning livestock and poultry numbers and disease information.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Reliable secure database of livestock and poultry numbers and diseases that can be used

Items	Information
	in basic economic calculations and predictions.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • There will be a minimal impact on the environment because activity only involves information gathering and entry into a computer database. (Positive) • A livestock census is mandatory for South Sudan to progress in the livestock industry. The number of livestock needs to be known so that they can be monitored for disease surveillance and rangeland monitoring and improvement. This project will greatly benefit the entire livestock industry.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of actual livestock and livestock disease prevalence unknown.
(2) Measurable indicators and situation at the end point:	• Survey forms completed. • Data transferred from survey form into a reliable and secure database.
(3) Methods of measurement and sources of information:	• Number of survey forms completed and entered into database.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Planning; All other Directorates within MLFI

2.7 Required human resources

(1) Principle of human resources management:	Varies with level of participation. Government individuals need to be present on workdays with the ability to understand simple instructions.
(2) Required human resources in the public sector (Positions, grades and numbers):	For the national livestock census: • 10 (1 per state)- Census manager. • 500 (50 per state)- low-grade staff to administer census survey. • 50- mid-grade staff to enter data • 5- mid-grade staff to maintain database For the national disease surveillance survey: • 10 (1 per state)- Census manager (could be same managers for census). • 500 (50 per state)- low-grade staff to administer census survey (could be same staff used for census). • 50- mid-grade staff to enter data (could be same staff used for census). • 5- mid-grade staff to maintain database (these could be on-going staff that maintain both the census and disease surveillance databases.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- Consultant to design and test survey instrument. This consultant can train surveyors on how to administer and complete the instrument. • 1- Consultant to assist and train in the development of a reliable and secure database. This consultant can train local staff on data entry and maintenance.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The overall risk of the project is low since it a data collection activity. It is critical that communities be informed through Paramount Chiefs, Chiefs, sub-chiefs and elders to ensure cooperation.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Access to updated computer and software is required.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 10(1 per state) - Senior-grade managers in charge of disease surveillance (annual report published) and census (done every 10 years). • 5 Mid-grade staff to update and maintain the national census and disease surveillance data-base. Other costs(on-going): • Computer costs • Communication allowances (cell phones and internet). • Office supplies and maintenance. • Transportation allowances (for managers to travel throughout states collecting data).

02.02 Livestock census, disease surveillance and information management project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**3,501**	**3,129**																								**6,629**	**1,657**	**99%**
1 Deployment of government staff	**1,032**	**1,032**																								**2,064**	**516**	**31%**
1 field sampling survey in 10 states (per diem)	1,032	1,032																								2,064	516	31%
2 Procurement of administrative services (contracted)		**40**																								**40**	**10**	**1%**
1 print census report		40																								40	10	1%
3 Procurement of professional services (contracted)	**2,040**	**2,040**																								**4,080**	**1,020**	**61%**
1 team leader	1,080	1,080																								2,160	540	32%
2 local consultant (assistant)	960	960																								1,920	480	29%
4 Implementation of staff training	**412**																									**412**	**103**	**6%**
1 trainers training & test survey (per diem)	252																									252	63	4%
2 trainers training & test survey (transportation)	120																									120	30	2%
3 training for field surveyors(data collectors) (per diem)	20																									20	5	0%
4 training for field surveyors(data collectors) (transportation)	20																									20	5	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**17**	**17**																								**33**	**8**	**0%**
1 fuels for field survey	17	17																								33	8	0%
2 Construction of infrastructure and procurement of equipment	**44**																									**44**	**11**	**1%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment	**44**																									**44**	**11**	**1%**
1 ICT for juba project office	16																									16	4	0%
2 ICT for juba project office	20																									20	5	0%
3 ICT for juba project office	4																									4	1	0%
4 ICT for juba project office	4																									4	1	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**3,545**	**3,129**																								**6,673**		**100%**
Total (USD '000)	**886**	**782**																									**1,668**	
% to total	**53%**	**47%**																								**100%**		

Public sector project | Private sector project

Routine work by government | Routine work by private sector

3.4.3 National and State livestock policy and legal framework establishment and maintenance project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock		
(2) Project name:	National and State livestock policy and legal framework establishment and maintenance project		
(3) Project ID:	0 2 . 0 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2015/16	Ending FY: 2022/23	Duration (years): 8
(5) Total investment:	SSP 9,740,000	USD 2,435,000	Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA1	Policy and legal framework development	Table 2-3
(2) Government organisation:	01	MLFI-PL	Directorate of Planning	Table 2-6
		MLFI	All other Directorates under MLFI	Table 2-6
(3) Activity types:	101	ID-LI	Institutional development- Legal and institutional development	Table 2-12
	103	ID-PP	Institutional development- Policy formulation and planning	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	X
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	X
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	X
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	X
	03	SP	State project	X
	04	SC	State-County project	X
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The project is to review the current sector and subsector policy, develop and/or amend policy to align with strategic goals, enhance law and regulations governing the industry, develop food safety guidelines, develop grades and standard guidelines, develop a protocol of safety review, harmonize state and national laws, harmonize state (local) and national implementation protocols, address communications channels, and develop a regulatory body that enforces laws and regulation of the country.
(2) Objectives:	To review and revise current livestock, poultry, range and wildlife laws and regulations and develop a national and local industry and sector policy for South Sudan.
(3) Overall description including temporal and spatial extent of project:	Currently policies (four broad policy context, eleven technical policies and thirteen draft bills) for the livestock and poultry sector reside in the Natural Resources Sector. Coordination for change is with the Natural Resources Sector working group. Currently, there is no single document that collates and harmonizes the various policies into a single consolidated reference. Thus, there is a need to ensure compliance with the constitution of South Sudan which sets the legal framework and mandate for the development of livestock and poultry resources. It would include review of the following: • livestock subsector policy, • legal and regulatory frameworks and enforcement mechanisms (including clauses on inclusivity in formulation and implementation of development plans and programs) • regional equity in development • expediting rural development as a strategy • affirmative action to address imbalances created by history, customs and traditions • freedom of children from exploitation and the right to education • principles of devolution and decentralization • recognition and integration of traditional authorities and systems • regulation integration and cooperation • human rights • communal land tenure and protection of seasonal access rights, • land acquisition for investment • interstate and regional trade and commerce • policy harmonization with surrounding countries • livestock movement and identification • import/export and border crossing regulations • food safety regulations • tax regulation • trade tariffs • import and export duties • quarantine fees, animal health laws and regulations • processes for permitting livestock movement • establishment of grazing rights on public lands • aligning state policies with national policies, and any additional laws and policies needed for a progressive livestock industry.
(4) Component structure:	Component 1: Review all national and state policies Component 2: Develop comprehensive sector policy Component 3: Harmonize policy with OIE and surrounding countries Component 4: Harmonize national policy with states and local stakeholders Component 5: Develop a regulatory and enforcement branch of government Component 6: Develop food safety and grades and standards regulations Component 7: Develop a policy review process with recognized information channels

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Policy review Activity 1.1: Natural Resource sector policy review Activity 1.2: Livestock sector review Activity 1.3: State livestock policy review Outputs: A comprehensive policy document. Component 2: Develop comprehensive livestock, poultry, wildlife policy. Activity 2.1: Natural Resources sector Activity 2.2: Livestock sector Activity 2.3: Rangeland or pastoral sector. Outputs: Policies are produced in a transparent, inclusive process. Component 3: Harmonization with the World Organisation for Animal Health (OIE) and surrounding countries. Activity 3.1: Work with OIE to ensure harmonization of national policy with international policy

Items	Information
	Activity 3.2: Work with Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) to harmonize regional policy with surrounding countries. Outputs: Policy is harmonized with OIE and surrounding countries. Component 4: Harmonization between national and state policies. Activity 4.1: Harmonize national and state policy. Activity 4.2: Harmonize national, state and local (tribal) policy. Outputs: National and state policies and responsibilities are harmonized. Component 5: Develop a regulatory branch that ensures the compliance and enforces laws. Activity 5.1: Develop and harmonize a national and state agency that ensures enforcement of policies. Activity 5.2: Develop a protocol of penalties when individuals, companies and other groups fail to follow policy, including imprisonment and fines. Outputs: A national and state recognized regulatory and enforcement agency produced. Component 6: Develop food safety, grades and standards regulation. Activity 6.1: Develop policy. Activity 6.2: Harmonize policy with state and local governments. Activity 6.3: Develop oversight process that reviews and certifies premises. Outputs: A national food safety, grades and standards policy for livestock. Component 7: Standardize review mechanisms and information channels. Activity 7.1: Outline review process and share with all stakeholders Activity 7.2: Establish a regulatory body that reviews premises and enforces laws and regulations Outputs: A published and understood policy review process with transparent information channels available to all stakeholders.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The service providers will be primarily international policy experts in livestock and natural resources.
(2) Description of beneficiaries within the framework of the project:	Producers and consumers of South Sudan. Policies will be harmonized for all producers to ensure protection and advancement of the industry. The harmonized policy will ensure safe protein supplies for all consumers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Standardized, internationally accredited livestock policy and regulations with a transparent enforcement system and a transparent system for input and change.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • No negative environment or social impact will take place for this project. (Positive) • Standardization of livestock and pastoral policies will have a positive and significant impact on the environment because the policies will be developed to ensure that the environment is protected and safe guards are entered to promote safety. Likewise the policies allow for addressing disease concerns and allows harmonization with international and regional policies. It ensures food safety and allows for a “safer” protein for human consumption. The adoption of standardized livestock policy will lead to improved health and food conditions of the population.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Lack of focused and harmonized international accepted policy document.
(2) Measurable indicators and situation at the end point:	A harmonized internationally accepted policy document focused on the livestock sector addressing, regulation, enforcement, policy change and communication channels.
(3) Methods of measurement and sources of information:	• Recorded and shared policy document.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Planning; all other MLFI Directorates

Items	Information

2.7 Required human resources

(1) Principle of human resources management:	Senior staff need the ability to write function policy and regulations for the industry. They need to have a general understanding of the industry, in addition to training in policy and regulation development, for example, political sciences and law backgrounds. They need to communicate with industry experts and work with International staff and agencies to write policy. They need support staff that maintains records and assists in routine activities. The regulation division need to have a background in monitoring and enforcement.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 5- Senior grade administrators • 15- Senior grade policy developers – Large ruminants, small ruminants, dairy, water, food safety, range or pastoral management, business enabling environment, taxation, importation – exportation, water, feed, environment, judicial, animal health • 30- Mid-grade administrative staff
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	International policy experts in veterinary and livestock affairs, business, environment, and taxation who will work with: • World Organization for Animal Health (OIE) • Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN)

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Given the current situation with minimal focus on the subsector, this project could be delayed or not given resources to accomplish given tasks. It has the potential to have a significant impact on the industry but has many places in which approaches and regulations as well as enforcement can be negatively influenced.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Transparency and high ethics are required for all individuals working in this sector.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 5- Senior grade administrators • 15- Senior grade policy developers – Large ruminants, small ruminants, dairy, water, food safety, range or pastoral management, business enabling environment, taxation, importation – exportation, water, feed, environment, judicial, animal health • 30- Mid-grade administrative staff Other on-going routine costs: • Cost of computers • Office supplies • Communication allowances (cell phones and internet) Record keeping costs

02.03 National and State livestock policy and legal framework establishment and maintenance project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**2,659**	**3,178**	**3,176**	**6**	**6**	**6**	**6**	**4**																		**9,042**	**2,261**	**93%**
1 Deployment of government staff	**51**	**86**	**86**	**5**	**5**	**5**	**5**	**3**																		**246**	**61**	**3%**
1 Survey to state (per diem)	24																									24	6	0%
2 Survey to state (transportation)	27																									27	7	0%
3 Workshop in state (per diem for central office staff)		41	41																							81	20	1%
4 Workshop in state (transportation for central office staff)		45	45																							90	23	1%
5 Review & information seminar at state(per diem for staff)				1	1	1	1	1																		5	1	0%
6 Review & information seminar at state(transportation)				4	4	4	4	2																		18	5	0%
2 Procurement of administrative services (contracted)		**450**	**450**																							**900**	**225**	**9%**
1 Publish documents		450	450																							900	225	9%
3 Procurement of professional services (contracted)	**2,592**	**2,592**	**2,592**																							**7,776**	**1,944**	**80%**
1 Long term policy expert (team leader)	1,512	1,512	1,512																							4,536	1,134	47%
2 Short term policy expert (natural resources)	540	540	540																							1,620	405	17%
3 Short term policy expert (livestock)	540	540	540																							1,620	405	17%
4 Implementation of staff training	**2**	**37**	**35**	**1**	**1**	**1**	**1**	**1**																		**79**	**20**	**1%**
1 Inter-ministry stakeholder meeting	2	2																								4	1	0%
2 Harmonization meeting at Juba (venue)		5	5																							9	2	0%
3 Harmonization meeting at Juba (per diem, etc.)		1	1																							3	1	0%
4 Harmonization meeting at Juba (transportation)		24	24																							48	12	0%
5 Workshop in state (per diem for state officials)		5	5																							10	3	0%
6 Review & information seminar at state(venue)				1	1	1	1	1																		5	1	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**14**	**14**	**14**																							**42**	**11**	**0%**
1 Office supplies in Juba	4	4	4																							12	3	0%
2 Office utilities & communication in Juba	10	10	10																							30	8	0%
2 Construction of infrastructure and procurement of equipment	**98**																									**98**	**25**	**1%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment	**98**																									**98**	**25**	**1%**
1 ICT equipment in head office at Juba	72																									72	18	1%
2 ICT equipment in head office at Juba	6																									6	2	0%
3 ICT equipment in head office at Juba	20																									20	5	0%
3 Subsidies, equity and loans		**200**	**200**	**40**	**40**	**40**	**40**	**40**																		**600**	**150**	**6%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector		**200**	**200**	**40**	**40**	**40**	**40**	**40**																		**600**	**150**	**6%**
1 Workshop in state (per diem for local stakeholders)		100	100																							200	50	2%
2 Workshop in state (transportation for local stakeholders)		100	100																							200	50	2%
3 Review seminar in state (per diem for local stakeholders)				20	20	20	20	20																		100	25	1%
4 Review seminar in state (transportation for local stakeholders)				20	20	20	20	20																		100	25	1%

02.03 National and State livestock policy and legal framework establishment and maintenance project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	2,757	3,378	3,376	46	46	46	46	44																		**9,740**		**100%**
Total (USD '000)	689	845	844	12	12	12	12	11																			**2,435**	
% to total	28%	35%	35%	0%	0%	0%	0%	0%																		**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.4 Creation of animal diagnostic laboratories, early disease response, and quarantine system project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Creation of animal diagnostic laboratories, early disease response and quarantine system project			
(3) Project ID:	0 2 . 0 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 43,937,000	USD 10,984,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	09	MLFI-RD	Directorate of Animal and Fisheries Research and Development	Table 2-6
(3) Activity types:	210	SP-SI	Service delivery and infrastructure development- Social infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	52	NGL	NGO loans and equity financing	
	51	NGG	NGO grant	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Veterinary diagnostic laboratories are needed to diagnose and treat animal diseases and meet sanitary and health standards for both domestic and export markets. A herd of livestock could die in a rural area and a local veterinarian may not be able to diagnose the disease. Tissue samples from the infected livestock would be brought to the diagnostic laboratory for confirmation of diagnosis. A diagnostic laboratory is the only true method for diagnosing animal diseases. Once a diagnosis has been made a national early disease response system needs to be in place to quickly isolate, quarantine, and begin treatment of the disease. For example if an area of South Sudan has an outbreak of foot and mouth disease, a tissue sample would be brought to the diagnostic laboratory for confirmation of the specific strain of hoof and mouth disease. Then the area would be isolated and any surrounding livestock quarantined and then treated with the vaccination specific to the strain of the disease that was diagnosed. This would prevent the disease from spreading. Laboratory capacity is a critical point in both national and regional control for monitoring diseases including early detection and confirmation. South Sudan has several major diseases of national economic importance that should be monitored and controlled. Timely and proper diagnosis is required. To qualify for certain international markets a disease free zone has to be established. Without a method to diagnosis and track diseases this certification will be challenging, if not impossible. Quarantine facilities need to be established at border points to minimize contagious disease transfer between regions. Any live animals being imported into South Sudan have to be quarantined so they can be monitored to determine if they are infected with any diseases. Comprehensive import regulations along with well-maintained quarantine facilities at border crossings is an essential first step in keeping South Sudan free of infectious livestock diseases. Linkages with the fisheries and crop subsectors can be made utilizing the same buildings on border checkpoints for quarantine. Inside the building there would be separate rooms with independent entrances for crops, fisheries, and livestock.
(2) Objectives:	• To develop the resources necessary to monitor and diagnose zoonosis and economic diseases for livestock, poultry, and fisheries in South Sudan while developing the capacity at international border crossings to control livestock movement to ensure that only disease free animals travel into and out of the country. • A functional veterinarian diagnostic system at national and state levels, certified border crossings with associated quarantine facilities, and a formulated early response plan for disease outbreaks in livestock, poultry, and fisheries.
(3) Overall description including temporal and spatial extent of project:	The project will undertake a comprehensive review of the current structures and needs for diagnostic laboratories. Based on the findings appropriate structures will be designed, constructed and equipment installed. Staff will receive training on how to operate the equipment as well as general laboratory management. For proper animal movement into South Sudan from surrounding countries a proper quarantine and border crossing structure must be in place. Each border access point will be reviewed and a proper structure will be designed and constructed. Likewise the staff will receive training on proper operation and prevention of diseases. An early response system to disease outbreaks will be formulated and all veterinarians and community animal health workers will be trained on this system. A component will use disease-specific regional strategies and strengthen the quality of Veterinary Services and collaboration between countries using the results from the World Organisation for Animal Health (OIE) evaluation of the performance of the Veterinary Services (PVS) pathway.
(4) Component structure:	Component 1: Assessment Component 2: Construction Component 3: Training

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Prepare a comprehensive assessment for South Sudan Activity 1.1: Develop a complete review of current diagnostic facilities in South Sudan or determine if they even exist. Activity 1.2: Using OIE criteria, and international and regional guidelines determine the actual number of diagnostic facilities needed for the country. Activity 1.3: Using OIE criteria, and international and regional guidelines review the livestock border crossings. Activity 1.4 Prepare a document with the recommended facilities and specific locations including equipment requirements for each location. Outputs: A complete review of current diagnostic facilities and active border crossings in South Sudan. A formulated early emergency response plan to disease outbreaks

Items	Information
	within the country. Component 2: Construction phase Activity 2.1 Preparation of bidding document including all environmental specifications and laboratory equipment. Activity 2.2: Secure funding, land and permissions. Activity 2.3: Using transparent and good business practices, determine a contractor for construction of laboratory as well as border crossing quarantine facilities. Award separate contracts (one for construction of the facilities and a second for the purchase of the laboratory equipment). Outputs: 10 state and 1 central diagnostic laboratory constructed and maintained. Border crossing locations identified (25) and quarantine facilities constructed. Laboratory equipment purchased for the 11 laboratories and equipment purchased for border crossing quarantine facilities. Component 3: Training Phase Activity 3.1: All staff both senior and junior staff will receive International training on proper use and maintenance of the equipment and methods. Outputs: All staff both senior and junior staff (115 total) will receive International training on proper use and maintenance of the diagnostic laboratory equipment and methods. This training will need to take place for 5 days per week for 8 weeks. Activity 3.2: Regionalized training of staff for quarantine and border crossing facilities. Activity 3.3: Facility Management training with emphasis on ethics, importance in disease control, outbreaks, emergency response and compliance with international protocol. Outputs for 3.2 and 3.3: Border facility management training with emphasis on ethics, importance in disease control, outbreaks, emergency response and compliance with international protocol. 100 of the technical staff will be trained for a period of 30 days. 125 of the maintenance staff will be trained for a period of 14 days.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The key service providers are international specialists in disease control and facility design. Officials from OIE, FANRPAN, and regional programs are potential providers. Qualified construction companies will be needed for the building phase. A strong program management unit is needed for budget control and day to day deliverables.
(2) Description of beneficiaries within the framework of the project:	Veterinary Services will greatly benefit at all levels. Livestock producers will benefit from better disease control within the country.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A functional disease and food safety diagnostic system with controlled border crossings and areas for quarantine. The impact will improve the disease status of South Sudan and allow for monitoring food quality.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Construction of buildings could have an impact on the environment. (Positive) • If this project is properly implemented the impact on the environment and society is very positive. Livestock producers will save tens of thousands of dollars by having disease outbreaks quickly eradicated and by having infected livestock being imported quarantined at border check points. The project will have a significant positive impact on both the environment and society. The program will directly address disease monitoring.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Inadequate operating national and regional diagnostic laboratories • Inadequate operating certified border crossings • Inadequate operating certified quarantine facilities
(2) Measurable indicators and situation at the end point:	• 1 national and 10 state diagnostic laboratories • Number of certified border crossings (25) • Number of certified quarantine facilities (25)
(3) Methods of measurement and sources of information:	• Facilities constructed. Monitoring reports. Photographs.

Items	Information
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Veterinary Services; Directorate of Animal and Fisheries Research and Development

2.7 Required human resources

(1) Principle of human resources management:	• Capacity building at all levels from Ministry to field staff.
(2) Required human resources in the public sector (Positions, grades and numbers):	Central Diagnostic laboratory • 1- Senior laboratory manager • 5- Senior level laboratory technicians • 16- Mid-level laboratory technicians • 3- Mid-level administrative staff State Diagnostic laboratories (10 laboratories) • 10- Senior laboratory manager (1 for each lab) • 60- Mid level laboratory technicians (6 for each lab) • 20- Mid-level administrative staff (2 for each lab) Border/Quarantine facility maintenance staff (25 border crossings) • 25- Senior level facility manager • 25- Senior level veterinarian • 25- Junior level veterinarian • 25- Mid-level administrative assistant • 125- Skilled maintenance staff
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Animal disease control specialists. Facility design specialists and reputable construction companies. • 1 international veterinary diagnostic consultant. 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The overall risk assessment is considered high due to the complexity of the project. Diagnostic laboratories deal with biological entities which at any level is very risky. The project is introducing border crossing requirements which have not been in place for several years. It will require construction that requires permission and land acquisitions. Additionally it requires coordination at the international, regional, national, state and local levels.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes	There are resources with OIE, FANRPAN, Regional World Bank Programs and others that are available for South Sudan in the planning stages.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Central Diagnostic laboratory • 1- Senior laboratory manager • 5- Senior level laboratory technicians • 16- Mid-level laboratory technicians • 3- Mid-level administrative staff State Diagnostic laboratories (10 laboratories) • 10- Senior laboratory manager (1 for each lab) • 60- Mid level laboratory technicians (6 for each lab) • 20- Mid-level administrative staff (2 for each lab) Border/Quarantine facility maintenance staff (25 border crossings) • 25- Senior level facility manager • 25- Senior level veterinarian • 25- Junior level veterinarian • 25- Mid-level administrative assistant 125- Skilled maintenance staff

02.04 Creation of animal diagnostic laboratories, early disease response, and quarantine system project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,555**	**2,850**	**3,911**	**3,404**	**1,367**	**1,087**	**1,087**	**1,087**	**1,087**	**1,087**											**19,522**	**4,880**	**44%**
1 Deployment of government staff						**72**																				**72**	**18**	**0%**
1 Assessment survey (per diem)						45																				45	11	0%
2 Assessment survey (transportation)						27																				27	7	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**1,248**	**1,036**	**1,036**	**784**	**280**																**4,384**	**1,096**	**10%**
1 Animal disease specialist (long term, team leader)						1,008	756	756	504																	3,024	756	7%
2 Animal disease specialist (short term)						240																				240	60	1%
3 Animal disease specialist (short term) for training							280	280	280	280																1,120	280	3%
4 Implementation of staff training						**1,230**	**1,814**	**1,788**	**1,533**																	**6,365**	**1,591**	**14%**
1 International training (per diem)						840	840	840	700																	3,220	805	7%
2 International training (transportation)						240	240	240	200																	920	230	2%
3 International training (tuition)						150	150	150	125																	575	144	1%
4 Regional training (at 3 regions) (per diem)							315	315	270																	900	225	2%
5 Regional training (at 3 regions) (transportation)							35	35	30																	100	25	0%
6 Facility management training (at 3 regions) (per diem)							189	168	168																	525	131	1%
7 Facility management training (at 3 regions) (transportation)							45	40	40																	125	31	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**5**		**1,087**	**1,087**	**1,087**	**1,087**	**1,087**	**1,087**	**1,087**	**1,087**											**8,701**	**2,175**	**20%**
1 Fuel for assessment survey						5																				5	1	0%
2 Maintenance of central laboratory								150	150	150	150	150	150	150	150											1,200	300	3%
3 Consumables in central laboratory								32	32	32	32	32	32	32	32											256	64	1%
4 Maintenance of state laboratories								469	469	469	469	469	469	469	469											3,750	938	9%
5 Consumables in state laboratories								75	75	75	75	75	75	75	75											600	150	1%
6 Maintenance of quarantine facilities								281	281	281	281	281	281	281	281											2,250	563	5%
7 Consumables in quarantine facilities								80	80	80	80	80	80	80	80											640	160	1%
2 Construction of infrastructure and procurement of equipment						**200**	**13,928**	**10,288**																		**24,415**	**6,104**	**56%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings							**10,813**	**7,813**																		**18,625**	**4,656**	**42%**
1 Central diagnostic laboratory							3,000																			3,000	750	7%
2 State diagnostic laboratory							5,000	5,000																		10,000	2,500	23%
3 Border crossing quarantine facility							2,813	2,813																		5,625	1,406	13%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles						**200**	**875**	**875**																		**1,950**	**488**	**4%**
1 4WD for central laboratory						200																				200	50	0%
2 Pick up for state laboratory							750	750																		1,500	375	3%
3 Motor bike for border crossing quarantine facility							125	125																		250	63	1%
7 Procurement of equipment							**2,240**	**1,600**																		**3,840**	**960**	**9%**
1 Laboratory equipment (large, for central laboratory)							200																			200	50	0%
2 Laboratory equipment (middle, for central laboratory)							200																			200	50	0%
3 Laboratory equipment (small, for central laboratory)							240																			240	60	1%

02.04 Creation of animal diagnostic laboratories, early disease response, and quarantine system project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
4 Laboratory equipment (middle, for state laboratory)							400	400																		800	200	2%
5 Laboratory equipment (small, for state laboratory)							400	400																		800	200	2%
6 Equipment for quarantine facility							800	800																		1,600	400	4%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,755**	**16,778**	**14,199**	**3,404**	**1,367**	**1,087**	**1,087**	**1,087**	**1,087**	**1,087**											**43,937**		**100%**
Total (USD '000)						**689**	**4,194**	**3,550**	**851**	**342**	**272**	**272**	**272**	**272**	**272**												**10,984**	
% to total						**6%**	**38%**	**32%**	**8%**	**3%**	**2%**	**2%**	**2%**	**2%**	**2%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.5 Development of a central and regional veterinary drug stores project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of a central and regional veterinary drug stores project			
(3) Project ID:	0 2 . 0 5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 6,926,000	USD 1,731,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA5	Animal health and disease control services	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	05	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12
	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Veterinary supply outlets do exist in South Sudan but on a limited scale. Outlets are found mainly in state capitals and county headquarters. There is no national drug store in South Sudan and no central licensing system for private sector supply outlets. Supply outlets will be referred to as veterinary stores or simply 'stores' for the rest of this project profile. The main clients of these stores are pastoralists, CAHWs and NGOs. According to the CAMP Situation Analysis Report (December, 2013), the main constraints cited by veterinary store owners across the country include: poor road infrastructure making access to the interior very difficult; unreliable supply sources; high cost of transport; huge seasonal fluctuations in sales; low purchasing power even for those with many animals; and insecurity across many parts of the country. Agro-inputs such as animal feed and equipment, day old chicks, and dealers specialising in providing animal production inputs and equipment, are almost non-existent across South Sudan. There is very low utilisation of inputs among the majority of livestock keepers. Commercial enterprises or those supported by NGOs import feed, equipment and other inputs directly from Uganda, Sudan, and Kenya increasing unit costs. The current sources for drugs coming into the country are from the neighbouring countries of Uganda, Kenya, Ethiopia and Sudan. This is limited due to the cost of transportation, high taxation, and poor road infrastructure. The drug vendors have to charge high prices to livestock producers to recoup these expenses. Furthermore, the drugs sold by vendors usually do not have proper storage (are kept in the hot sun instead of refrigeration), are expired, or come from disreputable companies. The companies currently licensed to import drugs into the country are working in isolation from the government. As a result there are no standards set for drug quality, storage, dispensing guide, and appropriate dosage according to the pharmaceutical recommendation.
(2) Objectives:	To establish a central veterinary drug store that oversees the importation and licensing of quality drugs for the private sector veterinary stores in South Sudan. A system of established private sector veterinary stores that provide not only drugs but all aspects of agro-inputs for the livestock industry such as feed supplements, equipment, and day old chicks.
(3) Overall description including temporal and spatial extent of project:	Establishment of a central veterinary drug store that is owned and operated by the Directorate of Veterinary Services will ensure oversight of all drugs coming into South Sudan, and that private veterinary stores are licensed to sell these drugs. Licenses will be given to private veterinary stores after a specified set of standards have been met. For example, the store is owned or has in their employment a certified and licensed veterinarian; they have functioning cold storage for drugs, etc. A central drug store will also ensure that drugs that are imported are not expired, are stored in refrigerated or cool conditions, and are from reputable pharmaceutical companies. It is important that the government of South Sudan create tax breaks for private sector veterinary stores so they can sell livestock drugs and other equipment at a price that livestock producers can afford. If producers cannot afford the drugs then their herds go unvaccinated which causes national disease outbreaks and huge losses to the livestock industry. There will be a need to establish a functional cold chain system for vaccination storage and distribution from the central drug store to states, counties, and remote rural areas. Access to veterinary drugs by livestock keepers will be a major benefit for the livestock industry. Other agro-inputs for the livestock industry would be sold through private sector veterinary stores and tax breaks should be provided for these inputs also. For example in the United States there are many farm stores that sell veterinary drugs, animal health supplies (syringes, needles, etc.), feed supplements, animal and poultry feed, equipment (fencing, panels, shelters), and day old chicks (with accompanying supplies such as heat lamps, chick starter feed, and feed and watering equipment for baby chicks). This type of farm store is what is envisioned for the private sector in South Sudan to create a functioning and sustainable livestock industry in the long term.
(4) Component structure:	Component 1: Establishment of a national central veterinary drug store. Component 2: Development of policies and standards for private veterinary stores. Component 3: Develop regulatory and inspection policies for private sector veterinary drug stores. Component 4: Technical assistance for private sector veterinary drug stores

Items	Information

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:

Component 1: Establishment of a national central veterinary drug store.

Activity 1.1: Conduct an assessment of the best location in Juba to construct a national central veterinary drug store.

Activity 1.2: Once a location has been chosen, a transparent bid process will be implemented with separate bids being awarded for construction of the facility and for the procurement of equipment.

Activity 1.3: Once the facility has been constructed and equipped it will be stocked with high quality veterinary drugs that will be sold to private sector veterinary stores.

Outputs: Fully functioning national central veterinary drug store. An assessment team that will assess the location, oversee the bidding process, oversee the construction of the facility, oversee the procurement of equipment, and assist with procurement of veterinary drugs to stock the new central drug store will consist of the following individuals:

- 1 international veterinarian consultant with experience in pharmaceuticals and drug store operations.
- 1 Director General of the Directorate of Veterinary Services
- 2 senior level veterinary officers from the Directorate of Veterinary Services (DVS)
- 2 junior level veterinary officers from the (DVS)

It is estimated a facility of 140 square meters will be needed with large refrigeration rooms, generators to ensure refrigeration is continued when there are power outages, and appropriate office space. An estimated cost for constructing and equipping the facility is $80,000 USD. Purchasing veterinary drugs to stock the central drug store would cost approximately $100,000 USD. It is estimated that construction and stocking of the central drug store would take 1 year. The central drug store would import the drugs tax free and then charge very minimal mark up costs when selling to private sector veterinary stores. One incentive, to encourage private stores not to by-pass the central government store, would be that private stores not purchasing from the central store would pay full taxes.

Component 2: Development of policies and standards for private veterinary stores.

Activity 2.1: Policies and standards would be developed for private veterinary stores including standards for licensing (including annual license fees), routine inspections from the DVS, policy for purchasing drugs, written standards for safely storing, selling, dispensing drugs, and development of cold chain strategies. This team would also provide a draft of proposed tax breaks for private veterinary stores that the government would then vote on and hopefully approve.

Outputs: Policy and standards developed by a team consisting of the following individuals:

- 1 international veterinarian consultant with experience in pharmaceuticals and drug store operations.
- 1 Director General of the Directorate of Veterinary Services
- 2 senior level veterinary officers from the Directorate of Veterinary Services (DVS)
- 2 junior level veterinary officers from the (DVS)

This component and activity would take 3 months to complete.

Component 3: Develop regulatory and inspection policies for private sector veterinary drug stores.

Activity 3.1: Policies would be developed specifying regulatory standards and inspection standards for private veterinary stores.

Outputs: Private veterinary stores are regulated and inspected. The same team listed under Component 2 would implement this activity.

This component and activity would take 3 months to complete and would then be provided to the appropriate government officials in order for the policies to become law. Once the policies become law routine inspections would need to take place at each private sector veterinary store. 10 state veterinary officers (1 per state) would be assigned to complete these inspections and if necessary issue fines and penalties for non-compliance.

Component 4: Technical assistance for private sector veterinary drug stores.

Activity 4.1: A team of international and national specialists will provide technical assistance to private sector veterinary stores. Technical assistance would be based on the standards created by the DVS. Training subjects would include proper storage of drugs, international companies that produce quality drugs, how to dispose of expired drugs, type of animal health supplies stores would need to sell, type of agro-input supplies and equipment private stores would have the option of

Items	Information
	selling. Outputs: Trained owners of in private veterinary stores. A training team would consist of the following individuals: 1 international veterinarian consultant with experience in pharmaceuticals and drug store operations. 2 senior level veterinary officers from the Directorate of Veterinary Services (DVS) 2 junior level veterinary officers from the (DVS) 5 days of training would take place in Juba and all private sector veterinary store owners would be invited to attend. It is difficult to quantify the exact number of attendees but it would be hoped that at least 150 would attend this training. The training would be free but attendees would need to cover their own transport and lodging costs.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The establishment of a central veterinary drug store is vital for delivery of quality drugs to private veterinary stores. The drugs will be consigned according to South Sudanese specifications with special reference to livestock diseases affecting livestock in the country. Capacity building from international consultants and DVS officers will be essential for better management of the drugs and equipment.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries would be private sector veterinary stores because they would be purchasing quality drugs with significant tax breaks. Secondary beneficiaries would be livestock producers. In addition the nation will benefit due to the acceptance of healthy animals for international trade.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A central veterinary drug store that sells quality drugs to licensed private sector veterinary stores for the purpose of preventing national disease outbreaks. Livestock producers will have access to affordable veterinary drugs and livestock industry agro-inputs from reputable private sector veterinary stores.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures	(Negative) • There is no negative aspect associated with this project. (Positive) • The creation of a central drug store and the distribution of affordable drugs across South Sudan will have a significant positive impact on the livestock industry by preventing disease and death and increasing the income of livestock producers.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No central veterinary drug store • No standard government policy and standards • Unknown number of private veterinary stores
(2) Measurable indicators and situation at the end point:	• A functioning, transparent, central veterinary drug store • Number of licensed private veterinary stores • Number of store owners attending technical training
(3) Methods of measurement and sources of information:	• Number of operating licences approved by DVS authorities • Attendance sheets from training
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	The assessment and policy team will need to consist of experienced international and national veterinarians. Private veterinary store owners should either be licensed veterinarians or have licensed veterinarians as full time employees.
(2) Required human resources in the public sector (Positions, grades and numbers):	For the central veterinary drug store (on-going): • 1 senior level veterinarian that will serve as store manager • 1 senior level veterinarian (technical expert) • 2 junior level veterinarians • 2 mid-level administrative staff For completing the assessment, policy, and training phases of this project: • 1 Director General of the Directorate of Veterinary Services

Items	Information
	• 2 senior level veterinary officers from the Directorate of Veterinary Services (DVS) • 2 junior level veterinary officers from the (DVS)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international veterinarian consultant with experience in pharmaceuticals and drug store operations. 18 month assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk for this project is high. Having the drugs distributed from the central drug store to the private stores is risky because of lack of refrigeration and well defined cold chain methods. A solution would need to be portable coolers packed with ice that will be used to transport drugs. Another major risk would be private stores not storing the drugs properly but this can be mitigated by routine inspections from state veterinarian officers. It is recommended that private stores seek out and hire female veterinarians so that women livestock caretakers (probably the majority of livestock caretakers in South Sudan are female) feel more comfortable when receiving consultations on administrating drugs to their animals.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This will be a private sector led project with oversight being provided by the Directorate of Veterinary Services. It is essential tax breaks are given to implement the growth of these private veterinary stores.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going: For the central veterinary drug store (on-going): • 1 senior level veterinarian that will serve as store manager • 1 senior level veterinarian (technical expert) • 2 junior level veterinarians • 2 mid-level administrative staff • State veterinarian inspectors (on-going) • 10 junior or mid-level state veterinarian officers (1 per state) Other on-going expenses: • Drug purchasing for the central veterinary store but it is assumed that once the store starts selling to the private sector they will be self-sustaining in purchasing future drugs. • Office maintenance and supplies for central drug store • On-going utility costs and maintenance for central drug store • Computers • Communications allowances (cell phones and internet) • Transportation allowances

02.05 Development of a central and regional veterinary drug stores project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**1,512**	**756**																			**2,268**	**567**	**33%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**1,512**	**756**																			**2,268**	**567**	**33%**
1 International consultant (veterinarian)						1,512	756																			2,268	567	33%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment						**720**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**											**4,320**	**1,080**	**62%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings						**280**																				**280**	**70**	**4%**
1 Construction of national central veterinary store						280																				280	70	4%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment						**440**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**											**4,040**	**1,010**	**58%**
1 Equipment for the national central veterinary drug store						40																				40	10	1%
2 Drugs for the national central veterinary drug store						400	400	400	400	400	400	400	400	400	400											4,000	1,000	58%
3 Subsidies, equity and loans							**338**																			**338**	**84**	**5%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector							**338**																			**338**	**84**	**5%**
1 Training for 150 private veterinary drug stores (per diem)							203																			203	51	3%
2 Training for 150 private veterinary drug stores (transportation)							135																			135	34	2%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,232**	**1,494**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**											**6,926**		**100%**
Total (USD '000)						**558**	**373**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**												**1,731**	
% to total						**32%**	**22%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**											**100%**		
5 Revenue (Sales of drugs to cover their procurement for the following year)																												
Total (SSP '000)							**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**	**400**											**3,600**		
Total (USD '000)							**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**												**900**	
% to total							**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.6 Development of feed testing and analysis laboratory project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of feed testing and analysis laboratory project			
(3) Project ID:	0 2 . 0 6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 7,462,000	USD 1,865,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	09	MLFI-RD	Directorate of Animal and Fisheries Research and Development	Table 2-6
	05;06	MLFI-AP;FA	Directorate of Animal Production and Range Management; Directorate of Fisheries and Aquaculture Development	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	To fully develop the poultry, aquaculture and livestock value chains producers must have access to feed. Regardless of the production system followed by the producers there is still a need for feed manufacturers. More specifically, all ruminants require supplementary feed for optimum growth, even on high quality forages and the requirement increases during dry or wet seasons. Moreover, poultry and aquaculture production is highly influenced by feed sources. The goal of feed manufacturing is to produce feed that meets intended specifications in nutritional composition. Feed manufacturing is a very competitive activity and consistent feed quality is a key growth driver. Quality control and assurance have emerged as a critical feature in the business of feed manufacturing. A quality control system involves personnel being properly trained to ensure a high level of organisation, documentation and policing of various procedures and processes necessary to guarantee the basic quality of feed ingredients and feed. The need for a feed analysis and testing laboratory is mandatory for any country's feed manufacturing industry. Laboratory analysis is a critical aspect of a quality control measures. The analysis of raw materials can help the feed manufacturer in 3 specific ways: 1. Prediction of nutritive values of feed ingredients 2. Avoiding contaminants 3. Detecting adulterants 1) Prediction of nutritive values of feed ingredients: Knowledge of feed ingredient composition is vital for nutritionists in order to meet precisely the nutrient requirements of livestock. The nutrient values in any feed ingredient vary from season to season, source to source, batch to batch and also within a batch. Therefore feed ingredients need to be analysed carefully for their nutritive value before being incorporated into a diet. 2) Avoiding contaminants: Substances that are already present in feed ingredients or acquired during processing, handling, and storage that may be harmful to livestock and poultry, are classified as contaminants. Mycotoxins in feed due to mould growth and pesticides used by farmers are examples of contaminants. A feed laboratory detects these contaminants which protects livestock and poultry. 3) Detecting adulterants: Intentional contamination of feed is termed adulteration. Some dishonest feed manufacturers adulterate feed ingredients for economic benefit. Examples include adding sand or sawdust to a feed ration to increase weight and volume.
(2) Objectives:	To develop functioning feed analysis laboratories in each operational feed mill plus a central feed analysis laboratory housed at a university or livestock research centre.
(3) Overall description including temporal and spatial extent of project:	This project is primarily a private sector led business and will develop within operating feed mills. However, besides having a functional feed analysis laboratory in each feed mill, there needs to be a central laboratory based at either inside a university or livestock research centre to periodically test the accuracy of private feed mill testing laboratories. This will provide quality control oversight of the feed manufacturing industry. Feed analysis laboratories have become much more technologically advanced during the past 10 years. Each feed mill should a have a Near Infrared Spectrometry (NIRS) machine to analyse feed manufactured in their mills. The central laboratory that is based at a university or research centre should be a combination of both a "wet" lab (lab that uses chemical agents to test feed) and have the ability to test feed utilizing a NIRS machine. Each state will need to have at least 1 government employee that serves as an inspector for the private feed industry. This inspector would be empowered to enter private industry feed mills, collect random samples, and take samples back to the central laboratory for testing. Enforcement policy would be determined by the Ministry for those feed mills that are not in compliance with sanitary feeds. This project provides excellent linkages with the crop and fisheries industries. Feed analysis equipment is essential for analysing plant species as well as analysing fish feed to provide nutrient contents.
(4) Component structure:	Component 1: Assessment Component 2: Facility development by private sector with technical assistance from a donor agency. Component 3: Facility development by public sector (central laboratory) with technical assistance from a donor agency.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment Activity 1.1 and Outputs: Field assessment conducted by 2 staff from MLFI of the best

Items	Information
	location to house the public sector (central) feed analysis laboratory. (3 months) Component 2: Feed analysis laboratory development in operational feed mills Activity 2.1: Identify operational feed mills willing to invest and operate a feed analysis laboratory. Outputs: 1 international consultant will provide technical assistance to feed mills willing to invest in feed analysis equipment. 1 year assignment for international consultant. Component 3: Feed analysis laboratory development for the public sector housed in a central location (preferably in an existing MLFI building in Juba). Activity 3.1: Create a transparent bidding process for the construction of either a new laboratory or remodel a current laboratory to fit the needs of feed analysis methods. Outputs: Contract awarded to competent construction company. Activity 3.2: Construction and/or remodelling of the laboratory at the selected location. Outputs: Costs of constructing a new central laboratory would be approximately the following: Building with laboratory and office space. 185 square meter building~ $36,980 USD Activity 3.3: Procure all equipment needed to operate a functional "wet" lab with procurement being awarded through a transparent bid process. Outputs: The central laboratory would have "wet" lab capability as well as a modern NIRS machine for quick diagnostics. The costs would be approximately: Wet lab equipment and supplies~ $25,000 NIRS machine with attached computer and software~ $6,000 Mycotoxin analysis instrument~ $2,000 Activity 2.4: Provide technical assistance to this laboratory in order for staff to be trained properly. Outputs: 1 international consultant would spend 6 months training central laboratory staff. Training would take place inside the central laboratory once construction and stocking of equipment has finished. Training would take place for 8 laboratory scientists/5 days per week/6 months. Component 4: Develop an inspection and quality control plan to provide government oversight of the private industry feed manufacturing practices. Activity 4.1: Ministry of Agriculture needs to create policy and legal framework for the oversight, inspection, and enforcement of quality control procedures for private feed mills and feed analysis laboratories. Outputs: This will be completed in CAMP project titled "National and State livestock policy and legal framework establishment and maintenance project".

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Qualified international feed analysis laboratory specialists would be used to train South Sudanese counterparts and help with procurement of laboratory equipment and calibration of equipment. The international team and technical specialists will work with a team of identified professionals from South Sudan. • 2 senior level MLFI staff to find a central laboratory location. • 3 senior level scientists with experience in feed testing and analysis laboratory work. • 5 entry level laboratory assistants. • 10 government feed industry inspectors (one for each state). • 1 international consultant (feed analysis specialist). 1 year assignment (6 months) training central laboratory staff and 6 months training feed mill laboratory staff. • 1 international consultant (feed, crop, pesticide, inspection expert) to train 10 government inspectors. 6 month assignment.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are the livestock, poultry, and aquaculture producers of South Sudan because of a local supply of quality feed. Secondary beneficiaries are consumers of animal, poultry and aquaculture protein since the improved quality output by a feed mill will increase protein production.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A functioning and profitable feed manufacturing facility that will contribute to the economic growth of the livestock, poultry and aquaculture industries.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right)	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society

Items	Information
	d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures	(Negative) • The actual impact to the environment from the laboratory will be minimal. (Positive) • The positive impact to livestock producers will be substantial. The reason being that contaminants that found in feed that could kill livestock and/or poultry will be identified thereby saving livestock producers livelihoods. Consumers will also benefit by consuming meat products that were produced by being fed quality, non-contaminated feed.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No functional feed analysis laboratories in South Sudan
(2) Measurable indicators and situation at the end point:	• A functioning feed analysis laboratory in each operational feed mill • A central public sector feed analysis laboratory • Legislation that includes inspection and quality control policies for the feed manufacturing industry.
(3) Methods of measurement and sources of information:	• Directorate of Planning • Private Sector • Public Sector
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal and Fisheries Research and Development; Directorate of Animal Production and Range Management; Directorate of Fisheries and Aquaculture Development

2.7 Required human resources

(1) Principle of human resources management:	• Transferring knowledge to the local specialists (capacity building).
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 senior level MLFI staff to find a central laboratory location (assessment). • 3 senior level scientists with experience in feed testing and analysis laboratory work. • 5 entry level laboratory assistants • 10 government feed industry inspectors (one for each state)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Qualified feed industry consultants. Recommend consultants that have both equipment and business experience. Uncertain on number of actual staff but at least one senior level scientist will be needed to operate feed analysis laboratories in each feed mill. Each scientist would need at least one lab assistant. • 1 international consultant (feed analysis specialist). 1 year assignment (6 months training central laboratory staff and 6 months training feed mill laboratory staff. • 1 international consultant (feed, crop, pesticide, inspection expert) to train 10 government inspectors. 6 month assignment. • 1 senior level scientist for each feed mill laboratory. • 1 lab assistant for each feed mill laboratory.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risks are multiple. First is finding qualified scientists in South Sudan that have the expertise or background to be trained in this specialized field of laboratory work. Second is procuring the equipment necessary to test feed. The equipment is expensive and feed mills have to be committed to investing in this equipment as part of their overall feed mill investment plan.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a private sector and public sector function.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	• There will need to be ongoing training of scientist and staff in the private and public sectors. • Routine maintenance and upkeep of laboratory equipment and supplies. • Routine inspection from government inspection officers will need to take place for the private industry. • Samples will be collected by government inspectors and then taken to be tested at the central laboratory. • Up to date computer equipment and specialized software specific to feed analysis laboratories will be needed and updated periodically. • Transportation allowances for government feed inspector staff. • Communication allowances (cell phone and internet capability) for laboratory staff and government feed inspector staff. Human resources in the public sector (ongoing): • At least 3 senior level scientists with experience in feed testing and analysis laboratory work.

Items	Information
	• At least 5 entry level laboratory assistants. • At least 10 government feed industry inspectors (one for each state). Human resources in the private sector (ongoing): • 1 senior level scientist to operate feed analysis laboratory for each feed mill. • 1 staff assistant to provide basic office duties for each feed mill.

02.06 Development of feed testing and analysis laboratory project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,160**	**557**	**557**	**557**	**557**	**557**	**557**	**557**	**557**	**557**											**7,170**	**1,792**	**96%**
1 Deployment of government staff							**540**	**540**	**540**	**540**	**540**	**540**	**540**	**540**	**540**											**4,860**	**1,215**	**65%**
1 Food inspection (per diem)							324	324	324	324	324	324	324	324	324											2,916	729	39%
2 Food inspection (transportation)							216	216	216	216	216	216	216	216	216											1,944	486	26%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**2,160**																				**2,160**	**540**	**29%**
1 International consultant (feed analysis)						1,080																				1,080	270	14%
2 International consultant (feed, crop pesticide, inspection)						1,080																				1,080	270	14%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**0**	**17**	**17**	**17**	**17**	**17**	**17**	**17**	**17**	**17**											**150**	**37**	**2%**
1 Fuels for field assessment						0																				0	0	
2 Maintenance of equipment							7	7	7	7	7	7	7	7	7											59	15	1%
3 Supplies and material for lab.							8	8	8	8	8	8	8	8	8											72	18	1%
4 Fuels for inspector (C.E)							2	2	2	2	2	2	2	2	2											18	5	0%
2 Construction of infrastructure and procurement of equipment						**292**																				**292**	**73**	**4%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings						**148**																				**148**	**37**	**2%**
1 Central feed analysis laboratory building in Juba						148																				148	37	2%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment						**144**																				**144**	**36**	**2%**
1 Wet lab equipment (with supplies)						100																				100	25	1%
2 NIRS machine (with attached computer and software)						24																				24	6	0%
3 Mycotoxin analysis instrument						8																				8	2	0%
4 ICT equipment						12																				12	3	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,452**	**557**	**557**	**557**	**557**	**557**	**557**	**557**	**557**	**557**											**7,462**		**100%**
Total (USD '000)						**613**	**139**	**139**	**139**	**139**	**139**	**139**	**139**	**139**	**139**												**1,865**	
% to total						**33%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.7 Development of livestock marketing project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of livestock marketing project			
(3) Project ID:	0 2 . 0 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2018/19	Ending FY: 2022/23	Duration (years): 5	
(5) Total investment:	SSP 5,456,000	USD 1,364,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	04	MLFI-IM	Directorate of Investment, Marketing, and Supplies	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:

The considerable price risk and costs in livestock marketing in South Sudan arise naturally as the result of several factors: pastoralists' multiple objectives in livestock holding; a legacy of limited private marketing capacity; considerable environmental variation; rudimentary physical infrastructure; weak rural institutions for market information dissemination; price formation and contract enforcement; assurance of physical security; and, preventive animal health services. The effect of the factors appears in the form of high transaction costs to livestock marketing; inelastic demand and supply that lead to considerable price variability; and, low average livestock prices received by producers. The weaknesses of the marketing system impose enormous direct and indirect costs on South Sudanese pastoralists and livestock producers. With all of these negative factors listed above, the following provides some positive factors: The CAMP Situation Analysis Report (December, 2013) states:

> In urban areas, the demand for animal source foods is high and will continue to grow driven by population growth (2.43% per annum) and the rapid urbanization that has characterized South Sudan since the CPA. Juba is the fastest growing city in Africa, estimated to grow at more than 20% annually, propelled by the increased expenditure by government and new inflows of money from growth of the services and construction sectors, small businesses and development aid. Incomes grew from USD 90 in 2004 to USD 500 in 2010.

Due to this growth there is tremendous potential to market livestock (ruminants) and livestock products. This project is crucial so that the livelihoods of the rural poor in South Sudan can be improved.

There are areas of livestock production showing emerging trends for commercialization and where target interventions could unlock immediate bottlenecks in the sector and drive competitiveness.

Hides and Skins
There is an annual production of 170,000 hides and 1, 6 million skins but the economic value of these by products is hardly realized due to the absence of an organized hide and skin market.

Milk
Only 10% of all milk collected locally is sold in the market and goat and sheep milk production is completely neglected. Of the total milk produced, it has been claimed 90% is consumed at home. Therefore; there is a need to invest in capacity building and a shift in attitudes.

Poultry
South Sudan is mainly relying on subsistence and household poultry production. However with the increasing population there is high demand for white meat. Currently south Sudan is experiencing high imports of chicken meat and eggs. Therefore, there is a need to stimulate local production to satisfy domestic needs for chicken, eggs and other types of birds. This in turn will improve rural household income and food security.

Beekeeping
Beekeeping is an important livelihood strategy in many rural communities of South Sudan. There is an overall lack of training, funding and lack of organized markets for bee products. This segment of the livestock industry needs enhancement to foster household income and greater rural economy development.

Conflicts due to competition for grazing land and watering resources are further affecting livestock marketing negatively; this requires policy interventions by MLFI. Pastoralists need access to market towns and also identified border trade points. Livestock transportation policy is necessary for a functional livestock marketing system. Also regional trade policy is needed for harmonization of regulations and establishment of appropriate standards for trading of livestock.

(2) Objectives:

- To create a modern livestock market system that transforms the traditional (lack of advertising, branding, technology) livestock markets to modern systems. Modern systems will incorporate branding, packaging, advertising, and social media to coordinate with all actors within the industry from the producer all the way up the value chain to the export market.
- Provide training to cooperative groups and associations in the areas of animal product marketing.

Items	Information
	• A consistent and accessible marketing system for all livestock producers to form a profit base and export channels.
(3) Overall description including temporal and spatial extent of project:	Livestock sector marketing needs to be private sector driven. The government of South Sudan in partnership with donor agencies can provide technical assistance and help with coordination of marketing events such as trade shows. South Sudan has no formal livestock market and value chain study that has been published. The first part of this project will be the assessment of all livestock value chains in South Sudan and the current state of livestock product marketing. Data from this assessment will be published and will serve as a starting point on where to concentrate efforts in strengthening weaknesses found in the livestock market. An example of a good livestock marketing study is the USAID funded study done in neighbouring Kenya in 2006. The study is titled: "Kenya Livestock Sector Study: An analysis of pastoralist livestock products market value chains and potential external markets for live animals and meat". This type of study should be replicated in South Sudan. There are a number of CAMP Project Profile sheets that focus on the development of cooperatives and associations in meat, dairy, poultry, and beekeeping. Marketing training would be targeted to these newly formed cooperatives. Cooperatives will have better success in marketing their products than individuals who have to embark on marketing channels on their own.
(4) Component structure:	Component 1: Livestock market value chain study Component 2: Training Component 3: Trade shows

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Livestock market value chain study Activity 1.1: A team consisting of international and national specialists will conduct an in-depth livestock market value chain study for South Sudan. Outputs: The team will consist of the following: 1 international marketing consultant (background in livestock value chains) 2 MLFI livestock marketing or agribusiness officers The team will take 1 year to complete an in-depth study of all livestock value chains in South Sudan including: meat, hides and skins, dairy, poultry, eggs, and beekeeping. This study will be published and made available to all stakeholders. Component 2: Training Activity 2.1: A training team consisting of international and national specialists will develop training a curriculum for existing livestock value chain cooperatives throughout South Sudan. Training will be then implemented using the developed curriculum to as many cooperatives as possible. Marketing training subjects would include: branding, packaging, promotional techniques, value of cooperatives in marketing their products, basic financial management, importance of producing quality products, and using modern technology for advertising. Outputs: The training team will consist of the following: 1 international marketing consultant (background in livestock value chains) 2 MLFI livestock marketing or agribusiness officers 10 state livestock extension workers (1 from each state and those chosen that have marketing backgrounds). Training would consist of 3 days at each cooperative. The number of cooperatives trained is difficult to quantify because they have not been formed. However, rough estimates would be at least 20 cooperatives (2 from each state) for a total 60 days of training. The main training team, consisting of the international consultant and 2 MLFI officers, would be at every training session, but the state livestock extension workers would only be at the training located in their state. Component 3: Trade shows Activity 3.1: A marketing team will assist cooperatives in developing and implementing a national livestock products trade show and exhibition in Juba. Outputs: A marketing team would consist of the following: 1 international marketing consultant (background in livestock value chains) 1 international trade show consultant 5 MLFI livestock marketing or agribusiness officers 5 MLFI livestock extension officers 20 college students from local universities that are majoring in marketing or agribusiness. These students would be paid interns to help implement the trade show. A 5 day trade show would take place in Juba where livestock producers from throughout South Sudan can bring their products to showcase and sell. This will help promote rural products, create linkages with vendors and stores, and hopefully start a tradition of holding an annual trade show. Implementing trade shows takes long hours and hard work. This trade show would take at least 1 year to plan before implementation. The South Sudanese government in cooperation with a donor

Items	Information
	agency would have to provide the seed funding for this trade show. It would be expected that industry vendors would pay vendor fees. Vendor fee revenue would go towards implementing future trade shows. After approximately 3 years it would be expected that the trade show would be a private sector, self-sustainable event.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers for this project include international consultants specializing in the marketing of livestock products such as meat, dairy, and poultry. National specialists from MLFI would also provide service and would need to have agribusiness and/or marketing backgrounds.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are livestock producers. They will have marketing channels created to sell their products and generate income. The secondary beneficiaries are the consumers of livestock products in South Sudan.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A functional and sustainable livestock marketing system that allows producers and consumers to have economic and physical access to potential domestic and trans – boundary markets for livestock and livestock products.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Since this project concentrates on conducting a study and training there is no harm or impact to the environment. (Positive) • Creating marketing channels has a significant positive impact on rural producers, women's groups, and all stakeholders in the livestock industry by generating income and creating food security.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No known marketing channels in South Sudan
(2) Measurable indicators and situation at the end point:	• Published livestock market value chain study • Number of cooperatives trained • Annual trade show exhibition
(3) Methods of measurement and sources of information:	• Published study • Training attendance sheets • Trade show survey completed
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of Investment, Marketing and Supplies

2.7 Required human resources

(1) Principle of human resources management:	• Specialists in livestock marketing and agribusiness are essential to this project.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 5 mid-level or senior MLFI livestock marketing or agribusiness officers • 5 junior or mid-level MLFI livestock extension officers • 20 college students from local universities that are majoring in marketing or agribusiness. These students would be paid interns to help implement the trade show.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international marketing consultant (background in livestock value chains). 2 year assignment. • 1 international trade show consultant. 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	Low	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project is low. There currently is no known marketing system in South Sudan. Any progress made through this project is a positive with no risk.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a private sector and public sector partnership with and cross ministry cooperation.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine	Human resources on-going:

Items	Information
activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	• 2 mid-level or senior MLFI livestock marketing or agribusiness officers • 2 junior or mid-level MLFI livestock extension officers • 20 college students from local universities that are majoring in marketing or agribusiness. These students would be paid interns to help implement the trade show (these interns would be temporary workers working possibly only 3 months out of the year). On-going expenses: • Communication allowances • Transportation allowances • Computers • Office maintenance and supplies

02.07 Development of livestock marketing project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project				**1,602**	**2,114**	**540**																				**4,256**	**1,064**	**78%**
1 Deployment of government staff				**90**	**50**																					**140**	**35**	**3%**
1 Market value chain study (per diem)				54																						54	14	1%
2 Market value chain study (transportation)				36																						36	9	1%
3 Training for cooperatives (per diem)					32																					32	8	1%
4 Training for cooperatives (transportation)					18																					18	5	0%
2 Procurement of administrative services (contracted)					**12**																					**12**	**3**	**0%**
1 Printing of the livestock market value chain report					12																					12	3	0%
3 Procurement of professional services (contracted)				**1,512**	**2,052**	**540**																				**4,104**	**1,026**	**75%**
1 International consultant (marketing)				1,512	1,512																					3,024	756	55%
2 International consultant (trade show)					540	540																				1,080	270	20%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans						**300**	**400**	**500**																		**1,200**	**300**	**22%**
1 Provision of cash and/or in-kind subsidies						**300**	**400**	**500**																		**1,200**	**300**	**22%**
1 Support livestock trade show and exhibition (3-5 days in Juba)						300	400	500																		1,200	300	22%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)				**1,602**	**2,114**	**840**	**400**	**500**																		**5,456**		**100%**
Total (USD '000)				**401**	**529**	**210**	**100**	**125**																			**1,364**	
% to total				**29%**	**39%**	**15%**	**7%**	**9%**																		**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.8 Development of livestock water catchment and watering areas project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of livestock water catchment and watering areas project			
(3) Project ID:	0 2 . 0 8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 16,833,000	USD 4,208,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA3	Public infrastructure development	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	02;08	MLFI-SC;EX	Directorate of State Coordination and Special Projects; Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	209	SP-EI	SD/ID Economic infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	X
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Water is an important natural resource. It is a critical nutrient for livestock production yet it is often mismanaged. Fresh clean water is important for efficient animal production. One area in which the national government can assist livestock producers regardless of herd size is with the identification and construction of community water access points in strategically located areas. The targeted areas should be in regions with large numbers of livestock. Providing water access points could lead to stability by reducing conflict over access to fresh water and allowing open access. Moreover, the program is consistent with pastoralist programs being promoted in Uganda and Kenya which are addressing water access points. The excavation of water catchments in identified areas in the dry regions of South Sudan will control livestock movement within specific grazing allotments. This will help reduce the incidents of conflict over water sources, green pastures and other related problems such as cattle raiding and abduction of children. Disease control will be easier as the diseases can be treated at the place where the outbreak occurs before it spreads to other livestock settlements. The long distance that livestock will have to travel for water will be reduced thus reducing energy loss. Livestock across the country depend on natural water bodies as the main sources of water. The seasonality of these sources is one of the triggers of migration and of inter-community conflict over scarce water during prolonged dry seasons and periods of drought. The trend is towards more permanent water resources or to areas where it is possible to dig temporary wells. In the past, development of water infrastructure, such as haffirs (manmade lake/ water reservoir), was common, as documented in the 1955 Government of Sudan report. Pastoral communities hand dig micro-scale haffirs, but these are often too shallow and inadequate for their needs, drying up during the dry season. According to the CAMP situation analysis report (December 2013), a 30 million cubic-meter water haffir was constructed under the South Sudan Recovery Fund in Jie, Kapoeta East County. This curtailed Toposa migration for the first time in the living memory of the community, deflecting the occurrence of tensions and violent conflicts often associated with the migration. A successful project such as this could be duplicated elsewhere in South Sudan within the framework of this project. There is a caution however, such large infrastructures are costly and could lead to degradation of rangelands. More localised infrastructure, which is aligned to rangeland resources, cheaper and amendable to community management, is also needed.
(2) Objectives:	To address the need for water access points for the livestock industry and train individuals in the management and proper maintenance of constructed water catchment areas.
(3) Overall description including temporal and spatial extent of project:	This project will identify water access points for livestock, design the appropriate method for water harvesting, arrange for financing and construct the facility. Training modules will be developed and delivered while developing water user associations. Another major goal of the project is to refine and disseminate regional and national maps on water resources. These activities strengthen community management of these infrastructures to enhance sustainability. It will support knowledge management, and coordinate identification of sites for development of water infrastructure. A pond, no matter how well planned and built, must be maintained in order to preserve its storage capacity as well as proper functioning of the watering facilities throughout its expected life. When fenced, a pond needs permanent maintenance in order to ensure the integrity of the fence during the whole period of presence of water in the reservoir. However this can be costly if maintenance is ignored. Livestock can knock fences down if left unattended thus resulting in the purchase of new fencing. In the case of non-fenced ponds, the main objective of maintenance is to remove the wind or water transported material (soil and silt) which accumulates and decreases the storage capacity of the pond. This operation is necessary every 4 to 5 years.
(4) Component structure:	Component 1: Develop a needs assessment. Component 2: Design and construct livestock watering facilities Component 3: Formation of water associations Component 4: Design and implement training modules

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Develop a needs assessment. Activity 1.1: An assessment team consisting of international and national specialists will conduct a needs assessment including the following criteria: Review of livestock migratory routes for water access Review and identify high livestock populations for water access Review soil types and condition of surrounding rangelands as part of the

Items	Information
	identification process for water catchments Determine areas that have a history of conflict with watering livestock and make these locations a priority when constructing water catchments Outputs: The assessment team will consist of the following individuals: 1 international consultant (assessment specialist) 1 international consultant (hydrologist with experience in constructing water structures) 1 international consultant (GPS/GIS specialist with extensive mapping experience) 2 senior level MLFI Range Management officers 2 senior level Ministry of Water Resources and Irrigation (MWRI) officers This assessment team will visit existing catchment areas throughout South Sudan to determine successes and failures. The team will conduct extensive field visits to interview tribal leaders, county CAHWs, state government officers, and other community leaders to determine politically viable areas for constructing water catchments. This information along with the technical data collected will be written, published, and shared with all stakeholders. The assessment will take 8 months to complete. Component 2: Design and construct livestock watering facilities Activity 2.1: A design and implementation team will create schematics for the construction of water catchment areas along with specifics on whether they will be catchment, borehole wells, solar, or wind mill powered. With this activity it is important to finalize financing and gain the proper approvals. Outputs: A design and implementation team consisting of the following individuals will complete this activity: international consultant (hydrologist with experience in constructing water structures) 1 international consultant (GPS/GIS specialist with extensive mapping experience) 2 senior level MLFI Range Management officers 2 senior level Ministry of Water Resources and Irrigation (MWRI) officers This team will present their schematics and construction plans to the government agency and/or donor agency that will be financing the construction. Activity 2.2: Complete a transparent bidding process and once a contractor is chosen construct watering areas based on approved schematics and financing plans. Outputs: It is difficult if not impossible to quantify the exact number of water catchment areas that will be constructed until financial donors are committed. The following statement comes from the CAMP Situation Analysis report and the specified locations would be good areas to start construction of watering areas: “Three haffirs are being constructed within the Greater Kapoeta area. Haffirs are planned in Duk, Pibor, Ayod and Akobo Counties under SSRF funding in areas most prone to water related conflicts after the success of four haffirs in Nyirol and Uror Counties. SSRF also funded two haffirs in Tonj East, Warrap State”. With this information it is logical to start with at least 9 water catchment areas (referred to from now on as haffirs). An estimated cost per haffir that averages 5,000 cubic meters would be: $55/cubic meter (using a backhoe for digging) x 5,000 cubic meter capacity pond= $275,000 per pond. This price could go up if more sophisticated technology such as drilling boreholes for wells, wind mill or solar power for pumping water from wells, etc. It is estimated that construction could take at least 1 year and possibly longer to complete 9 haffirs. Component 3. Formation of water associations Activity 3.1: A team of international and national specialists will form water association groups. Each group will be formed around the locale of the newly constructed haffir. Outputs: The water association team will consist of: 1 international cooperative/association development specialist 2 senior level MLFI Range Management officers 2 senior level Ministry of Water Resources and Irrigation (MWRI) officers Water associations would be developed as soon as construction is completed on a specific structure. For this reason it is difficult to quantify a time period. The international consultant would be brought in after a series of haffirs have been completed for short term assignments. Each short term assignment could last 3 months. Component 4. Design and implement training modules Activity 3.1: A training team consisting of international and national specialists will provide training seminars to users of the newly constructed haffirs. Training will consist of proper use, maintenance, conflict resolution, and importance of clean

Items	Information
	water for livestock. Outputs: The training team will consist of: 1 international consultant (hydrologist with experience in constructing water structures) 1 senior level MLFI Range Management officer 1 senior level Ministry of Water Resources and Irrigation (MWRI) officer Once the first round of haffirs has been constructed the team will conduct a 5 day training for the users of the haffir. The training will take place at the location of the haffir. After this first training phase, the international consultant will no longer be needed and the MLFI and MWRI specialists will be expected to conduct future training as haffirs are constructed.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• Technical engineers that understand hydrology and building structures • Specialists in boreholes and drilling • Specialists in catchment hardware • Assessment specialists • Cooperative/association development specialists
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are all livestock producers within the locale of the newly constructed haffirs.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Water access points will be constructed for livestock in crucial areas. This will have a major impact on animal care, production, efficiency and an expected decrease in water related conflicts.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right)	Negative: d Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Permanent water structures can be the source of negative environmental impacts. Livestock tend to loiter at water holes, degrading the land and soil, as well as overgrazing the area around watering sources. To reduce this impact MLFI Range officers need to work with water associations to implement proper range management plans. (Positive) • Construction of haffirs in key locations will provide a positive impact. They will provide water to thirsty livestock and help to reduce the amount of conflict caused from water issues.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• 1 constructed water catchment area and / or haffirs funded by donor agencies + 9 additional ones in early planning stages. • No training curriculum created or implemented. • No water user associations currently exist.
(2) Measurable indicators and situation at the end point:	• Number of identified haffirs. • Quantity of training given. • Number of water user associations developed.
(3) Methods of measurement and sources of information:	• Assessment documents • Construction approvals • Number of reported working access points as counted by local officials • Attendance sheets from training
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of State Coordination and Special Projects; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	• Providing capacity building for those employees responsible for constructing and maintaining water catchment areas.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 senior level MLFI range management officers • 2 senior level Ministry of Water Resources and Irrigation (MWRI) officers
(3) Required human resources in the private sector including	• 1 international consultant (assessment specialist). 6 month assignment. • 1 international consultant (hydrologist with experience in constructing water structures).

Items	Information
consultants (positions, qualification and numbers):	2 year assignment. • 1 international consultant (GPS/GIS specialist with extensive mapping experience). 1 year assignment. • 1 international cooperative/association development specialist. 3 month assignment x 3 assignments (9 months total).

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Risk assessment is high with this project. First water is a valuable resource and can lead to conflict. There are several areas involved and again the possibility for conflict between various tribes exists. The key to solving conflict is to insure haffirs are constructed in areas where all tribes are in agreement. Solutions for developing water access points are unlimited but could be very costly.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Special consideration should be given to the actual location where these catchments are constructed in relation to access for women. In areas where women tend to the livestock it is important they have quick access to water points so that they are close to home. Women should also hold positions of leadership within the water associations.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): For monitoring and helping maintain haffirs: • 2 senior level MLFI range management officers • 2 senior level Ministry of Water Resources and Irrigation (MWRI) officers • 10 state livestock/rangeland officers (one per state) • 2 mid-level national administrative staff Other on-going expenses: • Communication allowance (cell phone and internet) • Transportation allowances • Computers • Office maintenance and supplies

02.08 Development of livestock water catchment and watering areas project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,863**	**1,565**	**485**	**1**	**1**	**1**	**1**	**1**	**1**	**1**											**4,919**	**1,230**	**29%**
1 Deployment of government staff						**148**	**78**	**78**																		**303**	**76**	**2%**
1 Need assessment survey (per diem)						112																				112	28	1%
2 Need assessment survey (transportation)						36																				36	9	0%
3 Water association formation (per diem)							20	20																		40	10	0%
4 Water association formation (transportation)							18	18																		36	9	0%
5 Water association training (per diem)							22	22																		43	11	0%
6 Water association training (transportation)							18	18																		36	9	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**2,700**	**1,485**	**405**																		**4,590**	**1,148**	**27%**
1 International consultant (assessment)						540																				540	135	3%
2 International consultant (hydrology)						1,080	1,080																			2,160	540	13%
3 International consultant (GPS/GIS)						1,080																				1,080	270	6%
4 International consultant (cooperative development)							405	405																		810	203	5%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**15**	**3**	**3**	**1**	**1**	**1**	**1**	**1**	**1**	**1**											**26**	**6**	**0%**
1 Fuels for need assessment survey at 10 states						15																				15	4	0%
2 Fuels for water association formation at 9 sites							1	1																		2	1	0%
3 Fuels for water association training at 9 sites							2	2																		3	1	0%
4 Fuels for monitoring and follow up at 9 sites									1	1	1	1	1	1	1											5	1	0%
2 Construction of infrastructure and procurement of equipment							**5,957**	**5,957**																		**11,915**	**2,979**	**71%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities							**5,957**	**5,957**																		**11,915**	**2,979**	**71%**
1 Construction of water facilities at 9 sites							5,957	5,957																		11,915	2,979	71%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,863**	**7,523**	**6,443**	**1**	**1**	**1**	**1**	**1**	**1**	**1**											**16,833**		**100%**
Total (USD '000)						**716**	**1,881**	**1,611**	**0**	**0**	**0**	**0**	**0**	**0**	**0**												**4,208**	
% to total						**17%**	**45%**	**38%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.9 Formulation of animal health and disease control plan project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock		
(2) Project name:	Formulation of animal health and disease control plan project		
(3) Project ID:	0 2 . 0 9 01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10
(5) Total investment:	SSP 4,322,000	USD 1,080,000	Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA5	Animal health and disease control services	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	05;09	MLFI-EX;RD	Directorate of Livestock and Fisheries Extension; Directorate of Livestock and Fisheries Research	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12
	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	An animal disease emergency such as an outbreak of a trans-boundary animal disease – TAD (i.e. Foot and Mouth disease, Anthrax, Bird flu, African swine fever and Rinderpest) can have serious socio-economic consequences that may affect the whole national economy. If a new disease can be recognized quickly while it is still localized and prompt action taken to contain and then progressively eliminate it, the chances of eradication of the disease are enhanced greatly. Otherwise, eradication may be extremely difficult, costly and even impossible if the disease is not recognized and appropriate control action taken before it becomes widespread or established in wildlife. The target should always be to eliminate progressively and finally eradicate a trans-boundary animal disease. The alternative approach of simply "living with the disease" through the institution of routine vaccination campaigns and/or other disease control measures will in the end prove far more costly and will be a permanent constraint to efficient livestock production systems. Furthermore, the continuing presence of a harmful disease in a country, even if losses are minimized by effective disease control programs, will inhibit the opening of export trade opportunities for livestock and livestock products. Eradication of the disease and provision of scientific proof of freedom from the disease to a level of international acceptability will remove this constraint to international trade. Contingency planning and other preparedness programs for animal disease emergencies should be regarded as providing the key to mounting early effective action in the event of an emergency. These should be recognized as some of the more important core functions of national animal health services.
(2) Objectives:	Develop a comprehensive animal health and disease outbreak reporting, investigation and emergency response plan that is inclusive of veterinarian services at the state, national and regional levels as well as civil service organizations and private farmers.
(3) Overall description including temporal and spatial extent of project:	The two fundamental components of animal disease emergency preparedness planning are the development of capabilities for: • Early warning • Early reaction to disease epidemics and other animal health emergencies. Early warning of diseases Early warning enables rapid detection of the introduction of, or sudden increase in, the incidence of any disease of livestock which has the potential of developing to epidemic proportions and/or causing serious socio-economic consequences or public health concerns. It embraces all initiatives, mainly based on disease surveillance, reporting and epidemiological analysis that would lead to improved awareness and knowledge of the distribution and behavior of disease outbreaks. The success of a country's capability for rapid detection of the introduction or increased incidence of trans-boundary and potentially epidemic animal diseases depends on: • Good farmer and public awareness programs for high-threat epidemic livestock diseases that involve improving the veterinary/farmer interface; • Training of field veterinary officers and veterinary auxiliary staff (such as livestock extension workers) in the clinical and gross pathological recognition of serious epidemic livestock diseases; collection and transportation of diagnostic specimens; and the need for prompt action; • Sustained active disease surveillance to supplement passive monitoring, based on close coordination between field and laboratory/epidemiology veterinary services, and use of techniques such as participatory questionnaires, serological surveys and harvest facility monitoring to supplement field searching for clinical disease; • Establishment of reliable livestock identification systems for enhancement of disease-tracking capabilities; • Dependable emergency disease-reporting mechanisms to regional and/or national/ veterinary headquarters; • Implementation of an emergency disease information system; • Enhancement of laboratory diagnostic capabilities for priority diseases within regional and national diagnostic laboratories; • Prompt and international disease reporting to the World Organization for Animal Health (OIE) and neighbouring countries. • Inclusion of early warning in contingency planning for livestock disease epidemics. Early reaction to disease outbreaks Early reaction means carrying out without delay the disease control activities needed to contain the outbreak and then to eliminate the disease and infection in the shortest possible time and in the most cost-effective way.

Items	Information
	For this to be achieved, the following elements need to be in place: • Development of national emergency disease contingency plans, both generic and for specific identified high-risk diseases, which should be established, tested and refined through simulation exercises; • Establishment of a national animal disease emergency planning committee; • Installation of diagnostic capabilities for all high-threat diseases. These should be fully developed and tested in national and regional diagnostic laboratories and linkages established with world and regional reference laboratories; • Ensured arrangements for involvement of the private sector (i.e.. livestock farmers' organizations, veterinary practitioners, livestock traders, commercial farming companies, animal product processors and exporters); • Arrangement for epidemic livestock diseases to be included in national disaster plans so that the police, army and other services can be involved as and when necessary; • Preparation of legislative and administrative frameworks to permit all necessary disease control actions to be implemented without delay; • Arrangements whereby funding for disease control campaigns can be quickly provided; • Provision of trained personnel and other necessary resources; • Compensation arrangements whereby farmers or others can be paid fair and quick compensation for any animals or other property destroyed as part of a disease control campaign; • Ensured access to quality-assured vaccines (containing the appropriate antigenic strain(s) for likely disease outbreaks) through a vaccine bank or from other sources; • Harmonization of disease control programmes and cooperation with neighbouring countries to ensure a regional approach; • Take into consideration local and regional variations in animal husbandry practices; • Target hygiene rules for prevention; • Impose stricter animal movement controls; • Facilitate the financial compensation of owners, allowing the humane culling of the infected animals.
(4) Component structure:	Component 1: Generic and disease-specific written contingency plans and operating procedures. Component 2: The testing of written plans and training of staff and the development of capabilities at national, regional, and local veterinary headquarters. Component 3: Development of mechanisms to involve other necessary government and private sector services and farming communities in the emergency response. Component 4: development of the capacity to apply all the necessary resources to counter the disease or other animal health emergency in the most efficient way (including equipment, personnel and finances Component 5: Advanced establishment of the appropriate legal and administrative structures to deal with an emergency.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs	Component 1: Generic and disease-specific written contingency plans and operating procedures. Activity 1.1: The Directorate of Veterinary Services in partnership with Directorate of Animal Production and Range Management, state government agriculture officers, and donor agency hired international veterinarian consultants will write an overall generic operating plan in case of a disease outbreak. In addition to a generic plan, contingency plans will be written for specific diseases such as Foot and Mouth disease. Outputs: A generic and disease specific emergency response plan that is published and available to all of the livestock industry, government/state/local agricultural offices, and civil service organizations such as police and army officials. Human resource outputs include: 3- Senior level veterinarians from Directorate of Veterinary Services to serve on the emergency response team. 3- Senior level livestock specialists from the Directorate of Animal Production and Range Management. 10- Senior level state government agriculture officers (1 from each state). 2- International consultants (veterinarians) with experience in emergency disease outbreak protocols. The process of writing these plans will take 6 months, working 5 days per week, and will take place in Juba. Component 2: The testing of written plans and training of staff and the development of capabilities at national, regional, and local veterinary headquarters. Activity 2.1: Testing of the published written emergency plans should be done by simulating an actual disease outbreak. This simulation should take place annually and involve Directorate of Veterinary Services, Directorate of Animal Production

Items	Information
	and Range Management, State government agriculture officers, and civil service authorities. Outputs: South Sudan will be ready for emergency livestock or poultry disease outbreaks as a result of holding annual simulations. The number of people participating in annual simulations is difficult to quantify. However the following minimum amount of people should participate: 10- staff from Directorate of Veterinary Services 10- staff from Directorate of Animal Production and Range Management 10- staff from Directorate of Livestock and Fisheries Extension 5- senior officers from the military 5- enlisted soldiers from the military 15- police officers (from the state where simulation is taking place) 15 CAHW workers (from the state where simulation is taking place) 2- International consultants (veterinarians) with experience in emergency disease outbreak protocols (only for the first simulation). Simulations would last 5 days and will rotate to a different state each year with the first simulation taking place in Juba. Component 3: Development of mechanisms to involve other necessary government and private sector services and farming communities in the emergency response. Activity 3.1: The Directorate of Veterinary Services should take the lead on organizing annual livestock and poultry disease public meetings in each state. At these meetings veterinarians from the Directorate can update the public and other government agencies on the current conditions of disease prevalence in the country as well as educate the public on how they can help prevent disease outbreaks. Outputs: The public will be educated on methods they can use in farming practices to prevent the spread of disease. The public and other government agencies will be aware annually of any new threats of disease in their state. Component 4: Development of the capacity to apply all the necessary resources to counter the disease or other animal health emergency in the most efficient way (including equipment, personnel and finances). Activity 4.1 and Outputs: Please refer to the Activity and Output description under Component 5. Component 5: Advanced establishment of the appropriate legal and administrative structures to deal with an emergency. Activity 5.1: National and State governments must create legislation to put aside emergency funds in the event there is a disease outbreak. On an annual basis funds should be set aside and then if not utilized by the end of the fiscal year, these funds could be utilized in simulation practices. Proper legislative authority must be given to the Directorate of Veterinary Services to call upon state and local governments, police, and military in extreme cases to isolate and eradicate any disease outbreak. Outputs: The Directorate of Veterinary Services will be provided an annual emergency funding line item in their budget. They will also be given the legislative authority to exercise emergency "powers" enabling them to call upon local, state, and national government ministries and civil services to aid in the event of a disease outbreak.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• Directorate of Veterinary Services • Directorate of Livestock and Fisheries Extension • Directorate of Livestock and Fisheries Research Development • International consultants with extensive background in veterinary medicine and livestock disease emergency response systems (provided by donor agencies) • State government agricultural offices • Local government agricultural offices • UN Agencies like (i.e. FAO) • NGOs delivering vet. services in the states, counties, and bomas.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are all stakeholders and other entities associated with the livestock and poultry industries. Indeed it can be said that secondary beneficiaries are every citizen of South Sudan would be a beneficiary of a program that prevents devastating livestock and poultry disease outbreaks.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The livelihoods of thousands of South Sudanese livestock and poultry producers will be secured due to emergency disease outbreak plans being implemented. Food will be available, improving nutrition in terms of milk for children. Income for pastoralists from sale of animals and their products.
(2) EIRR and/or FIRR, and/or	(if applicable)

Items	Information
other economic analysis:	

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: a	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Negative impact on the environment. If a disease outbreak does occur there will be a negative impact on the environment and society. Livestock and poultry in the thousands could die or be eradicated and there are disease and poultry diseases that can affect humans, referred to as zoonotic diseases	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	There is limited operational emergency response plan for livestock disease outbreaks. Due to lack of a budget to address disease outbreaks, FAO provides support through the Directorate of Veterinary Services.
(2) Measurable indicators and situation at the end point:	• Published written generic and disease specific emergency response plans to livestock disease outbreaks. • Agencies and NGOs report disease outbreaks to states. • FAO supports with Vaccines through the Directorate of Veterinary Services. • Annual simulations held based on written contingency plans. • Legislation passed giving Directorate of Veterinary services emergency powers and funding in case of an outbreak.
(3) Methods of measurement and sources of information:	Directorate of Veterinary Services ensuring a secure database is updated with livestock disease information for the country. Annual state meetings held to inform and educate the public. Annual livestock coordination meetings held to share information about NGOs/Agencies areas of operation, disease outbreaks, treatments done, number of CAHWs.
(4) Responsible parties for the monitoring and evaluation:	Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension; Directorate of Livestock and Fisheries Research Development

2.7 Required human resources

(1) Principle of human resources management:	The amount of human resources needed during a disease outbreak is hard to quantify. The number of people involved could be in the hundreds for the whole country. The team for disease outbreak investigation is usually composed of national staff from the Departments of Epidemiology and Disease Control and from the state where the outbreak has occurred. In maintaining written contingency plans and holding public educational meetings in each state, staff from the Directorate of Veterinary Services will be required. International consultants with extensive backgrounds in veterinary medicine and emergency outbreak protocols (provided by donor agencies) will be needed to assist the Directorate of Veterinary Services in writing plans and coordinating simulations in the beginning phases of this project. An emergency response team from within the Directorate of Veterinary Services will need to be appointed to take the lead for this project.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 1- Director of Emergency response together with a team (at least 5 people) from Directorate of Veterinary Services, Departments of Epidemiology/Disease control/wildlife (in case the disease is associated with wild animals). • 3- Senior level veterinarians from Directorate of Veterinary Services to serve on the emergency response team. • 3- Senior level livestock specialists from the Directorate of Animal Production and Range Management. • 10- Senior level state CAHWs to serve on the team (in the state where the outbreak has occurred). • 1- Mid level administrative staff.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 2- International consultants (veterinarians) with experience in emergency disease outbreak protocols. 1 year assignment for each consultant.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk is high. The government must be committed to providing annual emergency funding to the Directorate of Veterinary Services. Furthermore, civil service agencies must be committed to coming to the aid of the Directorate during annual simulations and actual emergency disease outbreaks.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is of high priority for the livestock and poultry industries.

2.10 Routine operation and required resources after the completion of the project

Items	Information
(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going costs (some of these costs could be absorbed by utilizing already existing staff with the below mentioned government agencies): • 1- Director of emergency response team from with Directorate of Veterinary Services. • 3- Senior level veterinarians from Directorate of Veterinary Services to serve on the emergency response team. • 3- Senior level livestock specialists from the Directorate of Animal Production and Range Management. • 10- Senior level state CAHWs to serve on the team (from the State where the outbreak has occurred). • 1- Mid level administrative staff. Other on-going expenses: • Annual budget allocated to the Directorate of Veterinary Services for emergency outbreak aid. This budget should allow for extra funds being available to fund extra work required from police and military if needed. • Computer equipment. • Transportation allowances (at least 5 vehicles reserved for emergency response team and fuel allowance). • Annual budget needed to conduct public meetings (1 in each state). 10 meetings total annually with an unknown amount of the public attending. • Annual livestock coordination meetings held to share information about NGOs/Agencies areas of operation, disease outbreaks, treatments done, number of CAHWs. This would be an annual 3 day conference held in Juba with approximately 50 people attending. • Communication allowance (cell phones and reliable internet service).

02.09 Formulation of animal health and disease control plan project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**3,060**	**146**	**146**	**146**	**152**	**135**	**135**	**135**	**135**	**135**											**4,322**	**1,080**	**100%**
1 Deployment of government staff							**135**	**135**	**135**	**141**	**124**	**124**	**124**	**124**	**124**											**1,167**	**292**	**27%**
1 Simulation at states (per diem)							84	84	84	84	84	84	84	84	84											756	189	17%
2 Simulation at states (transportation)							40	40	40	40	40	40	40	40	40											360	90	8%
3 Public meeting at states (per diem)							5	5	5	8																24	6	1%
4 Public meeting at states (transportation)							6	6	6	9																27	7	1%
2 Procurement of administrative services (contracted)						**25**																				**25**	**6**	**1%**
1 Publish of the emergency response plan						25																				25	6	1%
3 Procurement of professional services (contracted)						**3,024**																				**3,024**	**756**	**70%**
1 International consultants (veterinarians)						3,024																				3,024	756	70%
4 Implementation of staff training						**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**											**6**	**1**	**0%**
1 Meetings with stakeholders for development of plans						1																				1	0	0%
2 Regular meeting with stakeholders for advanced administration							1	1	1	1	1	1	1	1	1											5	1	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**											**100**	**25**	**2%**
1 Supplies for the simulation in Juba						6																				6	2	0%
2 Communications and fuels for simulation in Juba						4																				4	1	0%
3 Supplies for the simulation in states							6	6	6	6	6	6	6	6	6											54	14	1%
4 Communications and fuels for simulation in states							4	4	4	4	4	4	4	4	4											36	9	1%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**3,060**	**146**	**146**	**146**	**152**	**135**	**135**	**135**	**135**	**135**											**4,322**		**100%**
Total (USD '000)						**765**	**36**	**36**	**36**	**38**	**34**	**34**	**34**	**34**	**34**												**1,080**	
% to total						**71%**	**3%**	**3%**	**3%**	**4%**	**3%**	**3%**	**3%**	**3%**	**3%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.10 Veterinary services delivery project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock		
(2) Project name:	Veterinary services delivery project		
(3) Project ID:	0 2 . 1 0	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2024/25	Duration (years): 5
(5) Total investment:	SSP 84,167,000	USD 21,042,000	Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA5	Animal health and disease control services	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12
	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	South Sudan has a large livestock population, although the actual number of large and small ruminants has not been determined through a census. However, the population is estimated at 11 million cattle, 12 million goats, and 12 million sheep. There are several diseases identified by the World Organization for Animal Health (OIE) that are considered important to national and global public health. Most recently South Sudan has been recognized by OIE and is responsible for developing a plan to address these diseases and to comply with international animal health standards. Currently the animal health sector is serviced by public agencies, NGO's, and private sector service providers. However, the services are inadequate, quality/competency of some veterinarians or paraprofessionals is questionable, and overall veterinary service needs are not being met nationally. Moreover, NGOs are providing services including training of Community Animal Health Workers (CAHWs), but the training differs widely between the twenty-eight organizations providing training. South Sudan has limited ongoing disease monitoring and control programs due to poor funding. The country does participate in the Pan African Tsetse and Trypanosomosis Eradication Campaign (PATTEC). It has a strategy with the Bill and Melinda Gates foundation to address Pest de petits ruminants (PPR) and a regional Foot and Mouth Disease (FMD) control project. However, these efforts are largely academic and little progress has taken place in the implementation of the programs or delivery of results. In 2012, MLFI recorded less than one million vaccinations across South Sudan which is estimated to have more than thirty million large and small ruminants; this can be described as a number too small to prevent and protect the overall population of ruminants. The effective delivery of animal health services is essential for disease control and efficient production. Currently the accessibility of the livestock and poultry industry to consistent and certified animal health services is limited in South Sudan. For South Sudan to enter the world market for livestock and livestock products and meet OIE obligations a system must be developed to provide animal health services to all parts of South Sudan in a cost effective manner. Moreover, given the current regulations, vaccines are controlled by the government. Some drugs are provided to the states by the government and in the market by private sectors. As with most developing countries, animal health services have been provided by the government but with civil strife and the gain of independence from Sudan there is no clear plan in place for the delivery of services. It is proposed that the national livestock extension service (project outlined within the CAMP project framework) in partnership with existing CAHW workers can become an important temporary part of the solution to the delivery of animal health services to all regions of South Sudan. It is important to note that the government or state cannot afford to provide these direct animal health services indefinitely. A clear plan to phase out some of the government funded health services through the extension service to a network of private veterinarian practices should be developed.
(2) Objectives:	To develop a functional veterinary services program with a national disease vaccination and monitoring plan that addresses animal health and extension services at the local level utilizing livestock extension specialists in partnership with the Directorate of Veterinary Services. The Directorate of Veterinary services will provide important animal health delivery services in the beginning of this project with the goal of strengthening private sector veterinarian practitioners and clinics.
(3) Overall description including temporal and spatial extent of project:	The primary purposes of this project will address veterinary services for livestock producers; address the needs for intensive disease control; harmonize with other animal health entities in the public sector; and define on-going government services for animal health. To address current gaps in veterinary services, livestock extension workers and other veterinary para-professionals will be utilized. Additional assistance from kraal leaders (cattle camp leaders), harvest facilities, butchery workers, local officials and others will be used in disease detection. To help close the gap on the quality of veterinarian service being delivered in South Sudan, donor agencies in partnership with the South Sudanese government would send students, faculty, and government veterinarians abroad to receive either full veterinarian certifications or intensive training. Overall the project is to develop a plan for animal health services to be delivered through a national and state extension system while working to develop a transition plan in which animal health services (surgery, consistent herd vaccination and health plans, and treatment of livestock infirmities/diseases) are provided by the private sector on a fee basis. The public sector after the transition will focus on the control of epidemic diseases through the use of sanitary mandates, quarantine services, movement controls,

Items	Information
	compulsory slaughter, disease surveillance, and vaccination/vector control. Other public sector responsibilities will include some types of research and extension, drug quality control, food hygiene inspection, animal diagnostic laboratories, and registration of private veterinary clinics. Moreover the government will focus on creating an enabling environment for the private sector through use of credit, sanitary mandates and legislative reform that reduces barriers of private supply and facilitates the formation of collective action groups. It is noted that this represents a change from the past in which the government shifts responsibility to the private sector. MLFI will recognize certified extension workers as a partial solution of effectively delivering animal health services to the industry while monitoring and assisting in disease monitoring and reporting.
(4) Component structure:	Component 1: Education opportunities Component 2: Training Component 3: Vaccination campaign Component 5: Government veterinary services

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs	Component 1: Education Activity 1.1: The South Sudanese government in partnership with donor agencies will choose 10 recent Animal Science college graduates from a university within South Sudan and provide scholarships to attend veterinarian schools in suitable countries [United States, Canada, Australia, New Zealand, United Kingdom, Germany, France, Finland]. Selection criteria includes: Academic excellence Residence with South Sudan (students should be chosen from different regions of South Sudan instead of just one area). Gender with equality between females and males. Commitment to return to their country and provide services. Output: 10 students will be sent abroad and provided full scholarships to attend veterinary schools within the United States or Europe. Average cost of full scholarships including room and board for each student and living stipends (4 years) would be $250,000 each. Total= $2.5 million. These students would return to South Sudan and provide the foundation of a modern, functional, internationally accredited veterinary services delivery program. Activity 1.2: The South Sudanese government in partnership with donor agencies will choose 3 government veterinarians and 5 veterinary faculty from veterinary school/colleges in South Sudan. These 8 individuals would be sent for 6 months of intensive training at veterinary college in the United States or Europe. Training would include modern surgical techniques, update on medicines, vaccination campaign management, and animal diagnostic training. Output: These 8 individuals would spend 6 months abroad in an intensive training program. Partnerships with veterinary colleges within the United States or Europe would be sought with the help of FAO. Total cost for all individuals for training fees, travel, and living expenses for the 6 months would be approximately $325,000. With this training government staff and faculty would return to South Sudan with an updated and modern view on veterinarian medicine and delivery. The cost of sending these individuals for training would be easily recouped through the millions of dollars saved by preventing ruminant diseases due to their training. Component 2: Training Activity 2.1: Government veterinarians returning from training abroad along with 2 international consultants will provide 30 days of training to all government veterinarians, livestock extension workers, and CAHW workers temporarily employed by the government for services. Training would include areas of vaccination campaign management, disease monitoring and emergency preparedness, inspection methods for harvest and meat processing facilities and updates on surgical methods for large and small ruminant livestock. Outputs: 3 government veterinarians and 2 international consultants (consultants will be working on a 1 year assignment) will create curriculum for 150 people (90 permanent government workers and 60 temporary workers) to receive 30 days of training in Juba. Component 3: Vaccination campaign Activity 3.1: Directorate of Veterinary Services with help from OIE will identify priority diseases that should be targeted for vaccination campaigns. Outputs: The 150 people that attended the 30 day training in Juba will be asked to complete a 6 month vaccination campaign across South Sudan. Those people that are already government employed will be expected to provide assistance to this campaign as part of their job. Those that aren't regular government employees (approximately 60 people) would be hired as temporary workers for the 6 month campaign. The campaign would be done 5 days a week for 6 months. 10 teams (15

Items	Information
	people per team) would be divided up for each state to complete the campaign. Activity 3.2: Procure or import quality vaccines Outputs: For the vaccination campaign, high quality, not expired vaccines should be imported by the Directorate of Veterinary Services. It is estimated that vaccination combinations for 30 million head of livestock should be purchased. The average cost of vaccination combination is .10 cents per head. This would be a total cost of $3 million annually. This amount should be budgeted annually in the MILF budget for only 5 years with private livestock producers then being expected to pay for the vaccines/service either through the government or private veterinarians. Component 4: Government services Activity 5.1 Transition of CAHW and other public veterinarian services to the private sector with the government providing some on-going services. Outputs: The primary goal should be for most of the veterinary services to be provided by the private sector with the government providing assistance through government inspectors, livestock extension workers, disease monitoring and eradication, setting policy for disease control, animal diagnostic laboratories, and registration of private veterinary clinics. Issues such as veterinarian inspection in harvest facilities, livestock extension workers, and sanitation inspectors are covered in other CAMP Project Profiles. Within this project framework it is noted that each harvest facility will have veterinarian inspectors, each state will have sanitation/health inspectors for meat processing facilities, and each state will have livestock extension workers. Directorate of Veterinary Services will maintain staff at the national and state level to monitor diseases, provide emergency response procedures, educate the public, procure vaccines, staff animal diagnostic laboratories, and develop partnerships with international animal health organizations. Total employees being maintained by the government that can provide services within the framework of this project will be approximately 846 employees. The breakdown would be: Animal diagnostic laboratories/border crossing/quarantine staff:: 440 Disease surveillance/disease database management staff: 15 Livestock extension workers including county CAHW staff: 323 Livestock harvest facility and sanitation inspectors: 58 National Directorate of Veterinary Services staff (administration of national and state programs): 10

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	International animal health and veterinarian experts, training specialists that understand animal health issues and can put it all into terms easily understood by community workers and assistants, OIE experts, and other regional animal health experts. Public sector service providers would be the following: • Animal diagnostic laboratories/border crossing/quarantine staff • Disease surveillance/disease database management staff • Livestock extension workers including county CAHW staff • Livestock harvest facility and sanitation inspectors • National Directorate of Veterinary Services staff (administration of national and state programs)
(2) Description of beneficiaries within the framework of the project:	All animal health workers, veterinary staff and local animal service providers would be the primary beneficiaries. All livestock producers and consumers will be the secondary beneficiaries. Regional countries will benefit with harmonized systems.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A dynamic and functional veterinary services system that utilizes professionals, para-professionals and local skilled leaders to assist in the delivery of vaccination programs, a real time monitoring and disease tracking mechanism and animal health and extension services.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Positive: d Negative: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Positive) • A proper veterinary services system will recognize livestock diseases quickly and have them eradicated before they can spread to wildlife and humans. This will help animals and humans live in a safe environment. (Negative) • If there is poor oversight from the Directorate of Veterinary Services then a livestock	

Items	Information
	disease outbreak could result in diseases being transferred to humans (zoonotic) as well as livestock dying in the thousands an carcasses polluting the environment.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of animal health providers • Number of certified CAHWs • Number of harmonized animal health programs • No certified and accepted animal health emergency program • Record of animals vaccinated • No certified vaccination policy
(2) Measurable indicators and situation at the end point:	• Number of animal health providers • Number of certified CAHWs • Number of harmonized animal health programs • Certified and accepted animal health emergency program • Number of vaccinated livestock • Certified vaccination policy
(3) Methods of measurement and sources of information:	• Number of units of vaccines used • Signed records of animals vaccinated including vaccination team and owner • Recorded emergency plans with signatures from local staff
(4) Responsible parties for the monitoring and evaluation:	Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	Capacity building at all levels including at the national level.
(2) Required human resources in the public sector (Positions, grades and numbers):	Staffing for other CAMP projects pertaining to animal health are covered in those specific project profiles. For this specific project the staffing would be more on an administrative level. Those staff would include: • 1- Director General for Directorate of Veterinary Services • 5- Deputy Directors (1 for disease surveillance and control, 1 for animal diagnostic laboratories, 1 for licensing private veterinary clinics, 1 for vaccination campaign program, and 1 for government inspection program. • 15- Senior level veterinarian officers (national level) • 10- Mid level veterinarian officers (1 for each state) • 5- Mid level administrative staff
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- International consultant (veterinarian with training and curriculum development experience). 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	This risk is high because of workers dealing with livestock diseases that could be contagious to humans. Also the complexity of the project involving many stakeholders makes this a high risk project as far as being functional and successful.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The system depends on collaboration between public and private stakeholders. Some of the public sector actors will be transferred to the private sector and will not be part of the public system. It will require the system to undergo re-evaluation every five years to adjust for needs and changes in priorities.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 1- Director General for Directorate of Veterinary Services • 5- Deputy Directors (1 for disease surveillance and control, 1 for animal diagnostic laboratories, 1 for licensing private veterinary clinics, 1 for vaccination campaign program, and 1 for government inspection program. • 15- Senior level veterinarian officers (national level) • 10- Mid level veterinarian officers (1 for each state) • 5- Mid level administrative staff Other on-going costs: • Communication allowances (cell phone and internet) • Office supplies and maintenance • Transportation allowances

02.10 Veterinary services delivery project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**10,082**	**4,148**	**4,148**	**4,148**	**1,643**																**24,167**	**6,042**	**29%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)						**1,680**	**1,440**	**1,440**	**1,440**	**1,440**																**7,440**	**1,860**	**9%**
1 Temporary workers for vaccination campaign						1,680	1,440	1,440	1,440	1,440																7,440	1,860	9%
3 Procurement of professional services (contracted)						**1,512**																				**1,512**	**378**	**2%**
1 International consultant (veterinarian)						1,512																				1,512	378	2%
4 Implementation of staff training						**6,687**	**2,505**	**2,505**	**2,505**																	**14,202**	**3,551**	**17%**
1 Education of 10 graduates for 4 years (abroad)(per diem)						1,825	1,825	1,825	1,825																	7,300	1,825	9%
2 Education of 10 graduates for 4 years (abroad)(transportation)						80	80	80	80																	320	80	0%
3 Education of 10 graduates for 4 years (abroad)(tuitions)						600	600	600	600																	2,400	600	3%
4 Trading of 8 staffs for 6 months (abroad) (per diem)						720																				720	180	1%
5 Trading of 8 staffs for 6 months (abroad) (transportation)						64																				64	16	0%
6 Trading of 8 staffs for 6 months (abroad) (tuitions)						2,048																				2,048	512	2%
7 30-day training in Juba (per diem)						1,215																				1,215	304	1%
8 30-day training in Juba (transportation)						135																				135	34	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**203**	**203**	**203**	**203**	**203**																**1,013**	**253**	**1%**
1 Fuels for vaccination campaign						203	203	203	203	203																1,013	253	1%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans						**12,000**	**12,000**	**12,000**	**12,000**	**12,000**																**60,000**	**15,000**	**71%**
1 Provision of cash and/or in-kind subsidies						**12,000**	**12,000**	**12,000**	**12,000**	**12,000**																**60,000**	**15,000**	**71%**
1 Vaccine for campaign						12,000	12,000	12,000	12,000	12,000																60,000	15,000	71%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**22,082**	**16,148**	**16,148**	**16,148**	**13,643**																**84,167**		**100%**
Total (USD '000)						**5,520**	**4,037**	**4,037**	**4,037**	**3,411**																	**21,042**	
% to total						**26%**	**19%**	**19%**	**19%**	**16%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.11 Beekeeping extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Beekeeping extension project			
(3) Project ID:	0 2 . 1 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2018/19	Ending FY: 2024/25	Duration (years): 7	
(5) Total investment:	SSP 3,207,000	USD 802,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	07;08	MLFI-VS;EX	Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12
	203	SP-EX	SD/ID Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Based on the policy and strategic plan of the Ministry of Animal Resources and Fisheries pages 4 and 9 for 2010, responsibility for bees is shifting from the Ministry of Agriculture to the Ministry of Animal Resources and Fisheries for the following reasons: • reference to classification of bees are under animal kingdom. • bees are considered a food safety concern. • control of bee diseases is under veterinary services. In general, honey is used in households as a preferred sweetener in beverages, second only to sugar and is consumed in raw form as honey comb and as medicine. It is also used for brewing liquor and wine. Beeswax is used in the manufacture of cosmetics, candles, foundation sheets for hives, and medicines. The key challenges for the honey value chain in South Sudan includes: • limited business and apiary management skills of producers; • inability to deal with risks brought about by weather variability; • theft of hives; • low adoption rates of technology; • unreliable/low volume of honey supplied; • poor quality honey supplied; • inadequate technologies and packaging materials; • extension training; • lack of policy and strategy; • inadequate access to financial services Honey production is a common livelihood activity in South Sudan and in some locations it has social-cultural roles. Beekeeping is an important livelihood option for vulnerable communities: women's groups, including those from female headed households, are benefitting from income from the sale of honey; and returnees, for whom beekeeping is one of the three most important livelihood options, such as in Western Bahr el Ghazal State. For some tribes such as the Jurbel in Wulu County, Lakes State and the Bongo in Warrap State, honey plays important socio-cultural roles related to marriage and kinship ties. A survey by MLFI estimated production levels at 100,000 metric tonnes, however, this appears to be greatly over estimated when compared to official data from Ethiopia which ranks tenth globally in honey production at 43,000 metric tonnes. Moreover there is great apiculture potential due to accessible resources such as land, forests and water. Furthermore, rural communities are ready to organize themselves in cooperative groups and regional and international markets are available. Traditional bee workers gather honey and beeswax from forest areas and on average only gather approximately 420kg annually. Honey producers are producing below potential using rudimentary, traditional methods such as gathering wild honey in the forests. In contrast, the adoption of modern bee keeping and harvesting techniques (such as construction of hives that can be moved easily and accessed easily) can result in 30 to 45 kg per hive. Similarly, processors are processing below capacity due to inadequate volumes supplied by the farmers.
(2) Objectives:	The objective of this project is to educate and train existing producers and those that are interested in getting into the beekeeping business about honey production as a business and livelihood activity
(3) Overall description including temporal and spatial extent of project:	The primary goal of the beekeeping industry project is to organize, educate and assist the private sector in the adoption of modern beekeeping methods to increase the production of honey and bee products for human consumption while contributing to the livelihoods of rural South Sudanese citizens. It is important to note that apiary demonstrations should be a permanent part of the demonstration farms (outlined in a separate CAMP project profile) as well as be part of the demonstration farm annual field day. Beekeeping provides excellent linkages to the crop and forestry industries. Hives can be housed on cropland and in the forests in order to help pollination of plants which in turn will produce honey in the hives.
(4) Component structure:	Component 1: Association and cooperatives development Component 2: Training Component 3: Business Facilitation Component 4: Linkages with service providers

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Association and cooperatives development Activity 1.1: Organize into interest groups and establish sustainable associations and cooperatives. Activity Assess the industry R

Items	Information
	Outputs for Activities 1.1 and 1.2: Reviewed and published bee industry assessment. 3 bee industry production/business specialists (1 international and 2 national) will be based in Juba and for 6 months will organize interest groups associated with the bee industry, work with these interest groups to form cooperatives, and with help from these cooperatives complete an industry assessment that is published and readily available to the public. Component 2: Training Activity 2.1: Provide training on basic, intermediate, and advanced bee keeping, hive design, business management, procuring credit, and marketing. Outputs: Training for beekeepers and cooperatives will be provided to at least 200 beekeepers for a period of 6 days in Juba. The trainers will be a partnership between 3- bee industry production/business specialists (1 international and 2 national) and 3- bee disease specialists (1 international and 2 national). Component 3: Business Facilitation Activity 3.1: Development of Small Medium Enterprises (SME). Activity 3.2 Establish collection centres Activity 3.3 Develop grades and standards, including CODEX, US, Japan, EU. Activity 3.4 Establish packaging requirements Outputs for Activities 3.1-3.4: 10 specialists (4 international and 6 national) will provide 1 year of technical assistance to beekeepers and beekeeping cooperatives throughout South Sudan. Specialists will travel to counties, regions, and states throughout the 1 year period providing training to cooperatives throughout the country. It is difficult to quantify total numbers of producers that will be trained but minimum of 576 members from potentially 18 cooperatives (32 from each cooperative) in the 1 year period is estimated. 10 specialists would be expected to provide at least 3 days of training per week for approximately 30 weeks (90 trainings) in each of the 79 counties in South Sudan (79 county trainings with 11 additional trainings being scheduled as needed). Component 4: Linkages with service providers Activity 4.1: Develop linkages with bee industry owners and service providers (input stores) including international linkages. Outputs: 208 government (20 state livestock extension workers and 188 county livestock extension workers) staff will provide technical assistance and linkages between beekeeper individuals/cooperatives and service providers (including internationally). This will be done by government staff as part of their job each year.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Service providers need to be industry specialists that have direct experience with the industry and a proven track record in developing bee industries. The specialists will assist the national staff on developing training modules and training of the trainers. Specialists in business activities are needed and individuals with experience in establishing international standards for the industry. The associations can benefit from other association development plans and projects in place. An experienced assessment team will be needed for the assessment.
(2) Description of beneficiaries within the framework of the project:	Rural populations as well as women, youth, and disabled soldiers are the primary beneficiaries. This activity can be an important gender activity as well as for households with limited land holdings. Secondary beneficiaries are Small Medium Enterprises (SME) providers of various business services (finance credit, loans, hives, equipment, packaging, etc.) Additionally communities will benefit since it will lead to food security and income stability. Expansion of the industry into regions of crop production exists.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A sustainable and profitable bee industry that creates jobs and generates revenue while addressing rural livelihoods and reduction of poverty.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right)	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation	(Negative) • There is minimal negative impact and that only comes from improper harvesting methods in the forest where trees could be killed.	

Items	Information
measures:	(Positive) • Bees have a critical positive impact on the environment as pollination is essential to most plants. The project has the potential to greatly increase the income in rural areas which can lead to food security, increased cash flows for school fees and great job opportunities for youth, women, and disabled soldiers.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Registered number of bee industry associations. • Number of people in associations. • Number of members in interest groups. • Number of business organizations offering services to the bee industry.
(2) Measurable indicators and situation at the end point:	• Registered bee industry association. • Number of association members. • Number of members in interest groups. • Number of organizations offering services to the bee industry.
(3) Methods of measurement and sources of information:	• Registered associations with appropriate government agency. • Meeting attendance sheets. • Number of business licenses.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	• Capacity development throughout the value chain. • Opportunities in business participation.
(2) Required human resources in the public sector (Positions, grades and numbers):	Human resources: • 3- senior grade administrators (national level) • 10-midgrade administrators(state level) one per state • 5-mid-grade administrative staff(national level) • 5- junior grade administrators (national level) • 20 (2 for each state)- livestock officers • 188 CAHW/county extension livestock workers (handle livestock and bee responsibilities (2 for each county) Other resources: • Cost of maintaining apiary (equipment) • Cost of establishing the apiary demonstration farms • Communication allowances (cell-phones and internet services) • Office maintenance • Record keeping costs
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 3- Bee industry production/business specialists (1 international and 2 national) • 3- Bee disease specialists (1 international and 2 national) • 2-Bee industry grades and standard specialists (1 international and 1 national) • 2-Packaging specialists (1 international and 1 national) • All specialists will complete a 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk assessment is medium due to the scope of the program. It is a straight forward program but at later stages the program will engage several service providers and develop various linkages. In other words, risk will increase over time due to the complexity and size of the program.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is primarily a private sector program with the need for the public sector to focus on the business enabling environment and protection of natural forests. It is recommended that an NGO with regional experience be involved.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	The grades and standards development and assignment is a public sector function. This has to be transparent. Association and business registration is a government function. There will be on-going assistance at the state level and county level from government livestock officers. The rest remains under the private sector. • 3- senior grade administrators (national level) • 10-midgrade administrators(state level) one per state • 5-mid-grade administrative staff(national level) • 5- junior grade administrators (national level) • 20 (2 for each state)- livestock officers • 188 CAHW/county extension livestock workers (handle livestock and bee responsibilities (2 for each county) • Communication allowances (cell-phones and internet services) • Office maintenance • Transportation allowance for state and county government officers

02.11 Beekeeping extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project				**1,350**	**1,350**	**1**	**1**	**1**	**1**	**1**																**2,703**	**676**	**84%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)				**1,350**	**1,350**																					**2,700**	**675**	**84%**
1 International expert (bee industry production/business)				240	240																					480	120	15%
2 Local expert (bee industry production/business)				180	180																					360	90	11%
3 International expert (disease)				210	210																					420	105	13%
4 Local expert (disease)				180	180																					360	90	11%
5 International expert (grades and standard)				210	210																					420	105	13%
6 Local expert (grades and standard)				90	90																					180	45	6%
7 International expert (package)				150	150																					300	75	9%
8 Local expert (package)				90	90																					180	45	6%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**1**	**1**	**1**	**1**	**1**																**3**	**1**	**0%**
1 Supplies and consumables for monitoring						1	1	1	1	1																3	1	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans				**504**																						**504**	**126**	**16%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector				**504**																						**504**	**126**	**16%**
1 Beekeepers and cooperatives training at Juba (per diem)				324																						324	81	10%
2 Beekeepers and cooperatives training at Juba (transportation)				180																						180	45	6%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)				**1,854**	**1,350**	**1**	**1**	**1**	**1**	**1**																**3,207**		**100%**
Total (USD '000)				**464**	**338**	**0**	**0**	**0**	**0**	**0**																	**802**	
% to total				**58%**	**42%**	**0%**	**0%**	**0%**	**0%**	**0%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.12 Dairy production and processing extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Dairy production and processing extension project				
(3) Project ID:	0 2 . 1 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2020/21		Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 3,505,000		USD 876,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The dairy industry and milk value chain in South Sudan can be described as rudimentary. There are a variety of products available ranging from fresh milk to powdered products. Fresh milk produced from local indigenous breeds is either sold as fresh or sour, where the sour milk is fermented to increase shelf-life. Powder milk is imported through key importers and sold throughout urban markets with heavy use in locations where cattle populations are relatively limited. The industry lacks organization with no formal policy or direction. Additional problems include poor management, concentration in urban areas with limited management considerations, limited disease management, poor sanitation, poor collection, lack of processing and transport, and lack of access to inputs and financing. Moreover, current dairy programs implemented by various organizations only meet some of the industry requirements. Consumption of milk and milk products continues to increase and milk based products are important nutritionally. On average the indigenous breeds produce 0.5–1 litre per day per lactating cow, which is extremely low. There are some indigenous breeds, such as in the Kenana and Botana area, that are said to be high milk producers. Generally traditional milking and handling practices with low hygiene standards are used. Some NGO's in Malakal, Upper Nile State are building the capacity of women, who do most of the milking, to improve their milk hygiene practices so that their milk can enter the local market. Close to 90% of the milk produced is consumed within households, only 10% is offered for sale. The powder milk segment is predominated by milk producers and processors in Sudan, Uganda, Kenya and the Middle East and North Africa (MENA) region, especially the United Arab Emirates and Egypt. High milk demand, but also a large gap between current per capita consumption levels and recommended levels, means there is a large and fast growing demand and therefore business opportunity. The major production and processing gaps can be closed with relatively low level technologies, promotion of milk hygiene and organization of the sector to give the sector an initial boost. Areas of high cattle populations are opportunities for the establishment of collection centres with installed cooling facilities.
(2) Objectives:	• To organize dairy producers into interest groups and cooperatives, assess the industry, develop a comprehensive training program and develop strategically located milk collection centres. • A simple dairy production industry that is focused on producing for the local fresh market during the early phases with the potential to add simple value after the establishment of milk collection centres. • Following the establishment of milk collection centres, to reassess the industry and develop a long range strategy based on the status of the industry at that point in time.
(3) Overall description including temporal and spatial extent of project:	The technical assistance project will focus on developing the necessary skills for a profitable and sustainable dairy industry. Technical training from livestock extension specialists will need to focus on women's groups since women are the ones that do the milking and care for the milk afterwards. The program will ensure gender equality and address all actors along the supply chain from production to consumption. It will focus on complete supply chain linkages and strengthening to ensure a functional system. Milk collection centres will be constructed along with milk cooling tanks installed to help with getting fresh milk into the local markets and providing income for the dairy families.
(4) Component structure:	Component 1: Assessment Component 2: Cooperative development Component 3: Technical training Component 4. Construction of milk collection centres

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1. Assessment Activity 1.1: A team led by MLFI officers will spend 6 months completing an in-depth assessment of the dairy industry in South Sudan. While completing the assessment they will gather data on interest groups. Outputs: Assessment will be written, published and distributed within 6 months (first 6 months of year 1 of project). The assessment team will consist of the following individuals: 1- International consultant specializing in agricultural industry assessments. 2- MLFI Animal Production officers (dairy experience). 10- Livestock extension specialists (1 per state). Data will be collected by assessment team traveling to each state 2 times with the rest of the work being completed in Juba. Component 2: Cooperative development Activity 2.1: Based on the findings of the assessment team concerning interest groups,

Items	Information
	a second team led by MLFI Animal Production officers will form registered dairy producer cooperatives. After the cooperatives are formed, follow up visits will take place with each cooperative and training will take place. Outputs: At least 4 trips (3 cooperative development trips and 1 formal training trip) will be made to each state by the cooperative team (40 trips total). Follow up trainings will include: 10 training sessions (1 session per state each lasting 3 days) on creating cooperative by-laws, financial management, business development and linkages, electing officers, etc. It is estimated that 50 people will attend each session for a total of 500 people. The cooperative development team will consist of the following people: 1- international consultant specializing in cooperative development. 2- MLFI Animal Production officers. 10- livestock extension specialists (1 per state). This output will take 1 year to complete (second 12 months of the project consisting of second 6 months of year 1 and first 6 months of year 2). Component 3: Technical training Activity 3.1: A team of specialists led by MLFI Animal Production officers will provide extensive technical training to state livestock extension workers and county CAHW workers. Training subject areas will include cow and calf nutrition, feeds and feeding, milking procedures with emphasis on sanitary milking and milk handling procedures, basic milk processing and storage, animal health (vaccinations and mastitis control), budget/financial basics. Outputs: A 5 day training will take place in each of the 10 states (50 training days total) and will be given to 2 livestock extension workers (2 per state for a total 20 people) and county CAHW workers (2 per county for a total of 158 people). County CAWH workers will attend the training that is located in their state. The technical training will take place in the 2nd 6 months of the 2nd year of the project. These state and county workers would then be expected as part of their normal job duties to provide technical assistance to dairy farmers or potential dairy farmers. The technical training team will consist of the following individuals: 1 international consultant (dairy specialist) 2 MLFI Livestock and Fisheries Extension officers Component 4: Construction of milk collection centres Activity 4.1: MLFI Animal Production officers in partnership with state livestock extension specialists will identify 3 areas in South Sudan with the highest concentration of dairy cattle for the construction of milk collection centres. These milk collection centres will be constructed as examples of how milk collection centres and sites should be developed in the hopes that other areas of South Sudan will provide investment for construction. The site recommendation will include peri-urban locations where milk cows gather in the states of Central Equatoria, Eastern Equatoria, and Warrap. Sites will need to have access to reliable electricity in order to operate the milk cooling tanks. The CAMP Situation Analysis report (2013) states that these 3 states have the highest amount of local milk consumption. It is expected that a partnership between donor agencies and national/state governments will fund these collection centres and equipment. Outputs: Milk collection centres. Two separate transparent bidding processes will take place for construction of the collection centres and procurement of milk cooling tanks that will be stored in the centres. Construction costs: Each milk collection centre will be 93 square meters and will include a 3 sided shelter for milking, a small section for storing milking equipment, and a section for storing the milk cooling tank. The approximate cost per centre is: $8,000 USD x 3= $24,000. Milk cooling tank costs:A 240 litre milk cooling tank costs $6,000 USD x 3=$18,000 Milking equipment and supplies (teat dip, mastitis medicine, sanitation supplies, stainless steel milking buckets, cleaning rags) costs: Total equipment per centre is $1,000 x 3= $3,000. One time funding will be provided for the milking equipment and supplies after which private producers will be responsible.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The training modules will be developed with the assistance of international technical specialists who will also assist in training of the trainers. The program is best implemented with a service provider with credible experience in dairy cow nutrition and milk production who understands the complete cycle of production and how to integrate into a profitable production system. National staff will accompany the specialists. Consultants: • 1 international assessment/survey consultant

Items	Information
	• 1 international cooperative development consultant • 1 international dairy production consultant Public sector: • 2 MLFI Animal Production officers • 2 MLFI Livestock and Extension officers • 20 state livestock extension workers • 158 county CAHW workers
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are those interested in dairy production. Families (consumers) will benefit because of increased sanitary milk production for consumption. All participants in the value chain will benefit because of business linkages and profitable production.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A small well trained and focused dairy industry that has the capacity to grow. There will be a small amount of high quality milk and milk products available for private consumption in the market place. The increased milk supply will lead to improved health and provide a source of livelihood which will include women. Milk collection centres will benefit dairy producing families by allowing a place for them to milk their cows, store their milk in a cooling tank, and then sell milk into the local market, thus generating income.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Will have a negative impact on the environment due to waste issues. There are best practices available from international books and on-line that address ways to control waste, odour, and water contamination. (Positive) • This dairy extension project represents excellent technical capacity building opportunities for rural development, women, and food security.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No known dairy interest groups, associations and cooperatives • Number of cows being milked • Amount of milk in market place • No current milk collection centres
(2) Measurable indicators and situation at the end point:	• Number of registered dairy interest groups, associations and cooperatives • Number of cows being milked • Amount of milk in market place • Number of milk collection centres
(3) Methods of measurement and sources of information:	• Number of associations, interest groups and cooperatives registered with authorities • Training attendance sheets • Number of milk centres constructed • Annual reports provided by state livestock extension workers
(4) Responsible parties for the monitoring and evaluation:	Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	• Capacity building of producers and supply chain actors • Sustainable businesses with increased production • Transformation of public sector to enablers
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 MLFI Animal Production officers • 2 MLFI National extension officers • 20 state livestock extension workers • 158 county CAHW workers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international assessment/survey consultant. 6 month assignment. • 1 international cooperative development consultant. 6 month assignment. • 1 international dairy production consultant. 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk level is assessed at medium. First the project is dependent upon a solid educational foundation. The training goals must be achieved for the project to develop properly. It also depends on access to resources cows and feed which is a risk. However, one mitigation method is to include goats. Another major risk is absence of electricity to	

Items	Information
	operate milk cooling tanks.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The project should be focused in technical assistance during the early stages. Developing countries tend to want to import improved dairy breeds of cattle. This should not happen until late into the project and even then should be approached cautiously. There are numerous examples of countries importing expensive dairy breeds from the United States and Europe to only see these breeds die quickly in a hot, tropical climate with no resistance to local diseases. The importation of milk powder is significant and should be considered when developing a long range strategy for the industry. Uganda approached production through this approach and within ten years became a low cost producer while Kenya introduced different breeds and the transformation of the industry was negatively affected. A strong education base will allow producers to find and adapt the system that best meets their needs and resources.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	On-going human resources: • 2 MLFI Animal Production officers • 2 MLFI National extension officers • 20 state livestock extension workers • 158 county CAHW workers Other on-going expenses: • Communication allowances (cell phone and internet) for each employee • Transportation allowances • Laptop computers

02.12 Dairy production and processing extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**1,493**	**1,178**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**											**2,830**	**708**	**81%**
1 Deployment of government staff						**137**	**113**																			**250**	**63**	**7%**
1 Assessment survey (per diem)						32																				32	8	1%
2 Assessment survey (transportation)						36																				36	9	1%
3 Cooperative development trip (per diem)						32	32																			65	16	2%
4 Cooperative development trip (transportation)						36	36																			72	18	2%
5 Technical training (per diem)							27																			27	7	1%
6 Technical training (transportation)							18																			18	5	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**1,350**	**810**																			**2,160**	**540**	**62%**
1 International consultant (assessment / survey)						540																				540	135	15%
2 International consultant (cooperative development)						270	270																			540	135	15%
3 International consultant (dairy production)						540	540																			1,080	270	31%
4 Implementation of staff training							**252**																			**252**	**63**	**7%**
1 Technical training (per diem)							222																			222	56	6%
2 Technical training (transportation)							30																			30	7	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**6**	**3**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**											**169**	**42**	**5%**
1 Fuels for assessment survey						3																				3	1	0%
2 Fuels for cooperative development						3	3																			6	1	0%
3 Fuels, consumables for monitoring and follow up								20	20	20	20	20	20	20	20											160	40	5%
2 Construction of infrastructure and procurement of equipment								**180**																		**180**	**45**	**5%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities								**168**																		**168**	**42**	**5%**
1 Construction of milk collection centre								96																		96	24	3%
2 Installation of milk cooling tank								72																		72	18	2%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment								**12**																		**12**	**3**	**0%**
1 Milking equipment								12																		12	3	0%
3 Subsidies, equity and loans						**248**	**248**																			**495**	**124**	**14%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector						**248**	**248**																			**495**	**124**	**14%**
1 Dairy cooperative development training (per diem)						203	203																			405	101	12%
2 Dairy cooperative development training (transportation)						45	45																			90	23	3%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**1,740**	**1,425**	**200**	**20**	**20**	**20**	**20**	**20**	**20**	**20**											**3,505**		**100%**
Total (USD '000)						**435**	**356**	**50**	**5**	**5**	**5**	**5**	**5**	**5**	**5**												**876**	
% to total						**50%**	**41%**	**6%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.13 Development of feed mills project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of feed mills project			
(3) Project ID:	0 2 . 1 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2025/26	Ending FY: 2034/35	Duration (years): 10	
(5) Total investment:	SSP 8,406,000	USD 2,102,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS	Private sector organisation and market enhancement	Table 2-3
(2) Government organisation:	07	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	04	MLFI-IM	Directorate of Investment Marketing and Supplies	Table 2-6
(3) Activity types:	301	PS-PR	Private sector production	Table 2-12
	209	SP-EI	SD/ID Economic infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	X
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	To fully develop the poultry, aquaculture and livestock value chains producers must have access to feed. Regardless of the production system followed by the producers there is still a need for feed manufacturers. More specifically, all ruminants require supplementary feed for optimum growth, even on high quality forages, and the requirement increases during dry or wet seasons. Moreover, poultry and aquaculture production is highly influenced by feed sources. Uganda lists one of its constraints to the livestock industry as the lack of commercial feed mills; in comparison to South Sudan there are several mills in Uganda manufacturing feed. Feed mills are part of the private sector and are business enterprises which generate profits. The public sector can assist the private sector by doing the following: • enhancing the enabling environment such as development of roads; • elimination of taxes on inputs, importation laws and tariffs which benefit crop producers and manufactures; • consistent delivery of electricity, water and sanitation services; • elimination of informal taxes; • reduction in the time to obtain business licenses; • land tenure issues; • an environment that promotes and supports feed manufactures. As discussed, feed mills are part of the private sector but technical assistance through government and donor agencies would greatly enhance the program.
(2) Objectives:	A functional feed manufacturing industry.
(3) Overall description including temporal and spatial extent of project:	The project is primarily a private sector led business and will develop firstly around the poultry industry then branch to the aquaculture industry next, with livestock grains/supplemental feed becoming popular as the industry expands. During the early stages of development feed can be shipped to several locations more cheaply than by investing in mills that would be working under capacity. Moreover, the mills need access to ingredients such as grains and by products. The feed manufacturing program will be divided into two components. First, an assessment of the industry and locations followed by an implementation component which should be supported with technical assistance from the public sector. Possible locations are areas with high production of cereal grains which are the major components of the feed mills industry inputs. There are already identified locations within the Zonal/National Effort for Agricultural Transformation (ZEAT/NEAT) Programs. These include: • Yei (Central Equatorial State) which has the potential of maize grain production; • Renk (Upper Nile State) has the highest potential of sorghum grain production; • Aweil (Northern Bahr El-Ghazal State) with high potential of rice production; • Wau (Western Bahr El-Ghazal State) with high potential of groundnuts and seasame; • Yambio (Western Equatorial State) high potential for maize and other vegetables production Feed mills provide excellent opportunities for linkages with the fisheries and crop industries. Feed mills will provide the type of feeds needed for fish such as pelleted and floating feeds. Crops provide the raw materials needed in formulation and milling of feed rations.
(4) Component structure:	Component 1: Feed industry value chain study Component 2: Feed mill development

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Feed industry value chain study Activity 1.1: Desk study and field assessment of the top locations from desk study. Outputs: 1 international assessment specialist with a background in agribusinesses will partner with 2 MLFI Agribusiness officers for 6 months to produce the desk study and field assessment. Component 2: Feed mill development Activity 2.1: Identify investors Activity 2.2: Arrange investment incentives Activity 2.3: Technical assistance for investors Outputs for Activities 2.1-2.3: Functional feed mills. Once the assessment is written and published, potential investors, in the areas determined to be the best locations, will be approached by an investment team consisting of the following: 1 international agribusiness consultant 1 international feed mill/feed manufacturing consultant 2 Senior level MLFI officers with backgrounds in agribusiness Once investors are approached negotiations for investment will begin. The idea will be

Items	Information
	that the donor agency will provide 2 international consultants for 1 year to provide technical assistance while the government will provide tax breaks, possibly free land, and any other incentives that will help facilitate construction of a feed mill. Please note that another CAMP Project titled 'Development of feed testing and analysis laboratory project' outlines the responsibility of the government for on-going work and inspection with feed mills.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	A qualified international and national feed industry team with feed industry experience for the assessment. The international team will work with a team of identified professionals from South Sudan to provide technical assistance to feed mill private investors.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are livestock, poultry, and aquaculture producers because they will have a reliable source of quality local feed. Secondary beneficiaries are consumers of animal, poultry and aquaculture protein since the outcome of a feed mill will be increased protein production.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A functioning and profitable feed manufacturing facility that will contribute to the economic growth of the livestock, poultry and aquaculture industry.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • This project will have a negative impact. Although the desk study will have minimum impact on the environment and society the development (building) of a feed manufacturing facility has the potential of significantly influencing the environment and society. The impact can be controlled with focused interventions that deal with the environmental waste (water, air) and internationally accepted building codes. (Positive) • In the long run, society will benefit due to a reduced per unit cost of protein.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No functional feed manufacturing facilities in South Sudan
(2) Measurable indicators and situation at the end point:	• A published assessment of prime locations to construct feed mills • Number of functioning feed manufacturing facilities
(3) Methods of measurement and sources of information:	• Directorate of Planning • Directorate of Animal Production and Range Management • Private Sector
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management– potentially a public entity that awards licenses to mills • Directorate of Investment, Marketing, and Supplies • Private sector

2.7 Required human resources

(1) Principle of human resources management:	International consultants will transfer knowledge to MLFI staff who will in turn provide on-going technical assistance to feed mills.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 senior level MLFI officers with backgrounds in agribusiness to work on the assessment and investor teams. • 10 government feed industry inspectors (one for each state) that will be responsible for conducting routine inspections and collecting feed samples from each feed mill.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international agribusiness consultant. 1 year assignment. • 1 international feed mill/feed manufacturing consultant. 1 year assignment. • 1 international assessment consultant. 6 month assignment. • 1 international consultant (feed analysis specialist). 1 year assignment (6 months training central laboratory staff and 6 months training feed mill laboratory staff. • 1 international consultant (feed, crop, pesticide, inspection expert) to train 10 government inspectors. 6 month assignment. • 1 senior level scientist for each feed mill laboratory. • 1 lab assistant for each feed mill laboratory. • 1 feed mill manager. • 1 feed mill supervisor with experience in developing feed rations for poultry, fish, and

Items	Information
	livestock. • 10 skilled feed mill workers. Please note that the above listed feed mill workers are for each feed mill. Once the number of actual feed mills are constructed and operating the true number of staff will change depending on the number of feed mills and size of the feed mills.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risks are Medium. First with environmental issues (air, water, waste, ground). Second proper permission for building a facility. Inspection fees. Land tenure. Taxation issues. Securing financing. Securing raw ingredients. Access to roads. Access to electricity, water and sanitation.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a private sector driven project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2 senior level MLFI officers to provide oversight of the feed mill industry. • 2 mid-level MLFI administrative staff. • 10 government feed industry inspectors (one for each state) that will be responsible for conducting routine inspections and collecting feed samples from each feed mill. Other on-going costs: • Communication allowance (cell phones and internet). • Transportation allowances. • Laptops or desktop computers for each staff.

02.13 Development of feed mills project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**1,285**	**791**	**791**	**791**	**791**	**791**	**791**	**791**	**791**	**791**						**8,406**	**2,102**	**100%**
1 Deployment of government staff											**23**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**						**638**	**160**	**8%**
1 Assessment survey (per diem)											11															11	3	0%
2 Assessment survey (transportation)											12															12	3	0%
3 Technical assistance (per diem)												32	32	32	32	32	32	32	32	32						292	73	3%
4 Technical assistance (transportation)												36	36	36	36	36	36	36	36	36						324	81	4%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)											**1,260**	**720**	**720**	**720**	**720**	**720**	**720**	**720**	**720**	**720**						**7,740**	**1,935**	**92%**
1 International consultant (assessment/survey)											540															540	135	6%
2 International consultant (agri-business)											360	360	360	360	360	360	360	360	360	360						3,600	900	43%
3 International consultant (feed mill/ feed manufacturing)											360	360	360	360	360	360	360	360	360	360						3,600	900	43%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector											**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**						**28**	**7**	**0%**
1 Fuels for assessment survey											2															2	0	0%
2 Fuels for technical assistance												3	3	3	3	3	3	3	3	3						26	6	0%
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											**1,285**	**791**	**791**	**791**	**791**	**791**	**791**	**791**	**791**	**791**						**8,406**		**100%**
Total (USD '000)											**321**	**198**	**198**	**198**	**198**	**198**	**198**	**198**	**198**	**198**							**2,102**	
% to total											**15%**	**9%**	**9%**	**9%**	**9%**	**9%**	**9%**	**9%**	**9%**	**9%**						**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.14 Forage crops production project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Forage crops production project				
(3) Project ID:	0 2 . 1 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2017/18		Ending FY: 2024/25	Duration (years): 8	
(5) Total investment:	SSP 2,374,000		USD 593,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12
				Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Among the constraints facing livestock development in South Sudan, inadequate and inconsistent feed supplies stand out as one of the most important. Seasonal variations in feed quantity and quality cause fluctuations in animal nutrition and productivity throughout the year. One recommended means of relieving the nutritional constraint is to incorporate forage legumes into animal diets. Such legumes can be grown in pure stands on farms, incorporated into natural pastures, intercropped or cultivated in fodder banks (fodder banks are dense stands of forage legumes grown on a small area (about 4 ha) for 2 to 3 years to provide dry-season feed supplementation). Progress in such incorporation in South Sudan has been slow to non-existent. Forage crops play varying roles in the different livestock production systems. In general, they are important as adjuncts to crop residues and natural pastures and may be used to fill feed gaps during periods of inadequate crop residue and natural pasture supply. Even in the presence of abundant crop residues, which are often free feed for ruminants, forage crops, especially legumes, are needed to improve the utilization of crop residues. Crop residues are potential energy sources while forage legumes provide protein. Forage also provide benefits to other crops. When used in rotation with other crops, they provide benefits such as soil fertility through their nitrogen-fixing ability and are also useful in breaking insect, weed or disease cycles which are likely to occur in their absence.
(2) Objectives:	Through technical assistance from the public sector to the private sector, large scale adoption of forage crops across South Sudan to supplement livestock feed to improve animal nutrition, improve fattening rates, and provide feed for livestock during times of natural pasture and crop residue scarcity.
(3) Overall description including temporal and spatial extent of project:	The production quantity of forage crops in South Sudan is not known. This project will conduct an in-depth assessment to determine the amount of production, if any, of forage crops. After the assessment has been published and shared with all stakeholders, the MLFI national, state, and county livestock extension specialists will provide technical assistance to interested producers in the private sector. Technical assistance will come in the form of providing linkages to import quality legume seed into South Sudan, proper seeding, proper planting, rotational schedules of legume changed with cover crops such as oats, and various harvest methods that will benefit livestock.
(4) Component structure:	Component 1: Assessment Component 2: Training

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment Activity 1.1: An assessment team consisting of international and national specialists will conduct an in-depth assessment of the current production of forage crops in South Sudan. Outputs: The assessment team will consist of the following: 1 international assessment consultant 1 international forage specialist (agronomist) 2 MLFI Animal Production and Range Management Specialists 2 MLFI Livestock and Fisheries Extension Specialists This assessment team will take 6 months to conduct an in-depth assessment of forage crops in South Sudan. Once finished the assessment will be written, published, and shared with all stakeholders. During the same time the assessment is taking place a list of interested private sector producers will be kept for follow up on training. Component 2: Training Activity 2.1: A training team consisting of international and national specialists will conduct training for state livestock extension workers and county CAHW workers. These trained workers would then be expected to work directly with interested private sector producers in planting, harvesting, and possibly marketing forage crops for livestock. Outputs: The training team will consist of the following individuals: 1 international forage specialist (agronomist) 2 MLFI Animal Production and Range Management Specialists 2 MLFI Livestock and Fisheries Extension Specialists The training team will conduct two sessions of training. The first session would be specific to the 70 state livestock extension workers. This training would take place for 5 days in Juba. The second session would be specific to 158 CAHW county workers. This training would also be for 5 days and conducted in Juba. Attendees will be trained in all aspects of forage production with an emphasis on promoting

Items	Information
	forage crops to livestock producers throughout the country. Activity 2.2: This project serves as a great cross cutting opportunity. It can be incorporated into existing CAMP project profiles such as "Creation of livestock research centers" and "Enhancement of demonstration farms" projects, plus Crops projects. Forage production research plots would be incorporated into livestock research centres and demonstration farms, and would promote top producing forage crops for livestock. State and county extension workers can utilize demonstration farm forage plots to help promote the planting of forage crops throughout South Sudan. Output: This activity has been outlined in other CAMP project profiles.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	International and national agronomists with experience in forage crop production for livestock. State and county extension workers with experience and technical training in forage crop production.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are livestock producers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Widespread forage crop production in South Sudan for the purpose of supplementing livestock feed to improve animal nutrition, improve fattening rates, and provide feed for livestock during times of natural pasture and crop residue scarcity. Forage production can also become a thriving business venture where forage can be sold to other livestock producers.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Forage crop production may have a negative impact on the environment if farmers start clear cutting forests to make room for land to plant forages. This should be discouraged. (Positive) • Forage crop production will reduce the amount of fertilizer needed on the soil which is a significant positive impact on the environment. Production of forages has a significant positive impact on producers because of increased nutrition for their livestock, increased food security, and the possibility of selling forages to provide income.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No known forage crop production in South Sudan.
(2) Measurable indicators and situation at the end point:	• Number of producers recorded as raising forage crops • Number of hectares of land under forage crop production
(3) Methods of measurement and sources of information:	• Records kept by state and county extension workers and CAHWs.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management • Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	Experienced international and national specialists in forage and livestock production. Well trained state and county extension and CAWH workers with knowledge on forage production.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 MLFI Animal Production and Range Management Specialists • 2 MLFI Livestock and Fisheries Extension Specialists • 70 state livestock extension workers • 158 CAHW county workers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international assessment consultant. 6 month assignment • 1 international forage specialist (agronomist). 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk of this project is medium. There is risk associated with being able to import quality forage seed and risk in proper seed storage. There is risk with investing money in costly	

Items	Information
	legume seed and having a crop fail.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a private sector project with technical assistance from the public sector.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going: • 2 MLFI Animal Production and Range Management Specialists • 2 MLFI Livestock and Fisheries Extension Specialists • 70 state livestock extension workers • 158 CAHW county workers Other costs on-going: • Transportation (vehicles and fuel) enabling extension workers to travel to producers within their assigned geographic regions. • Computers for extension staff. • Communication allowances (cell phones) for staff to utilize in communicating with livestock producers. • Office space in existing government or university buildings. • Office supplies and maintenance.

02.14 Forage crops production project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**1,684**	**570**	**20**	**20**	**20**	**20**	**20**	**20**																**2,374**	**593**	**100%**
1 Deployment of government staff			**56**																							**56**	**14**	**2%**
1 Assessment survey (per diem)			38																							38	9	2%
2 Assessment survey (transportation)			18																							18	5	1%
2 Procurement of administrative services (contracted)			**8**																							**8**	**2**	**0%**
1 Printing of the assessment survey report			8																							8	2	0%
3 Procurement of professional services (contracted)			**1,620**																							**1,620**	**405**	**68%**
1 International consultant (assessment)			540																							540	135	23%
2 International consultant (forage)			1,080																							1,080	270	46%
4 Implementation of staff training				**570**																						**570**	**143**	**24%**
1 Training for 70 state extension workers at Juba (per diem)				105																						105	26	4%
2 Training for 70 state extension workers at Juba (transportation)				70																						70	18	3%
3 Training for 158 CAHWs at Juba (per diem)				237																						237	59	10%
4 Training for 158 CAHWs at Juba (transportation)				158																						158	40	7%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance					**20**	**20**	**20**	**20**	**20**	**20**																**120**	**30**	**5%**
1 Fuels, consumables for monitoring. supervision, follow up.					20	20	20	20	20	20																120	30	5%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**1,684**	**570**	**20**	**20**	**20**	**20**	**20**	**20**																**2,374**		**100%**
Total (USD '000)			**421**	**143**	**5**	**5**	**5**	**5**	**5**	**5**																	**593**	
% to total			**71%**	**24%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.15 Hides and skins processing extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Hides and skins processing extension project				
(3) Project ID:	0 2 . 1 5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2017/18		Ending FY: 2024/25	Duration (years): 8	
(5) Total investment:	SSP 6,577,000		USD 1,644,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08;04;07	MLFI-EX;IM;VS	Directorate of Livestock and Fisheries Extension; Directorate of Investment, Marketing, and Supplies; Directorate of Veterinary Services	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	One important by-product from the livestock industry is hides and skins. Hides and skins are further developed into leather which has a multitude of uses. The auto industry uses it for seat covers and the fashion industry is a large consumer of leather. Recently it has been recognized that goat leather makes excellent golf gloves. Leather is the end result of processing hides and skins. Before and after the signing of the Comprehensive Peace Agreement (CPA), South Sudan has had no industry for turning hides and skins into leather. Ugandans, Kenyans, Ethiopians and North Sudanese traders have left the market of raw hides and skins due to high transport costs and taxes. Only a small percentage (about 20%) of hides and skins from slaughter facilities enter the market. Most hides and skins, of both large and small ruminants, are discarded and no value is captured. This represents a large loss in economic value to the industry and country. Collectors play an important role in harvesting hides and skins from both slaughter facilities and from households. Hides and skins are usually bought on a per piece basis in South Sudan. Collectors work for hides and skins dealers. Dealers also hire a person to preserve and store the hides and skins. Preservation and storage facilities are rudimentary and public health issues are evident; where sun drying is practiced, a combination of frame drying and drying on the ground is common practice. Poor salting techniques and management of effluent are issues, as is the use of salt for preservation. Generally the most waste occurs at the processing/salting phase. Where dealers are closely involved in the business, there is better management of processing and grading. Preservation methods depend on the target market, with Khartoum preferring sun-drying. Hides and skins are transported in bulk, and therefore transportation is a large cost which is charged per hide or skin. Some dealers opt to take loans to purchase their own trucks to cut costs. Hides and skins are exported from the south of the country to Uganda, which in turn re-exports them after grading and minimal secondary processing. States in the north of the country export to Khartoum where there is a vibrant leather industry, or as far as Nigeria where they are consumed as food. It is estimated that approximately 170,000 hides and 1.6 million skins enter into the hides and skins market annually. The current cost per hide for cattle is 67 cents. The current cost per skin for goats and sheep are 28 cents. These costs per hides and skins are extremely low compared to other developing countries where cow-hides bring $30 per hide and sheep/goat skins bring $15 each. There is enormous potential for this industry in South Sudan due to the high numbers of livestock and the fact no one is taking advantage of this market. Pig hides are consumed as food and not used in tanning. The remaining hides and skins are discarded and do not enter into the market. This represents a large waste to South Sudan. The purpose of the project is to develop the hides and skin industry into a profitable business.
(2) Objectives:	To develop a functional and transparent hides and skins industry to meet the requirement of hides and skins quality standards in the international market.
(3) Overall description including temporal and spatial extent of project:	This project will help develop the hides and skin industry into a profitable subsector. The sector can be designed in stages to capture value over time with limited resources. As financial resources increase the potential for investment into leather processing and more value adding enterprises exists.
(4) Component structure:	Component 1: Community awareness program Component 2: Association development Component 3: Training program Component 4: Collection and storage facilities Component 5: Adoption of internationally recognized grades and standard system

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Community awareness program Activity 1.1: Implement a Community Awareness program which explains the economic loss of not properly harvesting hides and skins. Outputs: 70 livestock extension specialists and 158 CAHW workers will be tasked to spend 5 months creating awareness throughout South Sudan of the economic loss due to not harvesting hides and skins. All these workers will record interest groups also. Component 2: Association development Activity 2.1: Develop interested men and women into interest groups and then formalize these into registered associations. Outputs: 1 international development specialist with the help of 70 state livestock extension workers will work for 1 year in developing hides and skins associations and cooperatives throughout South Sudan.

Items	Information
	Component 3: Training program Activity 3.1: Develop a series of standardized training modules for the industry Activity 3.2: Identify trainers and implement a train the trainers program Activity 3.3: Implement training programs at the community level Outputs for Activities 3.1-3.3: Ongoing training program developed and implemented. 1- International consultant (leather and tanning specialist), 1- International consultant (SME specialist) and 1- International consultant (agribusiness specialist) will spend 30 days training 70 livestock extension workers in Juba on all aspects of hides and skins tanning, handling, marketing, and business management. These 70 Extension workers will then be responsible to train 158 CAHW workers for another 30 day period of time. Trainings for CAHW workers will take place in the state they reside. The 3 international consultants will spend 1 year travelling through South Sudan following up with cooperative visits, community level training, and overall technical assistance for the hides and skins industry. Component 4: Collection and storage facilities Activity 4.1: Establish collection sites Activity 4.2: Facilitate the development of storage facilities Outputs for Activities 4.1-4.2: Collection and storage facilities established. The 3 international consultants will work with livestock extension workers and CAHW workers during their 1 year assignment to identify private investors willing to construct collection sites and storage facilities. This will be a private sector investment with only technical assistance coming from the 3 international consultants. Component 5: Adoption of internationally recognized grades and standard system Activity 5.1: Perform a supply chain assessment Activity 5.2: Identify potential investors and entrepreneurs to build tannery or link with a tannery in an adjacent country to capture more monetary value Outputs: The 3 international consultants will recruit 20 workers (either recent college graduates or CAHW workers) to assist them in completing an assessment of the hides and skins industry supply chain. This assessment should take no more than 6 months. Based on this assessment, the consultants will identify and approach potential private investors willing to invest in new tanneries in South Sudan or invest in tanneries outside of Sudan. This is a private sector funded initiative with the consultants providing technical assistance as needed.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• A socially capable group that can create awareness and organize people into associations and cooperatives. • A group of individuals that can develop training modules and effectively deliver the information to interested parties. • A group of business minded individuals that can establish and run collection facilities which includes all logistics and activities involved with storage, transfer and sales. • A group of business investors that want to establish a commercial tannery or have the financial means to develop a reasonable business relationship with a tannery outside of South Sudan. • A group of technical specialists that can develop a grades and standards system
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are livestock producers because more value per animal is available. Secondary beneficiaries include all residents because a former waste product is no longer contaminating the environment. The individuals working in the service sector will benefit from profitable and functioning businesses.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• An international, transparent and profitable hides and skins program for South Sudan.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Currently hides and skins are “wasted” and not properly managed to avoid environmental waste. As the industry grows the use of either salting agents or sun drying leads to another set of environmental challenges. Central collection sites and storage warehouses will mitigate these issues. Proper training programs (proper tanning	

Items	Information
	techniques, proper storage, etc.) are also an important mitigation measure. (Positive) • Livestock producers will increase their incomes because more value per animal is available when hides and skins are utilized. Furthermore the environment will improve because a former waste product is no longer being wasted and contaminating the environment.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Unknown number of hides and skins • No known collection centres, storage, or processing facilities in South Sudan • No known associations or cooperatives involved with the hides and skins industry
(2) Measurable indicators and situation at the end point:	• Number of hides and skins collected • Number of hide and skin collection centres • Number of hide and skin processing centres • Number of hide and skin storage facilities • Number of tanneries or linkage with established tannery outside South Sudan • Number of people employed by the industry • Number of association, cooperatives and interest groups in hides and skins
(3) Methods of measurement and sources of information:	• Number of registered associations and cooperatives • Number of hides and skins sold • Amount of leather sold • Ministry of Planning, Program Management Unit, attendance sheets from training series • Number of registered businesses operating in the hides and skins industry
(4) Responsible parties for the monitoring and evaluation:	Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension; Directorate of Investment, Marketing, and Supplies; Directorate of Veterinary Services

2.7 Required human resources

(1) Principle of human resources management:	Develop skilled workers for the industry. Skills needed for harvesting, salting (treatment), flaying, scrapping hides, logistics, marketing and general trade. Unskilled labour needed for physical tasks. Individuals needed for grading. Individuals needed for business management and administration. Skills in monitoring and evaluation are needed. Supervisory skills are required.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 1- Senior level MLFI staff to administrate national hides and skins programs. • 1- Mid level administrative staff to work for MLFI administrator. • 70- Certified livestock extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). These extension workers will provide technical assistance in all aspects of the livestock industry including hides and skins. The livestock extension system is developed in another CAMP initiated project. • 158- CAHW's (2 in each county of the 79 counties of South Sudan).
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- International consultant (cooperative development specialist). This consultant can also assist with other livestock industries where cooperatives are needed such as bees and dairy industry. 1 year assignment. • 1- International consultant (leather and tanning specialist). 1 year assignment. • 1- International consultant (SME specialist). 1 year assignment. • 1- International consultant (agribusiness specialist). 1 year assignment

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Due to the complexity of the number of people and business linkages involved the risk is high. It can be easily controlled but will need a high level of organization and persistent follow up and monitoring. The industry is highly influenced by economic growth and any international slow down can significantly impact the industry. Another risk is with some of the renewable fibre industries.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The industry is an excellent industry for SME type program. It is also an excellent candidate for public – private partnerships. It is difficult to understand how the final industry will be structured. Currently it is obvious a strong private sector will develop creating many jobs. This will be primarily a private sector driven project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project: Description of the required resources can be done in an indicative manner:	Human resources (on-going): • 1- Senior level MLFI staff to administrate national hides and skins programs. • 1- Mid level administrative staff to work for MLFI administrator. • 70- Certified livestock extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). These extension workers will provide technical assistance in all aspects of the livestock industry including hides and skins. The livestock extension system is developed in another CAMP initiated project. • 158- CAHW's (2 in each county of the 79 counties of South Sudan). MILF will have to

Items	Information
	decide how they want to fund the CAHW workers. It is recommended their salaries come from the national, state, and county governments and that these workers are incorporated into the overall livestock extension system. Other on-going expenses: • Cell phone and internet service for government workers (70 workers). • Transportation allowance for government workers (70 workers).

02.15 Hides and skins processing extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project			**1,590**	**2,766**	**1,418**	**723**	**20**	**20**	**20**	**20**																**6,577**	**1,644**	**100%**
1 Deployment of government staff			**68**																							**68**	**17**	**1%**
1 Association development (per diem)			32																							32	8	0%
2 Association development (transportation)			36																							36	9	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)			**1,440**	**1,440**	**720**	**720**																				**4,320**	**1,080**	**66%**
1 International consultant (cooperative development)			360	360	180	180																				1,080	270	16%
2 International consultant (leather and tanning)			360	360	180	180																				1,080	270	16%
3 International consultant (SME)			360	360	180	180																				1,080	270	16%
4 International consultant (agri-business)			360	360	180	180																				1,080	270	16%
4 Implementation of staff training				**1,326**	**696**																					**2,021**	**505**	**31%**
1 Training for trainers at Juba (per diem)				567																						567	142	9%
2 Training for trainers at Juba (transpiration)				63																						63	16	1%
3 Training for CAHWs at state (per diem)				666	666																					1,332	333	20%
4 Training for CAHWs at state (transportation)				30	30																					59	15	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance			**82**		**3**	**3**	**20**	**20**	**20**	**20**																**168**	**42**	**3%**
1 Fuels for community awareness and association development			82																							82	21	1%
2 Fuels for facilitation of development of facilities					3																					3	1	0%
3 Fuels for assessment						3																				3	1	0%
4 Fuels, consumables for monitoring, supervision, follow up.							20	20	20	20																80	20	1%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)			**1,590**	**2,766**	**1,418**	**723**	**20**	**20**	**20**	**20**																**6,577**		**100%**
Total (USD '000)			**398**	**691**	**355**	**181**	**5**	**5**	**5**	**5**																	**1,644**	
% to total			**24%**	**42%**	**22%**	**11%**	**0%**	**0%**	**0%**	**0%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.16 Livestock auction facility improvement and management project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Livestock auction facility improvement and management project				
(3) Project ID:	0 2 . 1 6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2020/21		Ending FY: 2024/25	Duration (years): 5	
(5) Total investment:	SSP 35,611,000		USD 8,903,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA3	Public infrastructure development	Table 2-3
(2) Government organisation:	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
	05;07	MLFI-AP;VS	Directorate of Animal Production and Range Management; Directorate of Veterinary Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The current ruminant market structure in South Sudan is a combination of approximately 136 primary, 48 secondary and 13 terminal markets with each varying in size, structure and functionality. At this time the system is inadequate for the industry. The following are definitions of the 3 types of markets: primary markets (local markets, rural to rural transactions) where producers are the main seller, secondary markets/auctions (domestic markets with rural to urban transactions) where sellers are a mix of producers and traders, and terminal markets/auctions (hubs in the Greater Equatoria, Upper Nile and Bahr el Ghazal regions with urban to urban transaction) where livestock from surrounding counties and states are sold mostly for slaughter. In some locations producers may have to trek livestock two or three days to reach a primary market and up to a week to reach a terminal market. The infrastructure of primary markets is often times an open space with trees, no facilities and a semi-transparent system in which buyers and sellers negotiate and agree to a price. Local authorities may levy taxes and sellers manage and clean the facility. Secondary and terminal markets are generally larger and the sale area is enclosed with cattle and sheep/goats sold in separate areas. There may or may not be water and feed available. Penning facilities with adjacent pasture may be available or there may be a permanent cattle camp nearby offering services. Secondary and terminal markets are owned by either the state or county and management is by either local officials or private entrepreneurs. Disposal of dead animals is done by either burning or dumping the animals in the river. Some terminal markets may have additional facilities with revenue collection offices. With the signing of the peace agreement, secondary and terminal markets have been officially allocated outside town and urban centres but this change is viewed as risky due to security issues. There is a need to assess the current market structures and develop a long range plan which will improve access to facilities and ensure everyone has equal access, animals are comfortable with fresh feed and water, and a system for proper disposal of waste and dead animals. Poultry are sold at primary markets in rural areas and at secondary and terminal markets at county and state level.
(2) Objectives:	To develop an extensive market system that is accessible to all producers and addresses animal welfare plus environmental objectives.
(3) Overall description including temporal and spatial extent of project:	The project will review all market facilities and use the information to develop either a plan for improvement of existing facilities or the construction of new facilities. The source of funding for the program will have to be determined. If the local communities are using animal transactions as a basis of tax revenue, then the local authorities could finance the updates and new constructions; the understanding would be that once they recover the initial investment that the facility is transferred to the private sector. Prior to any construction or improvements the information will be shared with the producers of the proposed market area. This ensures a link between the various value chain stakeholders and allows for both: flow of information between all the stakeholders; and also allows any key concerns and issues to be raised prior to construction and a plan developed to mitigate concerns if needed. All market facility operations must be nationally certified and the management of each facility must be trained on basic animal welfare and comfort and proper disposal of waste. This project's components and activities will focus on secondary and terminal auctions/markets. The reason being that primary markets can simply be a watering hole, shaded area of a forest, etc. where livestock producers meet with their herds and negotiate on sales. Secondary and terminal markets need infrastructure, tax base, and revenue flow to sustain the livestock industry. Livestock auctions across the world normally only take place once per week or once per month. They do not happen every day. This project recommends that each auction takes place weekly on the same day and at the same starting time. Auctions operate by having a central ring (sale ring) where livestock from a specific owner are herded into the ring, an auctioneer sells the animals, and then the animals are herded out of the ring into holding pens waiting for the new owners to pick them up. There is always a main office where administrative staff record each sale that takes place, collect payments from buyers, subtract commission from the sale price (usually about a 5% commission per animal), then pay the seller the selling price minus the commission. The commission is how an auction facility is able to stay in business when they are operated by the private sector.
(4) Component structure:	Component 1: Assessment Component 2: Develop plan for construction or remodel of facilities Component 3: Implementation of development plan Component 4: Employment and training Component 5: Transfer to private sector

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment Activity 1.1: Comprehensive assessment will take place by a team of international and national specialists. Assessment will include the following:

Items	Information
	Current facility evaluation (including fencing, shade, physical structures condition, construction material, electricity, water, waste) Location evaluation (including security, water, waste, proximately to trading centre town) Industry evaluation (including the area that the facility will serve, number of animals, distance, security, potential for growth, proximity to major roads, trade/migratory routes) Outputs: A team consisting of the following individuals will complete the assessment: 1- international consultant (assessment/evaluation specialist) 1- international consultant (livestock specialist) 1- international consultant (civil engineer with experience in agricultural structures) 2- MLFI livestock production officers (national) 10- state government livestock officers (1 per state) 2- mid level administrative assistants The assessment team will need 6 months to travel to current secondary and terminal facility sites (61 sites total). Note it is not practically or financially feasible to travel to all 136 primary market sites. The main team consisting of the 3 international consultants and 2 national staff will travel to each site. The 10 state government workers will only travel to sites that are close to their geographical area. Once site visits have been made then the remainder of the assessment work will take place in Juba. A published assessment will then be made available to government officials and other interested stakeholders. Component 2: Develop plan for construction or remodel of facilities Activity 2.1: After the assessment has been completed, the same assessment team will start a second 6 month phases of this project which will be the development plan for construction or remodel of secondary and terminal facilities. A standardized plan for each type of facility should be developed so construction and remodelling can take place efficiently and quickly. The plan will need to include recommended locations, schematics of facility design, and protocols for waste management. Activity 2.2: Part of the development plan phase should address facility financing. Firm commitments from state, county, or local government on who is going to finance needs to take place. Activity 2.3: Once the development plan is developed and published it needs to be shared with the local communities in “town hall” style meetings to address any concerns including security. Outputs: The development team consisting of 3 international consultants and 12 South Sudanese specialists will complete the development plan mainly in Juba. After the plan is developed, the state livestock officers, along with any local leaders they choose, will present the plan to local communities in their state. It is expected that at least 5 meetings per state will take place within a 1 month period of time (50 meetings total). Comments from the meetings will be recorded and forwarded to the main development team in Juba for consideration. Component 3: Implementation of development plan Activity 3.1: Once the development plan has been published and approved the project will enter into a 3rd phase that will last 1 year where a transparent bidding process will take place, financing will be finalized, and construction/remodelling will begin. Outputs: An implementation team will be formed for this 3rd phase. They will consist of: 1- international consultant (livestock specialist). Same as other phases. 1- international consultant (civil engineer with experience in agricultural structures). Same as other phases. 2- MLFI livestock production officers (national). Same as other phases. 10- state government livestock officers (1 per state). Same as other phases. This implementation team will oversee the construction/remodel process. It is difficult to quantify how many markets/auctions will be constructed/remodelled until the assessment plan is completed but it is expected that at least 61 sites (existing number of secondary and terminal markets) will have some type of construction take place. An approximate estimated price for construction and remodelling would be the following: Construction of new facility (secondary market): open air structure at 185 square meters with associated fencing for pens and watering facilities~ $4,500 each Construction of new facility (terminal market): open air structure at 280 square meters with associated fencing for pens and watering facilities~$9,000 each It is expected that if remodel is chosen the cost would be 1/2 that of construction for each facility. Component 4: Employment and training

Items	Information
	Activity 4.1: Employees will need to be hired for each facility. Again it is estimated that there will be at least 61 sites. Quantifying which sites will be secondary and which will be terminal is difficult to know at this stage. Outputs: The following employee structure will need to take place: Secondary markets (takes place once per week): 1 auction site manager (also serves as auctioneer) 1 auction clerk (records price of sale at the sale ring) 1 runner (takes clerk sale records to the main office for processing) 3 animal handlers outside the sale ring to sort animals and herd them into the sale ring. 3 animal handlers that herd animals out of the sale ring and put them in holding pens. These same handlers verify sale receipts from buyers before animals are released. All 6 animal handlers are responsible for animal welfare. 4 administrative staff in main office to collect sale commissions and complete paperwork of sales. *Terminal markets* (takes place once per week): 2 auction site managers (also serve as auctioneers) 2 auction clerks (records price of sale at the sale ring) 1 runner (takes clerk sale records to the main office for processing) 5 animal handlers outside the sale ring to sort animals and herd them into the sale ring. 5 animal handlers that herd animals out of the sale ring and put them in holding pens. These same handlers verify sale receipts from buyers before animals are released. All 10 animal handlers are responsible for animal welfare. 6 administrative staff in main office to collect sale commissions and complete paperwork of sales. Activity 4.2: Training for facility employees will take place. The implementation team made up of international and national specialists (listed above) will travel to each state to conduct training of auction facility employees that are located in that state. Training subjects will include animal handling, disease detection, waste management protocols, dead animal protocols, feeding and watering protocols, and financial management for office staff. Outputs: Each training session will last 3 days. That equals 30 days of total training time. The exact number of employees that will be attending this training is impossible to quantify at this time. However a rough estimate would be a total of 1,281 people (average of 21 employees per site x 61 sites=1,281 employees). Component 5: Transfer to private sector Activity 5.1: A team of national staff will work to identify potential private investors to take over auction facility sites. Outputs: A transfer team will consist of the following individuals: 2 MLFI Animal Production staff 10 state livestock officers This transfer will take place at the end of the 5th year of the project. The above mentioned staff will complete this task within a 1 year period of time and it should be part of their regular duties. MLFI should strive to provide tax breaks and donation of the auction facility land to potential investors.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	International consultants with expertise in assessments, livestock, and civil engineering. National consultants with experience in livestock and knowledge of South Sudan auction operations.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are livestock producers because they will now have a transparent and readily available market system. Secondary beneficiaries are livestock traders, supply chain vendors, and consumers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• A transparent nationwide functional market system that allows for easy sales of livestock throughout the country.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: d Positive: c	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social	(Negative) • Auction sites if not managed properly will have a significant negative impact on the environment through animal waste and improper disposal of dead carcasses. Each	

Items	Information
impact, and mitigation measures:	facility will need two locations near the facility (away from water) where animal waste can be taken after each auction day and a second location where all dead animals can be taken. Animal waste then needs to be transported to fields where it can be applied as fertilizer and animal carcasses should be taken to a municipal dump where they are buried. (Positive) • This project will provide a positive impact with easier access for livestock producers to sell their animals in a safe environment. This will increase their incomes.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Unaccounted for auction facilities
(2) Measurable indicators and situation at the end point:	• Number of licensed, inspected and properly designed market facilities
(3) Methods of measurement and sources of information:	• Local authorities, copies of approved licenses, signup sheets from training, MLFI officials
(4) Responsible parties for the monitoring and evaluation:	Directorate of Livestock and Fisheries Extension; Directorate of Animal Production and Range Management; Directorate of Veterinary Services

2.7 Required human resources

(1) Principle of human resources management:	There are multiple HR requirements needed. Unskilled and skilled workers are needed. Workers to handle livestock are needed. Program managers are needed. Office skills are needed as well as business skills. Transparency and honesty is essential.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2- MLFI livestock production officers (national). • 10- state government livestock officers (1 per state). The following human resources will be part of the public sector for 5 years then transition into the private sector: Secondary markets (takes place once per week): • 1 auction site manager (also serves as auctioneer) • 1 auction clerk (records price of sale at the sale ring) • 1 runner (takes clerk sale records to the main office for processing) • 3 animal handlers outside the sale ring to sort animals and herd them into the sale ring. • 3 animal handlers that herd animals out of the sale ring and put them in holding pens. These same handlers verify sale receipts from buyers before animals are released. All 6 animal handlers are responsible for animal welfare. • 4 administrative staff in main office to collect sale commissions and complete paperwork of sales. Terminal markets (takes place once per week): • 2 auction site managers (also serve as auctioneers) • 2 auction clerks (records price of sale at the sale ring) • 1 runner (takes clerk sale records to the main office for processing) • 5 animal handlers outside the sale ring to sort animals and herd them into the sale ring. • 5 animal handlers that herd animals out of the sale ring and put them in holding pens. These same handlers verify sale receipts from buyers before animals are released. All 10 animal handlers are responsible for animal welfare. • 6 administrative staff in main office to collect sale commissions and complete paperwork of sales.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- international consultant (assessment/evaluation specialist). 1 year assignment. • 1- international consultant (livestock specialist). 1.5 year assignment. • 1- international consultant (civil engineer with experience in agricultural structures). 1.5 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The level of risk associated with the project is high due to the complexity of issues. Security is always an issue where producers could have livestock stolen. Livestock producers also have the risk of being cheated. Buyers of livestock run the risk of purchasing livestock that has a disease. There is also a high risk of disease transmission between herds of livestock as they come together to be sold. This disease transmission also has the potential for zoonotic (humans catching the disease) issues.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project will transition into a private sector industry.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project.	The facilities will have to be monitored. Monitoring is best if it can become local working from a standardized format. The following will be on-going human resources that will monitor auction facilities: • 2- MLFI livestock production officers (national). • 10- state government livestock officers (1 per state).

Items	Information
Description of the required resources can be done in an indicative manner.	Other on-going costs: • Communication allowances (cell phone and internet) • Transportation allowances • Computers

02.16 Livestock auction facility improvement and management project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,865**	**1,620**	**9,813**	**9,777**	**9,781**																**33,856**	**8,464**	**95%**
1 Deployment of government staff						**153**		**45**	**8**	**11**																**217**	**54**	**1%**
1 Assessment survey (per diem)						90																				90	23	0%
2 Assessment survey (transportation)						18																				18	5	0%
3 Meeting with community members (per diem)						27																				27	7	0%
4 Meeting with community members (transportation)						18																				18	5	0%
5 Training for market employees (per diem)								27																		27	7	0%
6 Training for market employees (transportation)								18																		18	5	0%
7 Monitoring and transfer activities (per diem)									4	5																9	2	0%
8 Monitoring and transfer activities (per diem)									4	6																10	3	0%
2 Procurement of administrative services (contracted)								**9,768**	**9,768**	**9,768**																**29,304**	**7,326**	**82%**
1 Employees for secondary markets (598 persons, for 3 years)								6,348	6,348	6,348																19,044	4,761	53%
2 Employees for terminal markets (315 persons, for 3 years)								3,420	3,420	3,420																10,260	2,565	29%
3 Procurement of professional services (contracted)						**2,700**	**1,620**																			**4,320**	**1,080**	**12%**
1 International consultant (assessment/evaluation)						1,080																				1,080	270	3%
2 International consultant (livestock)						810	810																			1,620	405	5%
3 International consultant (civil engineering)						810	810																			1,620	405	5%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**12**			**1**	**2**																**15**	**4**	**0%**
1 Fuels for assessment survey						10																				10	2	0%
2 Fuels for meeting with community members						3																				3	1	0%
3 Fuels for monitoring and transfer activities									1	2																3	1	0%
2 Construction of infrastructure and procurement of equipment							**1,035**																			**1,035**	**259**	**3%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities							**1,035**																			**1,035**	**259**	**3%**
1 Construction of secondary market (23 sites)							414																			414	104	1%
2 Renovation of secondary market (23 sites)							207																			207	52	1%
3 Construction of terminal market (8 sites)							288																			288	72	1%
4 Renovation of terminal market (7 sites)							126																			126	32	0%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans								**720**																		**720**	**180**	**2%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector								**720**																		**720**	**180**	**2%**
1 Training for market employees (per diem) 900 participants								540																		540	135	2%
2 Training for market employees (transportation) 900 participants								180																		180	45	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												

02.16 Livestock auction facility improvement and management project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
Total (SSP '000)						2,865	2,655	10,533	9,777	9,781																35,611		100%
Total (USD '000)						716	664	2,633	2,444	2,445																	8,903	
% to total						8%	7%	30%	27%	27%																100%		
5 Revenue (Auction charges to cover employees wages)																												
Total (SSP '000)								9,768	9,768	9,768																29,304		
Total (USD '000)								2,442	2,442	2,442																	7,326	
% to total								33%	33%	33%																100%		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.17 Livestock harvest facilities improvement and management project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Livestock harvest facilities improvement and management project			
(3) Project ID:	0 2 . 1 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2023/24	Ending FY: 2029/30	Duration (years): 7	
(5) Total investment:	SSP 5,224,000	USD 1,306,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA3	Public infrastructure development	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	05;08	MLFI-AP;EX	Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Although the exact size of the ruminant population in South Sudan is not know it can be estimated that the potential economic value of the industry based off early 2014 prices is approximately $10 billion (USD). Moreover, estimates for red meat consumption in South Sudan are equally variable among sources which range from as little as 4.7 kg to 19.7 kg per person per annum. In comparison, red meat consumption ranges from 4.0 kg to 63 kg from various countries in Africa with an average of 19.4 kg in 2009. There is enormous potential for red meat production, processing, wholesale, and retail sales in South Sudan. Slaughter and processing facilities in South Sudan are minimal and do not meet any international standards in terms of generally accepted practices for harvesting and processing of livestock. Most state capitals in South Sudan have slaughter slabs, with some like Aweil, Northern Bahr el Ghazal State, now having a harvest facility. However, in the majority of county capitals animals are slaughtered in the bush without veterinary supervision and inspection. Furthermore, the conditions are unacceptable in terms of sanitation and there is no consideration for handling waste. Further-processing (wholesale and retail meat cuts) facilities are limited and similar to the harvest facility lack proper sanitation. Additionally the cold chain for proper storage and transport is limited. The poor harvesting, processing and transport conditions in South Sudan have to be addressed along with the associated waste and environmental factors. A major constraint expressed across the country is the absence of a legal framework to facilitate meat inspection and failure by the other divisions of government to consult with veterinary authorities in situating slaughter houses. The veterinary service directorate relies on “goodwill” and outdated laws to carry out meat inspection. Otherwise, the owners of the meat/cattle have the final say on the status of the meat. Harvest facilities are government owned but operated by local authorities. Successful harvest facilities should be privately owned with the government only providing veterinarians to do post mortem inspection of carcasses and to ensure sanitary and waste policies are being followed.
(2) Objectives:	• Construct at least 3 harvest facilities (3 of the states with the highest livestock population). • Provide training to facility staff on proper methods for humane slaughter, most efficient way to break down livestock carcasses, maintain high sanitary standards, and best way to dispose of waste. • Provide training to government veterinarian and sanitation inspectors on carcass disease identification, sanitation protocols, and quality/yield grading systems. • Review current legislation related to meat inspection for South Sudan and if needed update policies to include a comprehensive inspection system for each harvest facility in each state.
(3) Overall description including temporal and spatial extent of project:	Although exact livestock numbers for South Sudan do not exist, the CAMP Situation Analysis report of 2013 estimates the 3 states with the highest livestock population/concentrations are Eastern Equatorial, Lakes, and Upper Nile. It is only logical to locate and construct harvest facilities in these states since transport costs would be reduced when bringing livestock to the facility to be harvested. Geographically locating the facilities in these states would put a harvest facility in the Southeast part of the country (Eastern Equatorial State), Central part of the country (Lakes State), Northern part of the country (Upper Nile State), and Western part of the country (currently existing harvest facility in Aweil. There is a current good example of a harvest facility. In Aweil there was a harvest facility constructed under the Sudan Productive Capacity Recovery Programme (SPCRP) which has animal handling facilities that offer ample space for animals to rest and drink water and facilitate ante mortem inspection. Training of harvest facilities staff will be vital. Staff will need to be trained on the following: • Ante mortem inspection of livestock • Proper humane livestock handling techniques • Humane slaughter techniques (use of stun guns for example) • Most efficient methods for hanging a carcass after slaughter • Most efficient methods for breaking down a carcass • Sanitary processing protocol. Employees could be trained using the internationally recognized Hazardous Analysis Critical Control Point (HACCP) system for sanitation. • Proper cold chain handling of wholesale meat cuts for packaging, shipping/transport to retail facilities. • Proper facility waste disposal procedures Training of government veterinarian inspectors and sanitation inspectors will need to

Items	Information
	include the following areas: • Proper inspection protocols of ante mortem and post mortem of animals. • Training on identification of diseases that would condemn carcasses and organs from being sold to the consumer (i.e. bovine tuberculosis, Cystercircus bovis, icterus, liver flukes, liver cirrhosis and abscesses). • Training on HACCP sanitation program. • Training on animal yield and quality grading systemds (i.e. Prime, Choice Select quality grades). • Animal handling and welfare issues (i.e. slaughter techniques and ante mortem handling). The Ministry of Agriculture must review current legislation as it relates to meat inspection and sanitation protocols for any facility processing meat products. If current legislation does not exist or is outdated, comprehensive legislation and enforceable policies must be enacted. Each harvest facility where slaughter of an animal or poultry takes place must have a government veterinarian present each day of slaughter to inspect post mortem animal and poultry carcasses. For facilities that only process meat products, government inspectors must be hired in each state to provide regular facility inspections to insure sanitation protocols are being followed.
(4) Component structure:	Component 1: Feasibility study. Component 2: Bidding process and construction. Component 3: Training of harvest facility staff and government veterinarian and sanitation inspectors. Component 4: Meat inspection legislation and enforcement implemented.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Feasibility study Activity 1.1: In partnership with private sector investors and government officials conduct a feasibility study determining the best location within the 3 states (highest livestock populations) to construct harvest facilities. Outputs: 3 locations will be chosen to construct harvest facilities. Preferably in the states of Eastern Equatorial State, Lakes State, and Upper Nile State. 2 senior government officials with MLFI will work with private investors for 6 months to determine suitable locations. Component 2: Bidding process and construction. Activity 2.1: Implement a transparent bid process to construct harvest facilities. There should be separate bids for construction of the facilities and procurement of equipment to be housed in the facilities. Outputs: Construction of 3 harvest facilities and waste holding ponds. Procurement of equipment for each facility (band saw, grinder, tenderizer, refrigeration units, freezer rooms, ceiling pulley system with hooks, outside holding pens and watering troughs, inside containment chute for slaughter process. Construction and equipment costs would be private sector investments. Component 3: Training of harvest facility staff and government veterinarian and sanitation inspectors. Activity 3.1: Train harvest facility staff. 10 staff from current facility in Aweil will be trained along with 10 staff for each of the new 3 facilities. Outputs: A total of 40 staff will be trained. Staff will go through an intensive training schedule for 5 days a week for 6 weeks. 40 staff with 30 days of training. Training will need to take place at the Aweil facility. Harvest facility staff will be properly trained in all aspects of livestock harvest facility operation and will become HACCP certified. Activity 3.2: Train government veterinarian and sanitation inspectors. There will be 2 government inspectors for each of the 4 facilities that will go through a 6 week intensive training program. There will 50 government sanitation inspectors (5 for each state) that will participate in an intensive 6 week program. Total trainees will be 58 for 30 days in Juba. Outputs: The South Sudanese government will have trained, competent staff inspecting meat products throughout the country. This will increase the safety of food being eaten by the consumer and help increase export markets of South Sudanese meat products. Component 4: Meat inspection legislation and enforcement implemented. Activity 4.1: Current Ministry of Agriculture Officials will review existing meat and meat processing inspection/sanitation legislation. Existing policies will be updated to include inspection services for all harvest facilities by veterinarians as well as sanitation inspectors that will have the authority to inspect all meat processing facilities. Regulatory and enforcement policies will also be implemented.

Items	Information
	Outputs: An updated, comprehensive legislation document that is transparent and shared with all stakeholders that clearly defines rules and regulations pertaining to meat processing.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	• 40-harvest facility staff (10 for each of the 4 facilities) with experience in slaughter, processing, sanitation, and animal handling for cattle, sheep, goats, and pigs. • 8-veterinarian inspectors (2 for each of the 4 facilities) with experience in animal handling, carcass evaluation, disease identification, and quality/yield grading. • 50-government sanitation inspectors (5 for each state). • 1-international consultant (harvest facility and meat processing specialist) to complete a 1 year assignment. • 1-international consultant (meat processing facility and HACCP sanitation specialist) to complete a 1 year assignment.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries will be livestock producers that will have sanitary facilities to have their livestock processed. Secondary beneficiaries will be consumers of meat in South Sudan.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Registered and sustainable associations with a comprehensive assessment to be used by private sector for constructing and maintaining harvesting and processing facilities.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • There is the potential for significant negative impact to the environment due to waste coming from the harvest facility. During construction mitigation plans such as waste water ponds, proper drainage systems, and the capture of blood and other waste to be recycled for farm fertilizers need to be implemented. (Positive) • Constructing functional, sanitary harvest facilities will bring South Sudan into the international market as well as creating an avenue for livestock producers to sell animals. This will be a significant positive impact on the economic development of the livestock industry.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• 1 functioning harvest facility in Aweil. • Unaccounted for slab harvest facilities throughout the country. • Inadequate veterinarian inspectors. • Inadequate sanitation inspectors.
(2) Measurable indicators and situation at the end point:	• 4 functioning harvest facilities in the country. • Veterinarian inspectors located within each harvest facility. • Sanitation inspectors located in each state with authority to inspect all meat processing facilities.
(3) Methods of measurement and sources of information:	Government inspectors will be expected to complete regular reports.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Veterinary Services; Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	Trained, competent employees in the private sector harvest facilities that are able to humanely handle and slaughter livestock. Transparent and well trained veterinarian and sanitation inspectors in the public sector.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2-senior level MLFI staff to work with private investors for no longer than 6 months to find suitable harvest facility locations. • 8-veterinarian inspectors (2 for each of the 4 facilities) with experience in animal handling, carcass evaluation, disease identification, and quality/yield grading. • 50-government sanitation inspectors (5 for each state).
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 40-harvest facility staff (10 for each of the 4 facilities). • 1-international consultant (harvest facility and meat processing specialist) to complete a 1 year assignment. • 1-international consultant (meat processing facility and HACCP sanitation specialist) to complete a 1 year assignment.

Items	Information

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	Risks of harvest facility operations are high due to handling of knives and saws by employees. Safety standards will need to be formalized before operations begin and harvest facility staff will need to be provided with safety orientation when they begin employment.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a private sector venture with government providing the inspection and regulatory component of the industry.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner:	On-going human resources: • 8- veterinarian inspectors (2 for each of the 4 facilities) with experience in animal handling, carcass evaluation, disease identification, and quality/yield grading. • 50- government sanitation inspectors (5 for each state). On-going equipment costs: • Veterinarian inspectors will need cell phone and internet capability along with computers to write reports. • Sanitation inspectors will need transportation (either official government vehicles or personal vehicle travel allowances) in order to travel to meat processing facilities throughout their assigned regions They will also need computers to complete reports, cell phones, and internet capability.

02.17 Livestock harvest facilities improvement and management project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project									**48**		**4,000**	**158**	**158**	**158**	**158**											**4,680**	**1,170**	**90%**
1 Deployment of government staff									**45**		**67**	**38**	**38**	**38**	**38**											**264**	**66**	**5%**
1 Feasibility study (per diem, etc.)									27																	27	7	1%
2 Feasibility study (transportation)									18																	18	5	0%
3 Training for harvest facilities staff (per diem,etc)											25															25	6	0%
4 Training for harvest facilities staff (transportation)											4															4	1	0%
5 Monitoring of enforcement by staff (per diem)											18	18	18	18	18											90	23	2%
6 Monitoring of enforcement by staff (transportation)											20	20	20	20	20											100	25	2%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)											**3,024**															**3,024**	**756**	**58%**
1 International consultant (harvest facility & meat processing)											1,512															1,512	378	29%
2 International consultant (meat processing HACCAP sanitation)											1,512															1,512	378	29%
4 Implementation of staff training											**789**															**789**	**197**	**15%**
1 Training for veterinarian/ sanitation inspectors (per diem,etc)											731															731	183	14%
2 Training for veterinarian / sanitation inspectors (transpiration)											58															58	15	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance									**3**		**120**	**120**	**120**	**120**	**120**											**603**	**151**	**12%**
1 Fuels for feasibility study									3																	3	1	0%
2 Fuels for Inspection											80	80	80	80	80											400	100	8%
3 Communication for inspection											40	40	40	40	40											200	50	4%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans											**544**															**544**	**136**	**10%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector											**544**															**544**	**136**	**10%**
1 Training for harvest facilities staff (per diem,etc)											504															504	126	10%
2 Training for harvest facilities staff (transportation)											40															40	10	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)									**48**		**4,544**	**158**	**158**	**158**	**158**											**5,224**		**100%**
Total (USD '000)									**12**		**1,136**	**40**	**40**	**40**	**40**												**1,306**	
% to total									**1%**		**87%**	**3%**	**3%**	**3%**	**3%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.18 Livestock identification and traceability project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Livestock identification and traceability project			
(3) Project ID:	0 2 . 1 8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2025/26	Ending FY: 2029/30	Duration (years): 5	
(5) Total investment:	SSP 2,912,000	USD 728,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA5	Animal health and disease control services	Table 2-3
(2) Government organisation:	07	MLFI-VS	Directorate of Veterinary Services	Table 2-6
	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12
	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	X
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Livestock are a large natural resource in South Sudan and can become an important source of foreign exchange if managed and developed properly. However, for meat and livestock to be traded internationally animals and animal products must meet traceability standards as defined by the Codex Alimentarius (International Organization and Standardization system). The Codex Alimentarius Commission, established by Food and Agriculture Oganization of the United Nations (FAO) and World Health Organization (WHO) in 1963 develops harmonised international food standards, guidelines and codes of practice to protect the health of the consumers and ensure fair practices in the food trade. The Commission also promotes coordination of all food standards work undertaken by international governmental and non-governmental organizations. The adoption of an internationally accepted ID system will allow producers in South Sudan to meet and exceed international standards. Moreover, it will provide the Directorate of Veterinary Services a system which can be used in disease monitoring and reporting. Thus, South Sudan livestock producers will have a competitive edge over the immediate surrounding areas and have a system similar to Namibia and Botswana.
(2) Objectives:	Develop a national livestock identification system that allows for traceability and animal movement to meet international and regional trade and health standards.
(3) Overall description including temporal and spatial extent of project:	The industry will adopt both Radio Frequency Identification (RFID) ear tags along with visual tags tied to a unique livestock identification numbering system which is maintained in a nationally held database. Animal movement and transfers will be recorded as the animals are exchanged (owner to owner) or moved from region to region. This allows the animal to have a "passport" which meets international traceability standards while also providing an effective disease monitoring system which can be used to trace disease outbreaks and quickly allowing a method for rapid and accurate quarantine of animals or any other necessary activity. Livestock identification also called ear tagging not only aids in tracing disease. It is an essential tool in genetic improvement within cattle, sheep, and goat herds. Having each animal ear tagged along with corresponding written records enables producers to remove inferior animals quickly from the herd and sell them enabling only the best animals to remain for breeding and genetic improvement purposes. Ear tags are simply put into the ear of each animal while it is restrained using a tool that inserts either plastic or metal ear tags. Each ear tag has a specific number and ear tags can also have the name of the farm or ranch written on the tag with the number. The process is similar to a person having their ears pierced for earrings.
(4) Component structure:	Component 1: Local workshops to create awareness. First meeting with Paramount Chiefs, Chiefs, Sub-chiefs and elders to explain program and obtain cultural permission. Component 2: Strategy Planning Phase Component 3: National implementation of identification system Component 4: System maintenance with data collection, tracking maps generation and stakeholder sharing of information on a transparent basis

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Local Workshops to create awareness. First meeting with Paramount Chiefs, Chiefs, Sub-chiefs and elders explain program and obtain cultural permission. Activity 1.1: Preparation and delivery of informational material Output: Written material that can be taken throughout South Sudan and delivered to livestock producers and tribal Elders. This could also be called trying to "sell" the idea of the new technology. The following staff would need to be part of the team that presents the plan to community leaders: 3- Senior level staff from the Directorate of Veterinary Services. 3- Senior level staff from the Directorate of Animal Production and Range Management. 3- Community Animal Health Workers (CAHW) that are highly respected from each state (30 total but when the national team goes to each state the 3 CAHW workers will accompany them). This output would take at least 6 months and require travel to each state. Component 2: Strategy Planning Phase Activity 2.1: Design a pilot program for both small and large ruminants, minimum of 1000 head in three locations (3 states with the most livestock). Activity 2.2: Train extension staff how to properly place tags in livestock and train computer operators how to enter and maintain data. Activity 2.3: Pilot Program implementation.

Items	Information
	Activity 2.4: Demonstrate system functionality including development of a lessons learned document for use in national rollout Output (Activities 2.1-2.4): The pilot program will demonstrate to other livestock producers in the country how easy it is to implement an identification program. Seeing is believing in the international development world. Additionally extension staff will know how to properly restrain and tag animals and can teach producers this skill. Staff required for the pilot program include the following: 3- Senior level staff from the Directorate of Veterinary Services. 3- Senior level staff from the Directorate of Animal Production and Range Management. 3- Community Animal Health Workers (CAHW) and/or state livestock extension staff. 1- International consultant (livestock specialist). To help with the initial pilot program and follow up with additional consulting with MLFI staff. 1- International consultant (GIS specialist). To train a minimum of 10 MLFI staff on how to use GIS technology. Updated computers and GIS technology software. 5 computers with software~ $$9,000 total. 5 hand held GPS units~ $1,500 total. Pilot program will begin with the 3 states with the highest livestock populations. These include Eastern Equatorial State, Lakes State, and Upper Nile State. A team of staff including 6 MILF staff and 3 state CAHW/livestock extension workers will conduct a tagging program spanning 1 week in each state (3 weeks total). Component 3: National implementation of identification system Activity 3.1: Highlighting the success of the pilot program that took place in the 3 states implement a national program that first emphasizes regular plastic ear tags for identification of livestock. Then as the infrastructure around the livestock industry becomes stronger then introduce the Radio Frequency Identification (RFID) ear tag system. The RFID program realistically would not begin until after this project is near being finished due to constraints. Output: Livestock producers will now have an important and essential livestock management tool with this identification system. Livestock can be tracked as they are sold and breeding programs will be improved. Component 4: System maintenance with data collection, tracking maps generation and stakeholder sharing of information on a transparent basis. Activity 4.1: A national database must be developed, implemented, and maintained by MLFI. It is recommended that only one Directorate within MLFI (preferable Directorate of Animal Production and Rangeland Management) has access to this database to ensure quality control of inputs. Output: A national identification system that will allow MLFI to monitor livestock which will insure quicker response times to disease outbreaks, prevent theft of livestock, making recovery of stolen livestock simpler, and provide the livestock industry with a modern management tool that will help increase production and profitability.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Four levels of service providers will be utilized. First are the information providers, second are the people needed to tag the livestock, third are the individuals required for recording and collecting field information and fourth the individuals that will maintain the databases. • 65- Livestock extension staff, 6 per state, average. One potential method is to use teams in certain areas. • 5- Mid-level administrative staff for database entry and maintenance. These staff will be housed within the Directorate of Animal Production and Rangeland management. 2 of these staff should be database specialists with the ability to program and adopt Microsoft excel and access • 1- International consultant (livestock specialist). 1 year assignment. • International consultant (GIS and GPS mapping specialist). 6 month assignment.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are the livestock producers that will have an official and internationally recognized ownership program. The Country will benefit because it will meet international health standards and second because the animals and products can be freely traded in the international market place. The traditional cattle rustling practices will be discouraged as animals will have numbers bearing regions, states and counties.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	• Livestock identified. • Ability to trade livestock products in the world market place. • Modern identification system. • Better ability to manage and monitor animals for disease monitoring. • Help to discourage cattle rustling.

Items	Information
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures	(Positive) • Positive impact on the environment. Adoption of the system will improve security since it provides proof of ownership of the animals in a non-disputable manner while allowing producers the opportunity to trade locally, regionally and internationally. Migratory routes and grazing patterns of livestock will also be monitored to better preserve rangeland and natural resources.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	The livestock identification system (ear tags and branding) in South Sudan was on Government Farms of the previous MAFAO, Marial Bai, and Kapoeta sheep ranch. Currently, the communities have their own means of identification by cutting the ears and branding.
(2) Measurable indicators and situation at the end point:	• Number of animal with a unique identification. The place of origin will be traced for diseases and trade. Cattle rustling reduced.
(3) Methods of measurement and sources of information:	• Number of animals tagged. • Staff that tags animal, IDs entered into functional database.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Veterinary Services; Directorate of Animal Production and Range Management

2.7 Required human resources

(1) Principle of human resources management:	The ministry will need to develop an identification rule or numbering system unique to the Country of South Sudan. The animal service providers can come from the certified livestock extension system or CAHW workers. The livestock extension workers would also be excellent for the information phase. The data entry and database specialists will be part of the ministry (MLFI) under the Directorate of Animal Production and Rangeland Management.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 65- Livestock extension staff, 6 per state, average. One potential method is to use teams in certain areas. • 5- Mid-level administrative staff for database entry and maintenance. These staff will be housed within the Directorate of Animal Production and Rangeland management. 2 of these staff should be database specialists with the ability to program and adopt Microsoft excel and access
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1- International consultant (livestock specialist). 6 month assignment • 1- International consultant (GIS and GPS mapping specialist). 6 month assignment

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	There is a certain amount of risk involved with livestock services. Animals will have to be identified and restrained in a working area for tagging. This has a negative influence on the environment.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Animal holding pens and restraining chutes will be constructed for ease of ear tagging, census taking.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner:	• New-born livestock will have to be tagged yearly. • A system of monitoring needs to be developed. • Tag information as related to sales and movement must be recorded electronically. • If possible, an extension staff member can go to each area on a monthly basis to capture the information. • Practically speaking a system similar to Namibia should be developed in which there are satellite offices where the information is captured at a local level. This can then be transferred to a central location (Juba) for entry. If needed a simple paper system for transfer and registration can be developed. These forms can be collected on a scheduled time frame and then entered into the main data base. Human resources (on-going): • Average of 6 extension staff per state but no extra funding would be needed for these staff as this project should be one of their primary functions.

Items	Information
	• 5- Mid-level administrative staff for database entry and maintenance. These staff will be housed within the Directorate of Animal Production and Rangeland management. 2 of these staff should be database specialists with the ability to program and adopt Microsoft excel and access

02.18 Livestock identification and traceability project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**1,565**	**181**	**178**	**178**	**178**											**2,281**	**570**	**78%**
1 Deployment of government staff											**56**	**37**	**34**	**34**	**34**											**196**	**49**	**7%**
1 Pilot workshop & training (per diem)											38															38	9	1%
2 Pilot workshop & training (transportation)											18															18	5	1%
3 Training for state staff (per diem)												25														25	6	1%
4 Training for state staff (transportation)												12														12	3	0%
5 Monitoring for state activities													16	16	16											49	12	2%
6 Monitoring for state activities													18	18	18											54	14	2%
2 Procurement of administrative services (contracted)											**65**															**65**	**16**	**2%**
1 Promotion video for dissemination of ear tag											50															50	13	2%
2 Print material (for awareness)											15															15	4	1%
3 Procurement of professional services (contracted)											**1,440**															**1,440**	**360**	**49%**
1 International consultant (livestock)											1,080															1,080	270	37%
2 International consultant (GPS/GIS)											360															360	90	12%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**4**	**144**	**144**	**144**	**144**											**580**	**145**	**20%**
1 Office supplies in Juba											4	4	4	4	4											20	5	1%
2 Communications												40	40	40	40											160	40	5%
3 Fuels for monitoring												100	100	100	100											400	100	14%
2 Construction of infrastructure and procurement of equipment											**210**	**420**														**630**	**158**	**22%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment											**210**	**420**														**630**	**158**	**22%**
1 PC and software for tag data management (for MLFI)											180															180	45	6%
2 Hand held GPS (for MLFI)											30															30	8	1%
3 PC and software for tag data management (for states)												360														360	90	12%
4 Hand held GPS (for states)												60														60	15	2%
3 Subsidies, equity and loans											**2**															**2**	**0**	**0%**
1 Provision of cash and/or in-kind subsidies											**2**															**2**	**0**	**0%**
1 Plastic ear tag for pilot project											2															2	0	0%
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											**1,776**	**601**	**178**	**178**	**178**											**2,912**		**100%**
Total (USD '000)											**444**	**150**	**45**	**45**	**45**												**728**	
% to total											**61%**	**21%**	**6%**	**6%**	**6%**											**100%**		

Public sector project | Private sector project | Routine work by government | Routine work by private sector

3.4.19 Meat production and processing extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Meat production and processing extension project				
(3) Project ID:	0 2 . 1 9	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2020/21		Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 4,886,000		USD 1,221,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	07;08	MLFI-VS;EX	Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	301	PS-PR	Private Sector-Production	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	X
	06	PS	Private sector project	X
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	X
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	South Sudan has a small but rapidly growing high income population. This comprises of senior civil servants, the business community and international aid workers largely based in Juba and the other major towns. Using the average meat consumption level of 80 – 130 kg per person per year for developed countries, it is possible to assume that the demand in this segment is roughly 6,900 metric ton of meat annually. This market is currently supplied from meat imported from neighbouring countries, served through high-end supermarkets and hotels, because the local supply cannot cover the demand. South Sudanese cattle producers are keeping their animals for marriage dowry and wealth accumulation instead of the commercial market. Estimates show that less than 30% of demand is currently met. Many customers have to make do with unclassified meat supplied through domestic channels. Although South Sudan used to export significant numbers of livestock to neighbouring countries during the period of civil war, this is no longer true and the only exports are now largely to Khartoum, largely through Bentiu (to El Obeid) in Unity, and Malakal, Renk and Manyo in Upper Nile. These exports are estimated to be around 50,000 cattle, 20,000 sheep and goats annually in addition to undocumented amounts of pork and chicken meat. The current quantity is small making enormous growth potential for this regional market. World demand for red meat is rapidly growing (largest growth in China) and meat consumption is expected to double by 2050. Most of the meat is expected to come from developing countries. The key challenges along the meat value chain in South Sudan include lack of meat policy, poor management, concentration in urban areas with limited management, animal disease, poor sanitation, poor breeds, poor processing and transport facilities, lack of access to inputs and financing, and inadequate quality control for the meat sold in the local markets. In addition there is an inadequate system of formal licensing of slaughterhouses or any health certification of the meat trade. The industry is ripe for growth. South Sudan has a high population of livestock which includes pigs. Rearing of pigs is an emerging activity in South Sudan. The highest concentration of pigs is in Maban County, Upper Nile State, where there are an estimated 35,000 pigs kept by the indigenous community. Pigs will provide another source of red meat and protein as South Sudan grows. South Sudan has an abundance of natural pastures and prime rangeland with water access. Rural communities have expressed their readiness to organize themselves into cooperative groups. Local, regional, and international markets for meat exist and red meat is in high demand. Therefore, there is urgent need for development of a legal framework to regulate meat inspection, overall food safety, meat processing, and marketing. National and state governments should encourage livestock producers to sell their animals to traders and harvest facilities to increase their personal wealth and household income. This in turn would contribute greatly to the national economy and GDP.
(2) Objectives:	To encourage livestock producers to start selling livestock into the meat industry, organize interested meat traders and livestock producers into associations, assess the industry, develop comprehensive extension training program. Another primary objective is quality and sanitary meat for the local consumer.
(3) Overall description including temporal and spatial extent of project:	The meat industry project is designed as a technical assistance project to increase the technical capacity of small holder producers in South Sudan. The program will facilitate the technical capacity and establish a strong technical base for advancing the industry. Long term strategy will require foreign assistance in the establishment of key infrastructure projects such as improved breeds, feed mills, water accessibility, waste management and slaughter facilities.
(4) Component structure:	Component 1: Assessment Component 2: Cooperative development Component 3: Extension training Component 4: Promotion of value added meat products

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment Activity 1.1: An assessment team consisting of international and national specialists will conducted an in-depth 6 month meat industry assessment. This assessment will be done as a combination of a desk study and field visits to obtain accurate data. Outputs: The assessment team will consist of the following:

Items	Information
	1 international assessment consultant 1 international livestock and meat industry specialist 2 MLFI Animal Production officers 3 MLFI Livestock and Fisheries extension officers The assessment team will complete a desk study in conjunction with field visits to butcher shops, restaurants, hotels, retail markets, and auction facilities to determine the current status of the red meat industry in South Sudan. Once data is collected a complete assessment will be written and published and made available to all stakeholders. Also as part of the assessment the team will record potential interest groups where a follow up from a cooperative development team could take place. Component 2: Cooperative development Activity 2.1: Using data collected from the assessment team, follow up visits will take place with interest groups. A team consisting of international and national specialists will conduct the follow up visits and form these groups into registered, operating meat industry cooperatives. Outputs: A cooperative development team will consist of the following: 1 international cooperative development consultant 1 international livestock and meat industry specialist 2 MLFI Animal Production officers 3 MLFI Livestock and Fisheries extension officers It is expected that a period of 1 year will be needed to develop and register cooperatives for the meat industry. The exact number of cooperatives is difficult to quantify but it is expected that at least 2 cooperatives per state (20 total) will be organized. Component 3: Extension training Activity 3.1: Technical training for livestock extension staff and newly formed cooperatives will be the primary focus of this project. An extension training team consisting of international and national staff will conduct training to state and county livestock extension staff in the areas of livestock and swine nutrition, fattening, animal health, selection of good livestock and swine, proper slaughter techniques, sanitation guidelines for meat processing, how to inspect quality and yield grade livestock and swine carcasses, and the importance of quality meat in marketing to retail stores, hotels, and restaurants. Outputs: The main extension training team will consist of the following: 1 international livestock and meat industry specialist 2 MLFI Animal Production officers 3 MLFI Livestock and Fisheries extension officers This team will develop the training curriculum in the form of PowerPoint presentations, written resource materials, and fact sheets. This phase will take 3 months. This curriculum will then be used by the team to conduct training in Juba for the 70 certified state livestock extension specialists and 158 CAHW county extension workers. The training would be split into 3 sessions. Session 1 would be for the 70 state livestock extension specialists. Session 2 would be for 79 county extension workers and Session 3 would be for the remaining 79 county extension workers. Each session would last 5 days and the training sessions would be given in Juba. Activity 3.2: The newly trained state and county livestock extension workers would then be required to provide training to the 20 registered cooperatives across South Sudan. Outputs: State and county livestock extension workers would team up based on geographical location and give the training using the same curriculum they received in Juba. Component 4: Promotion of value added meat products Activity 4.1: Products such as sausages, offal (bones, blood, hearts, liver, etc.), and smoked meats from livestock and swine are all valuable in the meat industry and can be described as value added products. A team of international and national specialists will promote value added meat products and provide technical assistance to private sector meat processers in South Sudan. Outputs: The value added meat products team will consist of: 1 international meat processing specialist 2 MLFI Animal Production officers (meats backgrounds) This team would identify at least 10 private sector meat processing companies, preferably in urban areas. The team would then spend time working inside the meat processing shops and/or butcher shops to provide technical assistance to the private sector businesses on the following: Various types and methods of sausage production using beef, pork, goat, and lamb meat.

Items	Information
	Smoked beef production also called "jerky" to be marketed as a snack food. How to properly clean offal such as liver, stomach, kidneys, and lungs and market these as delicacies. How to utilize bone and blood meal in livestock feed supplements. Equipment needed to produce sausage, jerky, and tenderized cuts of meat. Sanitation and quality control procedures for meat processing shops. It is expected that this team will spend 30 days per each private sector business for a total of 300 days.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The training curriculum will be developed with the assistance of international and national technical specialists who will also assist in training of the trainers. The program is best implemented with a service provider with credible experience in fattening of bulls, small ruminants and swine production. National staff will accompany the international specialists.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are those interested in meat production and marketing. Secondary beneficiaries would include livestock producers and families (consumers) who will benefit because of increased quality meat for consumption. All participants in the value chain will benefit because of business linkages and profitable production.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A well trained and focused meat industry that has the capacity to grow. There will be a larger amount of high quality meat and meat products available for private consumption in the market place. The increased meat supply will lead to improved health and provide a source of livelihoods which will include women and youth.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right)	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Meat production and processing can have a significant negative impact on the environment due mainly to poor handling of waste. International and national specialists will work with meat processors to adopt best practices in being sanitary and properly disposing of waste. (Positive) • The industry represents excellent opportunities for rural development, gender concerns, health issues and food security. Higher quality meat in combination with strict sanitary procedures will protect consumers.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No registered meat associations or cooperatives • Number of healthy animals slaughtered daily • Amount of meat in market place • Number of butcheries available
(2) Measurable indicators and situation at the end point:	• Number of registered meat interest groups, associations and cooperatives • Number of healthy animals slaughtered daily • Amount of meat being sold in market place • Number of meat markets
(3) Methods of measurement and sources of information:	• Number of associations, interest groups and cooperatives registered with authorities • Training attendance sheets • Number of meat markets recorded
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of Veterinary Services; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	International and national staff will need to have an extensive background in the livestock and meat industries. Specifically slaughtering techniques, sanitation protocols, meat processing techniques (including modern equipment used).
(2) Required human resources in the public sector (Positions, grades and numbers):	Human resources: • 2 MLFI Animal Production officers (assessment and cooperative development experience). • 2 MLFI Animal Production officers (meat processing experience) • 3 MLFI Livestock and Fisheries extension officers
(3) Required human resources in the private sector including	• 1 international assessment specialist. 6 month assignment. • 1 international cooperative development consultant. 1 year assignment.

Items	Information
consultants (positions, qualification and numbers):	• 1 international livestock and meat industry specialist. 1 year assignment. • 1 international meat processing specialist. 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk level is assessed to be medium. First the project is dependent upon a solid educational foundation. The training goals must be achieved for the project to develop properly. Factors such as accessibility to rural areas to meet with producers is a risk. There is always a risk in access to feed for livestock which in turn affects meat production. One risk worth mentioning is the social, cultural, and gender components involved with selling livestock for meat. Livestock in South Sudan have a cultural heritage of being kept to pay dowry for marriages and as a sign of wealth. Convincing tribes to change to a cash based income system could prove difficult. Also if a cash income system is developed it is important to insure women of households have access to this cash.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The project should be focused on technical assistance during the early stages. There should be caution in wanting to quickly introduce new breeds of livestock to increase meat production. For long term progress in livestock production, a better understanding of the current native species is needed. Many times poor production is explained as poor genetics when in reality the problem is not poor genetics but a symptom of the environment. For example, reproductive efficiency is said to be low in South Sudan due to the delay in females reaching maturity at 36 to 49 months and the average age at first calving ranges from 44 to 56 months. Some of this delay could be contributed to the genetic nature of the current breeds but studies over the last twenty years have found that much of the delay can be attributed to poor nutrition. Another additional problem is a lack of understanding how to coordinate reproduction with the availability of feeds. A better understanding of the current breeds, management systems and growing conditions is needed before the introduction of new genetics.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner:	Human resources on-going: • 2 MLFI Animal Production officers • 2 MLFI National extension officers • 70 state livestock extension workers • 158 county CAHW workers Other on-going expenses: • Communication allowance (cell phones and internet) • Transportation allowances • Computers • Office maintenance and supplies

02.19 Meat production and processing extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**1,042**	**2,185**	**979**	**619**	**2**	**2**	**2**	**2**	**2**	**2**											**4,836**	**1,209**	**99%**
1 Deployment of government staff						**137**	**173**	**78**	**78**																	**466**	**116**	**10%**
1 Assessment survey (per diem)						65																				65	16	1%
2 Assessment survey (transportation)						72																				72	18	1%
3 Visit for cooperative development (per diem)							65																			65	16	1%
4 Visit for cooperative development (transportation)							108																			108	27	2%
5 Visit for promotion of value added products (per diem)								54	54																	108	27	2%
6 Visit for promotion of value added products (transportation)								24	24																	48	12	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**900**	**1,440**	**900**	**540**																	**3,780**	**945**	**77%**
1 International consultant (assessment)						540																				540	135	11%
2 International consultant (cooperative development)							1,080																			1,080	270	22%
3 International consultant (livestock and meat industry)						360	360	360																		1,080	270	22%
4 International consultant (meat processing)								540	540																	1,080	270	22%
4 Implementation of staff training							**570**																			**570**	**143**	**12%**
1 Extension training for 70 state officers at Juba (per diem)							105																			105	26	2%
2 Extension training for 70 state officers at Juba (transportation)							70																			70	18	1%
3 Extension training for 158 CAHWs at Juba (per diem)							237																			237	59	5%
4 Extension training for 158 CAHWs at Juba (transportation)							158																			158	40	3%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**5**	**2**	**1**	**1**	**2**	**2**	**2**	**2**	**2**	**2**											**20**	**5**	**0%**
1 Fuels for assessment survey						5																				5	1	0%
2 Fuels for cooperative development visits							2																			2	0	0%
3 Fuels for value added products promotion visits								1	1																	2	0	0%
4 Fuels for monitoring and follow up										2	2	2	2	2	2											12	3	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans								**25**	**25**																	**50**	**13**	**1%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector								**25**	**25**																	**50**	**13**	**1%**
1 Extension training for 20 cooperatives at state								25	25																	50	13	1%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**1,042**	**2,185**	**1,004**	**644**	**2**	**2**	**2**	**2**	**2**	**2**											**4,886**		**100%**
Total (USD '000)						**260**	**546**	**251**	**161**	**0**	**0**	**0**	**0**	**0**	**0**												**1,221**	
% to total						**21%**	**45%**	**21%**	**13%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.20 Pig production extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock						
(2) Project name:	Pig production extension project						
(3) Project ID:	0	2	.	2	0	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2020/21			Ending FY: 2029/30		Duration (years): 10	
(5) Total investment:	SSP 4,403,000			USD 1,101,000		Note: Not including recurrent cost	

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08;07	MLFI-EX;VS	Directorate of Livestock and Fisheries Extension; Directorate of Veterinary Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	
	84	LK	Lakes State	
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Rearing of pigs is an emerging activity in South Sudan. The highest concentration of pigs is in Maban County, Upper Nile State, where there are an estimated 35,000 pigs kept by the indigenous community for whom pigs are the most important livestock, followed by small ruminants and then cattle. Data collected by CAMP from other states shows that there are an estimated 13,720 pigs in Eastern Equatoria. Other states have very few pigs, mostly kept by just one or two persons or communities i.e., 20 pigs in Rumbek North, Lakes State, 150 pigs in Rubkona Country Unity State and 163 pigs in Wau, Western Bahr el Ghazal. There are however a few commercial enterprises in Juba, the largest with 400 crossbreeds, and 100 local breed pigs. Pigs will provide another source of red meat and protein as South Sudan grows. There are many advantages to raising pigs. • Pigs utilize feed efficiently. • Pigs convert feed to meet with greater efficiency than either cattle or sheep. Fattening beef cattle requires about nine pounds of feed to produce a pound of beef, a lamb requires about eight pounds, while a hog requires from four to five pounds of feed per pound of live weight. • Pigs give better yields of usable meat. Hogs do much better in yield of usable carcass compared to other animals that produce red meat. Dressing yield is from 65 to 80 percent for hogs, 50 to 60 percent for cattle, and 45 to 55 percent for sheep and goats. • Pigs will make use of garden scraps. Pigs can convert some garden wastes and by-products into meat. • Pigs do not require large areas of land like grazing cattle, sheep, and goats require. A more technically correct term when referring to pig production is swine production. Swine production will be used interchangeably with pig production throughout this project profile.
(2) Objectives:	To organize interested people into interest groups and associations, assess the industry, develop a comprehensive training program and develop small scale and commercially oriented swine production units. In addition the project will work to develop a simple well trained swine production industry that is focused on producing for the local fresh market during early phases with the potential to add simple value added at later stages.
(3) Overall description including temporal and spatial extent of project:	The swine industry project is designed as a technical assistance project to increase the technical capacity of small holder pig producers in South Sudan. The program will facilitate the technical capacity and establish a strong technical base for advancing the industry. Long term strategy will require foreign assistance in the establishment of key infrastructure projects such as competent veterinarians with experience in swine diseases, feed mills, harvesting and processing facilities.
(4) Component structure:	Component 1: Assessment Component 2: Cooperative development Component 3: Technical training Component 4. Business facilitation and international linkages

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1. Assessment Activity 1.1: A team led by MLFI officers will spend 6 months completing an in-depth assessment of the current state of the swine industry in South Sudan. While completing the assessment they will gather data on interest groups. Outputs: Assessment written, published and distributed within 6 months (first 6 months of year 1 of project). Data will be collected by assessment team traveling to each state 2 times with the rest of the work being completed in Juba. The assessment team will consist of the following individuals: 1 international consultant specializing in agricultural industry assessments. 2 MLFI Animal Production officers. 3 livestock extension specialists (1 per state where pigs are concentrated). Component 2: Cooperative development Activity 2.1: Based on the findings of the assessment team concerning interest groups, a second team led by MLFI Animal Production officers will form registered pig grower cooperatives. After the cooperatives are formed, follow up visits will take place with each cooperative and training will take place. Outputs: At least 4 trips (3 cooperative development trips and 1 formal training trip) will be made to each of the 3 states (where pigs are concentrated) by the cooperative team (12 trips total). Follow up training will include: 3 training sessions (1 session per state each lasting 3 days) on creating cooperative by-laws, financial management, business development/linkages, electing officers, etc. It is estimated that 50 people will attend each session for

Items	Information
	a total of 150 people. The cooperative development team will consist of the following people: 1 international consultant specializing in cooperative development. 2 MLFI Animal Production officers. 3 livestock extension specialists (1 per state). This output will take 1 year to complete (second 6 months of year 1 and first 6 months of year 2). Component 3: Technical training Activity 3.1: A team of specialists led by MLFI Animal Production officers will provide extensive technical training to state livestock extension workers and county CAHW workers. Training subject areas include swine production, nutrition, proper feeding of pigs, health and disease control, genetics and breeding, pig facility management and sanitation, understanding business basics, and marketing pig meat and value added products such as offal and sausage. Outputs: A 5 day training will take place in each of the 3 states (15 training days total) and will be given to 2 livestock extension workers (2 per state for a total 6 people) and county CAHW workers (2 per county for a total of approximately 30 people). County CAWH workers will attend the training that is located in their state. The technical training will take place in the 2nd 6 months of the 2nd year of the project. These state and county workers would then be expected as part of their normal job duties to provide technical assistance to pig farmers (or potential pig farmers). The technical training team will consist of the following individuals: 1 international consultant (swine production specialist) 2 MLFI Animal Production officers 1 MLFI Livestock extension officer Component 4: Business facilitation and international linkages Activity 4.1: A team of swine and agribusiness specialists will identify potential commercial swine production investors from cooperatives developed. Outputs: This team will work with potential investors on setting up commercial swine production private enterprises. The team will also assist in providing linkages to financial service organizations, local farm stores, and feed mills. This phase of the project would be expected to take a minimum of 2 years and would occur starting the 3rd year of the project. The team of poultry and agribusiness specialists will consist of: 1 international agribusiness consultant (commercial swine industry background) 1 international swine technical consultant 2 MLFI Animal Production officers 1 MLFI Livestock extension officer 2 MLFI Agribusiness officers/specialists

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Extension workers to provide unbiased up to date technical information. Swine industry input providers to provide quality inputs and technical information. Agribusiness service providers that will assist with access to finance, profitable business-production models. International consultants: • 1 international agribusiness consultant • 1 international assessment/survey consultant • 1 international cooperative development consultant • 1 international swine production consultant Public sector staff: • 2 MLFI Animal Production officers • 2 MLFI Agribusiness officers • 1 MLFI Livestock extension officer • 3 state livestock extension workers • 30 county CAHW workers
(2) Description of beneficiaries within the framework of the project:	Household swine producers will be the primary beneficiaries. Secondary beneficiaries would be commercial swine producers. Consumers will also be beneficiaries because they will have a greater variety of meat and protein options.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A swine industry developed to provide meat to the local market. The program will address food security, human health, and livelihoods. The impact will be better health and a growth in GDP.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

Items	Information

2.5 Environmental and social impact, and mitigation measures\

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Negative impact on the environment. The development of the swine industry will have a negative impact on the environment, however, mitigation plans are available to address air pollution, waste disposal, water treatment, and other negative influences as a result of the increased size of the industry. (Positive) • Household swine production provides an excellent positive impact for families to provide a source of household food security and also income by selling surplus pigs and meat in the local market. Once commercial swine operations are fully operational bio-gas could be utilized from these farms. For large commercial swine operations to be constructed an Environmental Impact Assessment (EIA) is necessary.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No formalized interest groups • No registered cooperatives • Inadequate technical training for pig producers
(2) Measurable indicators and situation at the end point:	• Number of formalized interest groups • Number of registered cooperatives • Number of pig producers trained
(3) Methods of measurement and sources of information:	• Registered cooperatives • Registered interest groups • Training attendance sheets • Annual reports from state livestock extension workers and county CAHW workers
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension; Directorate of Veterinary Services

2.7 Required human resources

(1) Principle of human resources management:	• Capacity development of the pig and red meat supply chain actors • Capacity development of the extension specialists • The enabling environment is improved
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 MLFI Animal Production officers • 1 MLFI Livestock extension officer • 2 MLFI Agribusiness officers • 3 state livestock extension workers • 30 county CAHW workers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international agribusiness consultant (1 year assignment followed by a second 6 month assignment) • 1 international assessment/survey consultant (6 month assignment) • 1 international cooperative development consultant (1 year assignment) • 1 international swine production consultant (2 year assignment)

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk is assumed to be medium. This assessment is based on the overall structure of the proposed industry, the various entities involved with production, interaction with government officials and other enabling environment conditions. The project is complex in nature and is dependent upon cooperation of several different entities.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The program is designed to be a technical assistance program that focuses on training. The program is not designed to provide subsidies but is focused on developing the skill sets for profitable and sustainable delivery of pork (protein) to the consumers of South Sudan.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going: • 2 MLFI Animal Production officers • 1 MLFI Livestock extension officer • 2 MLFI Agribusiness officers • 3 state livestock extension workers • 30 county CAHW workers Other on-going expenses: • Communication allowance (cell phone and internet for each employee). • Laptop computer for each employee • Transportation allowances

02.20 Pig production extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**2,207**	**621**	**1,046**	**506**	**3**	**3**	**3**	**3**	**3**	**3**											**4,398**	**1,100**	**100%**
1 Deployment of government staff						**43**	**43**	**26**	**26**																	**138**	**35**	**3%**
1 Assessment survey (per diem)						16																				16	4	0%
2 Assessment survey (transportation)						12																				12	3	0%
3 Cooperative development trip (per diem)						5	5																			11	3	0%
4 Cooperative development trip (transportation)						9	9																			18	5	0%
5 Cooperative training trip (per diem)							7																			7	2	0%
6 Cooperative training trip (transportation)							6																			6	2	0%
7 Technical training for states officers/CAHWs (per diem)							9																			9	2	0%
8 Technical training for states officers/CAHWs (transportation)							6																			6	2	0%
9 Business facilitation activities (per diem)								14	14																	29	7	1%
10 Business facilitation activities (transportation)								12	12																	24	6	1%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**2,160**	**540**	**1,020**	**480**																	**4,200**	**1,050**	**95%**
1 International consultant (agri-business)						1,080		540																		1,620	405	37%
2 International consultant (assessment and survey)						540																				540	135	12%
3 International consultant (cooperative development)						540	540																			1,080	270	25%
4 International consultant (swain production)								480	480																	960	240	22%
4 Implementation of staff training							**36**																			**36**	**9**	**1%**
1 Technical training for states officers/CAHWs (per diem)							30																			30	8	1%
2 Technical training for states officers/CAHWs (transportation)							6																			6	2	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**4**	**2**			**3**	**3**	**3**	**3**	**3**	**3**											**24**	**6**	**1%**
1 Fuels for assessment survey						3																				3	1	0%
2 Fuels for cooperative development trip						1	1																			1	0	0%
3 Fuels for cooperative training							1																			1	0	0%
4 Fuels, consumables for follow up										3	3	3	3	3	3											18	5	0%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans								**2**	**2**	**2**																**5**	**1**	**0%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector								**2**	**2**	**2**																**5**	**1**	**0%**
1 Business facilitation workshop								2	2	2																5	1	0%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**2,207**	**621**	**1,048**	**508**	**5**	**3**	**3**	**3**	**3**	**3**											**4,403**		**100%**

02.20 Pig production extension project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
Total (USD '000)						**552**	**155**	**262**	**127**	**1**	**1**	**1**	**1**	**1**	**1**												**1,101**	
% to total						**50%**	**14%**	**24%**	**12%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.21 Poultry production and processing extension project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Poultry production and processing extension project				
(3) Project ID:	0 2 . 2 1	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2020/21		Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 4,266,000		USD 1,067,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA6	Livestock production and processing enhancement	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08;07	MLFI-EX;VS	Directorate of Livestock and Fisheries Extension; Directorate of Veterinary Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	X
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	X
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated by income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The official estimate for poultry was 5.6 million birds in 2006. The poultry in South Sudan is primarily a small holder subsistence industry which is dependent on day old chicks and feed from surrounding countries (Sudan, Kenya and Uganda). Moreover, some of the support from NGOs and government actors is more of a subsidy in nature and does not provide the training and enabling environment needed to develop a commercial poultry industry with functional feed mills, hatcheries, access to finance, input suppliers, cold chain facilities, and roads for ease of marketing and transport. Consumer demand is increasing in urban centers but is being filled by products from China and Brazil who have invested heavily in genetics, feeding, processing, transport and cold chain techniques. Moreover, a lack of sector policy is resulting in unfair competition from countries like Brazil and China. Inappropriate taxation for the import of feed and day old chicks discourages local production and severely increases the cost of local production. The natural resources of a vibrant poultry industry exist in South Sudan with proper training. Raising chickens, ducks, turkeys, and rabbits is an excellent way to provide protein to individuals in developing countries. Poultry can be raised virtually anywhere, do not need large sections of land, are easy to care for, relatively in-expensive to feed, and can provide protein in the form of both meat and eggs.
(2) Objectives:	To organize interested people into interest groups and associations, assess the industry, develop a comprehensive training program and develop backyard and commercially oriented poultry production units. In addition the project will work to develop a simple well trained poultry production industry that is focused on producing for the local fresh market during early phases with the potential to add simple value at later stages. Due to the ever changing production and economic environment the project will reassess the industry and develop a long range strategy to meet future needs of South Sudan based on the existing economic and agricultural conditions.
(3) Overall description including temporal and spatial extent of project:	The poultry industry project is designed as a technical assistance project to increase the technical capacity of small holder poultry producers in South Sudan. The program will facilitate the technical capacity and establish a strong technical base for advancing the industry. Long term strategy will require foreign assistance in the establishment of key infrastructure projects such as hatcheries, feed mills, cold chains, harvesting and processing facilities.
(4) Component structure:	Component 1: Assessment Component 2: Cooperative development Component 3: Technical training Component 4. Business facilitation and international linkages

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1. Assessment Activity 1.1: A team led by MLFI officers will spend 6 months completing an in-depth assessment of the poultry industry in South Sudan. While completing the assessment they will gather data on interest groups. Outputs: Assessment written, published and distributed within 6 months (first 6 months of year 1 of project). Data will be collected by assessment team traveling to each state 2 times with the rest of the work being completed in Juba. The assessment team will consist of the following individuals: 1- international consultant specializing in agricultural industry assessments. 2- MLFI Animal Production officers. 10- livestock extension specialists (1 per state). Component 2: Cooperative development Activity 2.1: Based on the findings of the assessment team concerning interest groups, a second team led by MLFI Animal Production officers will form registered poultry grower cooperatives. After the cooperatives are formed, follow up visits will take place with each cooperative and trainings will take place. Outputs: At least 4 trips (3 cooperative development trips and 1 formal training trip) will be made to each state by the cooperative team (40 trips total). Follow up trainings will include: 10 training sessions (1 session per state each lasting 3 days) on creating cooperative by-laws, financial management, business development/linkages, electing officers, etc. It is estimated that 100 people will attend each session for a total of 1,000 people. The cooperative development team will consist of the following people: 1- international consultant specializing in cooperative development. 2- MLFI Animal Production officers. 10- livestock extension specialists (1 per state).

Items	Information
	This output will take 1 year to complete (second 12 months of the project consisting of second 6 months of year 1 and first 6 months of year 2). Component 3: Technical training Activity 3.1: A team of specialists led by MLFI Animal Production officers will provide extensive technical training to state livestock extension workers and county CAHW workers. Training subject areas include poultry production, nutrition for broilers and layers, proper feeding of poultry, health and disease control, predator control, coop management and sanitation, understanding business basics, and marketing poultry products. Outputs: A 5 day training will take place in each of the 10 states (50 training days total) and will be given to 2 livestock extension workers (2 per state for a total 20 people) and county CAHW workers (2 per county for a total of 158 people). County CAWH workers will attend the training that is located in their state. The technical training will take place in the 2nd 6 months of the 2nd year of the project. These state and county workers would then be expected as part of their normal job duties to provide technical assistance to poultry farmers (or potential poultry farmers). The technical training team will consist of the following individuals: 1 international consultant (poultry production specialist) 2 MLFI Animal Production officers Component 4: Business facilitation and international linkages Activity 4.1: A team of poultry and agribusiness specialists will identify potential commercial poultry and egg production investors from existing cooperatives. Outputs: This team will work with potential investors on setting up commercial broiler chicken and egg production private enterprises. The team will also assist in providing linkages to financial service organizations, local farm stores, feed mills, international poultry equipment companies, and international poultry production companies such as Cobb Africa. This phase of the project would be expected to take a minimum of 2 years and would occur starting the 3rd year of the project. The team of poultry and agribusiness specialists will consist of: 1 international agribusiness consultant (commercial poultry industry background) 1 international poultry technical consultant 2 MLFI Animal Production officers 2 MLFI Agribusiness officers/specialists

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Extension workers to provide unbiased up to date technical information. Poultry industry input providers to provide quality inputs and technical information. Agribusiness service providers that will assist with access to finance, profitable business-production models. International consultants: • 1 international agribusiness consultant • 1 international assessment/survey consultant • 1 international cooperative development consultant • 1 international poultry production consultant Public sector staff: • 2 MLFI Animal Production officers • 2 MLFI Agribusiness officers • 20 state livestock extension workers • 158 county CAHW workers
(2) Description of beneficiaries within the framework of the project:	Household poultry producers (especially women in households who normally care for the chickens) will be the primary beneficiaries. Secondary beneficiaries would be commercial broiler chicken and egg producers. Consumers of South Sudan will benefit by having access to local quality poultry meat and eggs.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A simple poultry industry developed to provide meat and eggs to the local market. The program will address food security, human health, livelihoods and gender. The impact will be better health and a growth in GDP.
(2) EIRR and/or FIRR, and/or other economic analysis	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society

Items	Information
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Negative impact on the environment. The development of the poultry industry will have a negative impact on the environment, however, mitigation plans are available to address air pollution, waste disposal, water treatment, and other negative influences as a result of the increased size of the industry. (Positive) • Household poultry production provides an excellent positive impact for women to provide a source of income by selling chickens and eggs in the local market and to help increase food security.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No formalized interest groups • No registered cooperatives • No poultry producers receiving proper technical training
(2) Measurable indicators and situation at the end point:	• Number of formalized interest groups • Number of registered cooperatives • Number of poultry producers trained
(3) Methods of measurement and sources of information:	• Registered cooperatives • Registered interest groups • Training attendance sheets • Annual reports from state livestock extension workers and county CAHW workers
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal Production and Range Management; Directorate of Livestock and Fisheries Extension; Directorate of Veterinary Services

2.7 Required human resources

(1) Principle of human resources management:	• Capacity development of the poultry supply chain actors • Capacity development of the extension specialists • The enabling environment is improved
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 MLFI Animal Production officers • 2 MLFI Agribusiness officers • 20 state livestock extension workers • 158 county CAHW workers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international agribusiness consultant (1 year assignment followed by a second 6 month assignment) • 1 international assessment/survey consultant (6 month assignment) • 1 international cooperative development consultant (1 year assignment) • 1 international poultry production consultant (2 year assignment)

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk is assumed to be medium. This assessment is based off the overall structure of the proposed industry, the various entities involved with production, interaction with government officials and other enabling environment conditions. The project is complex in nature and is dependent upon cooperation of several different entities.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	The program is designed to be a technical assistance program that focuses on training. The program is not to designed to provide subsidies but is focused on developing the skill sets for profitable and sustainable delivery of poultry and eggs (protein) to the consumers of South Sudan.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going: • 2 MLFI Animal Production officers • 2 MLFI Agribusiness officers • 20 state livestock extension workers • 158 county CAHW workers Other on-going expenses: • Communication allowance (cell phone and internet for each employee). • Laptop computer for each employee • Transportation allowances

02.21 Poultry production and processing extension project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**1,493**	**1,178**	**273**	**273**	**10**	**10**	**10**	**10**	**10**	**10**											**3,276**	**819**	**77%**
1 Deployment of government staff						**137**	**113**																			**250**	**63**	**6%**
1 Assessment survey (per diem)						32																				32	8	1%
2 Assessment survey (transportation)						36																				36	9	1%
3 Cooperative development trip (per diem)						32	32																			65	16	2%
4 Cooperative development trip (transportation)						36	36																			72	18	2%
5 Technical training (per diem)							27																			27	7	1%
6 Technical training (transportation)							18																			18	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**1,350**	**810**	**270**	**270**																	**2,700**	**675**	**63%**
1 International consultant (assessment / survey)						540																				540	135	13%
2 International consultant (cooperative development)						270	270																			540	135	13%
3 International consultant (poultry production)						540	540																			1,080	270	25%
4 International consultant (agri-business)								270	270																	540	135	13%
4 Implementation of staff training							**252**																			**252**	**63**	**6%**
1 Technical training (per diem)							222																			222	56	5%
2 Technical training (transportation)							30																			30	7	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**6**	**3**	**3**	**3**	**10**	**10**	**10**	**10**	**10**	**10**											**74**	**19**	**2%**
1 Fuels for assessment survey						3																				3	1	0%
2 Fuels for cooperative development						3	3																			6	1	0%
3 Fuels for facilitation								3	3																	6	1	0%
4 Fuels, consumables for monitoring, follow up										10	10	10	10	10	10											60	15	1%
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans						**495**	**495**																			**990**	**248**	**23%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector						**495**	**495**																			**990**	**248**	**23%**
1 Poultry cooperative development training (per diem)						405	405																			810	203	19%
2 Poultry cooperative development training (transportation)						90	90																			180	45	4%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**1,988**	**1,673**	**273**	**273**	**10**	**10**	**10**	**10**	**10**	**10**											**4,266**		**100%**
Total (USD '000)						**497**	**418**	**68**	**68**	**3**	**3**	**3**	**3**	**3**	**3**												**1,067**	
% to total						**47%**	**39%**	**6%**	**6%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**											**100%**		

Public sector project | Private sector project

Routine work by government | Routine work by private sector

3.4.22 Enhancement of demonstration farms project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock				
(2) Project name:	Enhancement of demonstration farms project				
(3) Project ID:	0 2 . 2 2	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development			
(4) Start and ending fiscal year:	Starting FY: 2025/26		Ending FY: 2034/35	Duration (years): 10	
(5) Total investment:	SSP 12,453,000		USD 3,113,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
(3) Activity types:	204	SP-RE	Service delivery and infrastructure development- Research and experiment	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	X
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Agriculture producers are characterized as being risk adverse. The reasons are plentiful but one driving factor is their slowness to change. Agriculture producers are more likely to change if they can see first-hand that new technologies work. One of the best ways to show agriculture producers this change is through demonstration farms. Over time it has been found that demonstration farms can have a beneficial outcome for promoting livestock. Moreover, demonstration farms are excellent sites for controlled practical research programs to increase production and productivity. During the 1970's in the former Sudan (Southern Sudan area) there existed demonstration farms that carried on active successful programs. According to the CAMP situation analysis report (2013), key objectives of the model farms were to combine demonstration and multiplication of improved livestock supported by limited research on breed improvement. In the pre-independence period, the public sector was heavily involved in direct production with demonstration farms supplying livestock and livestock products. There were 5 successful demonstration farms during this period of pre-independence. As with the rest of the country these demonstration farms were destroyed during the long civil war. The following excerpt was referenced from the CAMP Technical Annex 1 of the Situation Analysis Report, December, 2013: The Ministry of Animal Resources and Fisheries (MARF) Policy Framework and Strategic Plan 2012-2016 (PFSP) has put an emphasis on demonstration farms, which were envisioned as the main strategy for achieving the key targets of increasing milk production by 25% by the end of 2015, increasing the supply of poultry meat and eggs by 30% by the end of 2016, and improving the quality of hides and skins for both local and international markets. The model farms are therefore allocated 31% of the total MARF PFSP budget over 2012-2016, equivalent to 82% of the Directorate of Animal Production and Range Management, which has the largest share of the PFSP budget, i.e., 39%. The PFSP pursues a regional approach, shifting away from the earlier plans to establish a model farm in each state: Marial Bai Dairy Farm and Wau Poultry Farm for the Greater Bahr el Ghazal region; Malakal Poultry Farm and Malakal Dairy Farm for the Greater Upper Nile region, and Central Equatoria Dairy Farm and Central Equatoria Poultry Farm. Despite the large planned investment, there is no strategic plan to guide the development of the model farms. Key mandates of the model farms and the extent of public sector involvement are not clearly defined. The title of this project emphasizes "Enhancement" instead of "Development" because for the most part an initial demonstration farm plan has been developed by (Ministry of Livestock and Fisheries Industry) MLFI. The primary goal of this project would be to utilize the funding already allocated for rehabilitating these demonstration farms and move forward with implementing these funds. Public and private partnerships should be pursued when rehabilitating these farms. For example the private sector could donate various breeds of cattle, sheep, goats, poultry, etc. to the farms for practical research or to demonstrate various production improvements such as nutrition or crossbreeding.
(2) Objectives:	To implement 6 demonstration farms in the regional locations/sites already chosen by MLFI.
(3) Overall description including temporal and spatial extent of project:	The goal is to implement funding already reserved for 6 demonstration farms in selected regional sites of South Sudan. These demonstration farms will be beneficial in demonstrating new methods, systems, technologies, breeds, feeds, grasses and other items used to increase or benefit livestock and poultry production. This project provides excellent linkages with the crop and forestry industries. Demonstration plots containing improved crops and important trees for forestry can be implemented on the farms.
(4) Component structure:	Component 1: Assessment Component 2: Site reconstruction and remodelling Component 3: Training and Program Development Component 4: Maintaining Program

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assessment Activity 1.1: Assess the following selected regional locations for current suitability and conditions: Marial Bai Dairy Farm (Greater Bahr el Ghazal region) Wau Poultry Farm (Greater Bahr el Ghazal region) Malakal Poultry Farm (Upper Nile region) Malakal Dairy Farm (Upper Nile region) Central Equatoria Dairy Farm Central Equatoria Poultry Farm

Items	Information
	Outputs: Location assessment published and submitted for bidding process to take place. Activity 1.2: Develop a survey instrument to be used to collect primary needs data from livestock producers, traders, input dealers and association members from each region. Although the final decision on the number surveyed will be up to the implementer it is recommended that a cross section of producers in size and location be used. Outputs: Survey results compiled, analysed, and a report prepared. Report provided to MLFI and oversight committee to prioritize research areas. Component 2: Site reconstruction and remodelling Activity 2.1: Create a transparent bidding process for remodelling of existing facilities and procuring equipment. Activity 2.2: Select appropriate contractors and award 2 separate contacts with the first contract for the actual construction work done for remodelling and a second contract for a provider to equip the farms. Equipment would include at least one vehicle per farm for transport of staff and at least one large truck per farm for general farm work. Equipment such as computers, generators, refrigerators and office equipment will also be needed. Activity 2.3: Stock the farm based on survey/needs assessment completed by livestock industry participants. Outputs for 2.1, 2.2, 2.3: The following building structures and land area would need to be supplied for each farm (6 farms): Main building that will include offices, classrooms, restrooms 278 sq. meters= $52,440 USD Land for each farm (20 hectares/farm) Land should be free (government owned) Machine shed 278 sq. meters= $12,889 USD Feed silos (2 for each farm) 2.74 m diameter x 3.96m height= $3,730 USD (each) Feeder barn/shelter (cattle)= 278 square meters ($18,600) Feeder barn/shelter (sheep)= 185 square meters ($13,160) Feeder barn/shelter (goats)= 185 square meters ($13,160) Broiler chicken house= 185 square meters ($22,200) Fencing for livestock (steel pipe fencing for corrals)= 609 meters x 9/m=$23,774 95 PTO hp Tractor with front end loader= $60,000 USD Large pick-up truck= $30,000 Component 3: Ownership, training and program development. Activity 3.1: Memorandum of Understanding between National and State Government as to ownership and operational responsibility. It is recommended that the actual facilities are owned by the government and staff paid by the government. Livestock and poultry for stocking the farms would come from private industry. Activity 3.2: Train demonstration farm staff with standardized technical training. Outputs: Training schedule: 84 workers trained for 14 days in Juba (first year). 84 workers attend annual conference in Juba annually. 6 farm managers attend training courses in Europe or United States for 6 months. Component 4: Maintaining Program Activity 4.1: Create an oversight committee made up of government officers, university faculty, and private industry producers to develop short and long term activities. Activity 4.2: Quarterly meetings held by 75% or more of oversight committee to develop short and long term activities. Outputs: 15 members of oversight committee hold a 2 day meeting quarterly in Juba (8 days total per year). Activity 4.3: Annual Field Day held to showcase to the public successes of the farm. Outputs: Field day schedule as follows: Marial Bai Dairy Farm (Greater Bahr el Ghazal region) will hold a 3 day annual field day with approximate attendance of 300 people from the community. Wau Poultry Farm (Greater Bahr el Ghazal region) will hold a 3 day annual field day with approximate attendance of 300 people from the community. Malakal Poultry Farm (Upper Nile region) will hold a 3 day annual field day with approximate attendance of 300 people from the community. Malakal Dairy Farm (Upper Nile region) will hold a 3 day annual field day with approximate attendance of 300 people from the community. • Central Equatoria Dairy Farm will hold a 3 day annual field day with approximate

Items	Information
	attendance of 300 people from the community. • Central Equatoria Poultry Farm will hold a 3 day annual field day with approximate attendance of 300 people from the community.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Skilled and unskilled labour for construction and operation. Graduates of university for managers of units who need to understand the principles of research and proper implementation. Supervisors are needed to manage the various workers and specialized groups. A steering committee composed of government officers, local producers, research staff from university and supply chain representatives. If there will be 6 demonstration farms the following positions will be needed: • 6 farm managers (1 per farm) • 18 skilled workers (3 per farm) • 60 unskilled workers (10 per farm) Farm managers must have demonstrated experience (minimum of 10 years) in managing agricultural operations. Skilled workers will be university graduates with background and experience in one of or a number of the following areas: animal science, rangeland science, animal health, agriculture business management.
(2) Description of beneficiaries within the framework of the project:	Primary beneficiaries are livestock producers who will benefit since there will be a place to have new methods, systems and technologies demonstrated. Secondary beneficiaries are the livestock and poultry industry as a whole. They will benefit with the acceptance of new methods which will lead to increased production and in turn an increase in GDP

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A quantified number of demonstration farms (possibly 6) which will lead to industry growth, improved efficient and an increase in GDP.
(2) EIRR and/or FIRR, and/or other economic analysis	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The remodelling and maintaining of the demonstration farms will have a significant negative impact on the environment due to animal waste but mitigation plans will be developed to minimize all negative concerns including waste disposal and water protection. (Positive) • Livestock producers learn best when they can actually see positive results from new technology. Demonstration farms provide these tangible results that producers can replicate on their own farms.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No functioning demonstration farm facilities.
(2) Measurable indicators and situation at the end point:	• Number of functional demonstration facilities.
(3) Methods of measurement and sources of information:	• Photos, registered facilities with local authorities, review by Directorate of Planning.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal production and Range Management; Directorate of Livestock and Fisheries Extension

2.7 Required human resources

(1) Principle of human resources management:	Skilled and unskilled labour for construction and operation. Graduates of university for managers of units that need to understand the principles of research and proper implementation. Supervisors are needed to manage the various workers and specialized groups. A steering committee composed of government officers, local producers, research staff from university and supply chain representatives.
(2) Required human resources in the public sector (Positions, grades and numbers):	If there will be 6 demonstration farms the following positions will be needed: • 6 farm managers (1 per farm) • 18 skilled workers (3 per farm) • 60 unskilled workers (10 per farm)

Items	Information
	Farm managers must have demonstrated experience (minimum of 10 years) in managing agricultural operations. Skilled workers will be university graduates with background and experience in one of or a number of the following areas: animal science, rangeland science, animal health, agriculture business management.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international consultant (experience in agricultural demonstration farms or experimental stations. 1 year assignment. • 1 international consultant (livestock specialist). 1 year assignment. • 1 international consultant (poultry specialist). 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project is high based on the complexity of the stakeholders and activities involved. There must be a MOU developed. Decisions about location have the potential to become a political debate. Construction of facilities that are practical and cost effective. Is open to political or monetary interference.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Each demonstration centre will require livestock and poultry. It may be possible to have producers donate animals for the initial stocking. This would reduce some initial costs and demonstrate the importance of the private sector in the process. One consideration is to review the Demonstration and Training Centre structure in Honduras referred to as Zamorano. This is an excellent site that functions to train professionals for agriculture as well as demonstrating technology and systems to local producers.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	The cost of maintaining a livestock and poultry demonstration unit is expensive. Some costs can be captured by selling animals and/or animal products to the public. This allows some recovery of the yearly expenditures. National and State governments in partnership with the private sector have to be committed to funding these farms with the necessary funding after taking into account the costs of selling animals. If there will be 6 demonstration farms the following ongoing positions will be needed: • 6 farm managers (1 per farm) • 18 skilled workers, university trained graduates (3 per farm) • 60 unskilled workers (10 per farm) Furthermore there will be ongoing maintenance costs in the areas of: • Buildings and animal pens • Computer equipment • General office equipment • Vehicles (needed for farm work and staff transportation) • Feed for animals • Animal health supplies and medicines • Communication allowances (phone and internet)

02.22 Enhancement of demonstration farms project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**4,270**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**						**4,324**	**1,081**	**35%**
1 Deployment of government staff											**27**															**27**	**7**	**0%**
1 Assessment survey (per diem)											11															11	3	0%
2 Assessment survey (transportation)											16															16	4	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)											**3,240**															**3,240**	**810**	**26%**
1 International consultant (demonstration farm)											1,080															1,080	270	9%
2 International consultant (livestock)											1,080															1,080	270	9%
3 International consultant (poultry)											1,080															1,080	270	9%
4 Implementation of staff training											**1,002**															**1,002**	**251**	**8%**
1 Workers training at Juba (per diem)											353															353	88	3%
2 Workers training at Juba (transportation)											56															56	14	0%
3 Workers training at Juba (transportation)											6															6	1	0%
4 Long term training for manager (abroad) (per diem)											540															540	135	4%
5 Long term training for manager (abroad) (transportation)											48															48	12	0%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**1**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**						**55**	**14**	**0%**
1 Fuels for assessment survey (at site)											1															1	0	
2 Oversight committee												2	2	2	2	2	2	2	2	2						18	5	0%
3 Office supplies, communication												4	4	4	4	4	4	4	4	4						36	9	0%
2 Construction of infrastructure and procurement of equipment											**6,402**															**6,402**	**1,600**	**51%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings											**1,259**															**1,259**	**315**	**10%**
1 Main building of farm											1,259															1,259	315	10%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities											**2,670**															**2,670**	**668**	**21%**
1 Machine shed											309															309	77	2%
2 Feed sile											179															179	45	1%
3 Feeder bam/shelter (cattle)											447															447	112	4%
4 Feeder bam/shelter (sheep)											316															316	79	3%
5 Feeder bam/shelter (goats)											316															316	79	3%
6 Boiler chicken house											533															533	133	4%
7 Fencing											570															570	143	5%
5 Acquisition of land																												
6 Procurement of vehicles											**900**															**900**	**225**	**7%**
1 Pick up											900															900	225	7%
7 Procurement of equipment											**1,572**															**1,572**	**393**	**13%**
1 Tractor with front end loader											1,440															1,440	360	12%
2 ICT equipment											72															72	18	1%
3 Office furniture, AC											60															60	15	0%
3 Subsidies, equity and loans													**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**						**1,728**	**432**	**14%**
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector													**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**						**1,728**	**432**	**14%**

02.22 Enhancement of demonstration farms project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Annual field day for demonstration													216	216	216	216	216	216	216	216						1,728	432	14%
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											10,671	6	222	222	222	222	222	222	222	222						12,453		100%
Total (USD '000)											2,668	2	56	56	56	56	56	56	56	56							3,113	
% to total											86%	0%	2%	2%	2%	2%	2%	2%	2%	2%						100%		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.23 Enhancement of livestock producer associations project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Enhancement of livestock producer associations project			
(3) Project ID:	0 2 . 2 3	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2019/20	Ending FY: 2024/25	Duration (years): 6	
(5) Total investment:	SSP 626,000	USD 156,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA7	Private sector organisation and market enhancement	Table 2-3
(2) Government organisation:	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
	05	MLFI-VS	Directorate of Animal Production and Range Management	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	X
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Agriculture including farming, forestry, fisheries and livestock is the main source of employment and income in rural areas, where most of the world's poor and hungry people live. "Agricultural organizations" is a broad term that can include the following: farmers' unions, farmers' cooperatives, farmer groups, commodity associations, and rural finance institutions. For simplicity, the term producer association will be used as the defining phrase for this project profile unless otherwise specified. Producer associations play an important role in supporting small agricultural producers and marginalized groups such as young people and women. They empower their members economically and socially, and create sustainable rural employment through business models that are resilient to economic and environmental shocks. Associations offer small agricultural producers opportunities and a wide range of services, including improved access to markets, natural resources (i.e. water and grazing cooperatives), information, communications, technologies, credit, training and warehouses. They also facilitate smallholder producer participation in the following areas: • decision-making at all levels • support them in securing land-use rights • negotiate better terms for engagement in contract farming • lower prices for agricultural inputs such as veterinary drugs, feed and equipment. Through this support, smallholder producers can secure their livelihoods and play a greater role in meeting the growing demand for food on local, national and international markets, thus contributing to poverty alleviation, food security and the eradication of hunger. Through extensive literature research and consultation with the CAMP Livestock Technical Team there are no officially organized associations in the livestock industry in South Sudan. Years of civil war and the current on-going conflict has led to a reluctance to cooperate by producer groups. Furthermore, there is no Ministry of Agriculture (MLFI) Directorate responsible for the registration, monitoring, and training of producer associations in the livestock industry.
(2) Objectives:	The objective is to create major association networks that will connect national, state, county, and local individuals. MLFI will designate a Directorate to oversee the registration, monitoring, training, and on-going technical assistance to officially organized livestock producer associations. These official associations can then advocate and properly represent livestock, poultry, and bee producers economically and socially to government and other interested entities to enhance food security and economic growth.
(3) Overall description including temporal and spatial extent of project:	Livestock producer associations are outlined in other CAMP project profile sheets such as dairy, poultry, beekeeping, meat, and water associations. Each of these project profiles outlines the creation and training of specific associations. This project profile will outline the development of a MLFI Directorate that will be responsible for the recognition, registration, monitoring, training, and on-going technical assistance of these many producer associations. This MLFI entity will help create linkages on the national, state, county, and local levels. Another goal is to rapidly communicate that the government is interested in the success of these interest groups and that they are an important part of peace and food security. It is worth noting that this association entity within MLFI can also provide oversight to fishery and veterinary associations. This project can also aid in helping to receive support from donor agencies and NGO's.
(4) Component structure:	Component 1: Formation of a producer association office within MLFI.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Formation of a producer association office within MLFI. Activity 1.1: Development of a livestock producer association unit within the Directorate of Animal Production and Range Management of MLFI. Staff would be hired and trained to serve in the capacity of registering, monitoring, training, and provide on-going technical assistance to livestock producer associations. Outputs: The following staff would be hired for the livestock producer association unit: 1 senior level unit director 3 junior level association specialists 2 mid-level administrative assistants In order for a producer association to become official they would need to fill out an application form to the MLFI association unit office and provide documentation such as: Official name of the association and association by-laws Association rules Association officers Complete list and contact information of each association member Mission statement of the association (what are their prime objectives and goals for forming this association). The application form would be reviewed by the MLFI association office and then

Items	Information
	officially registered. It is expected that each association will pay an affordable fee to become officially registered. The association will be notified of their official recognition and then will be entered in a central database within the MLFI association office. MLFI association office staff will create a series of Fact Sheets that can be distributed to potential and existing producer associations. The Fact Sheets would cover areas such as election of officers, enhancement of by-laws, marketing tools, and important private sector industry contact information. Activity 1.2: Training of MLFI association unit staff Outputs: 1 international association development consultant would be "embedded" within the newly formed MLFI association unit for a period of 6 months. This consultant would provide on-going training and technical assistance to the staff within the unit. The consultant would also work with the staff to create training curriculum that can be used for future producer association training. MLFI staff would then be available to provide state and county training to specific producer associations. This training would be 3 days in duration and would need to be requested from state or county livestock extension workers or CAHW workers. This would help create a link between the extension system, producer associations, and national MLFI association unit. Activity 1.3: The MLFI association unit will provide on-going monitoring and technical assistance for registered producer groups. Outputs: MLFI association staff would be responsible for on-going updating of the national producer association database. The database files would be divided into major producer association networks such as: meat, dairy, poultry, water, feed, beekeeping, cattle, sheep, goats, swine, grazing, and fish. MLFI staff would also assist registered producer associations by providing key contact information and linkages with private sector vendors and markets on a national, state, and county level.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	MLFI producer association staff working to provide technical assistance and oversight to livestock producer associations throughout South Sudan. Assistance from international association specialists will also be utilized.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiaries are the producers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	Registered and nationally recognized producer associations that have the ability to officially represent the industry and advocate for changes. These functional associations can act as buying units and potentially reduce the cost of inputs while working together to reduce marketing costs.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • There are no negative impacts on the environment or society due to this project. (Positive) • This project will have a significant positive impact on society. Women will have the opportunity to form their own associations if desired to help market their products. In general this will be positive for all the livestock industry. Associations will officially be able to represent the industry and advocate for changes. These functional associations can act as buying units and potentially reduce the cost of inputs while working together to reduce marketing costs.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No known livestock producer associations in South Sudan • No known unit within MLFI to assist in the registration and monitoring of producer associations
(2) Measurable indicators and situation at the end point:	• Number of formed and officially registered producer associations • Producer association unit developed and staffed with the Directorate of Animal Production at MLFI
(3) Methods of measurement and sources of information:	• Official registrations entered into central database
(4) Responsible parties for the	• Directorate of Animal Production and Range Management

Items	Information
monitoring and evaluation:	

2.7 Required human resources

(1) Principle of human resources management:	• An international association development consultant will be needed to train new MLFI association unit staff. • MLFI association unit staff will provide on-going technical assistance to the livestock producer associations of South Sudan.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 1 senior level unit director • 3 junior level association specialists • 2 mid-level administrative assistants
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international association development consultant. 6 month assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	L	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this activity is low. It is primarily a social activity that focuses on developing the social strength and integrity of the people. Very little if any monetary funds are needed for interest groups to form into associations.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	None

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources on-going: • 1 senior level unit director • 3 junior level association specialists • 2 mid-level administrative assistants Other expenses on-going for MLFI association office staff: • Communication allowances (cell phones and internet) • Computers • Travel and training budget (annual) to allow MLFI specialists to travel to regions upon invitation to present training seminars to producer associations. These costs could be offset by having the producer association pay for travel and lodging of MLFI staff. • Office maintenance and supplies

02.23 Enhancement of livestock producer associations project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project					**540**	**17**	**17**	**17**	**17**	**17**																**626**	**156**	**100%**
1 Deployment of government staff						**17**	**17**	**17**	**17**	**17**																**86**	**21**	**14%**
1 Training and supervision at states (per diem)						8	8	8	8	8																41	10	6%
2 Training and supervision at states (transportation)						9	9	9	9	9																45	11	7%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)					**540**																					**540**	**135**	**86%**
1 International consultant (association development)					540																					540	135	86%
4 Implementation of staff training																												
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance																												
2 Construction of infrastructure and procurement of equipment																												
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)					**540**	**17**	**17**	**17**	**17**	**17**																**626**		**100%**
Total (USD '000)					**135**	**4**	**4**	**4**	**4**	**4**																	**156**	
% to total					**86%**	**3%**	**3%**	**3%**	**3%**	**3%**																**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.24 Rangeland management project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock						
(2) Project name:	Rangeland management project						
(3) Project ID:	0 2 . 2 4	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development					
(4) Start and ending fiscal year:	Starting FY: 2025/26		Ending FY: 2034/35		Duration (years): 10		
(5) Total investment:	SSP 5,885,000		USD 1,471,000		Note: Not including recurrent cost		

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA3	Public infrastructure development	Table 2-3
(2) Government organisation:	05	MLFI-AP	Directorate of Animal Production and Range Management	Table 2-6
	02	MLFI-SC	Directorate of State Coordination and Special Project	Table 2-6
(3) Activity types:	209	SP-EI	SD/ID Economic infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	X
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	X
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	X
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Range Management is a distinct discipline founded on ecological principles and dealing with the use of rangelands and range resources for a variety of purposes. These purposes include use as watersheds, wildlife habitat, grazing by livestock, and even recreation. Developing a plan for using rangeland resources requires information about the productive capability of the rangelands, current condition, intended use, and land owner objectives. When developing a plan for the rangeland resources, first consideration must be given to management of the vegetation resource through the use of a prescribed grazing system. The prescription should take into account periods of grazing, rest, animal impact, and levels of use that will bring about desired changes in the plant community. The second consideration in developing a plan is identifying those practices necessary to implement the desired prescribed grazing system. These practices help control or influence the movement of livestock necessary for uniform distribution of grazing. These practices may include water developments, fencing, salting, stock trails, and herding. When the vegetation management resulting from the prescribed grazing does not achieve the desired changes in the plant community within a reasonable length of time, one or more supplementary practices may need to be planned and applied to help accelerate the desired change. These practices often result in dramatic changes in the plant community and should be carefully planned and applied, with special follow-up management to insure they are effective and achieve the desired change. Some of the practices to consider are seeding, brush management, prescribed burning, fertilizing, mechanical treatment, and water spreading. There are areas that may require special consideration in developing management plans. This may include areas of sensitive soils, unique plants, riparian areas, adjacent land uses, recreation and historical sites. Rangelands provide about 70-80 percent of feed resources for both domestic animals and wildlife in South Sudan. To sustain productivity of these resources and enhance livestock production, careful grazing management and monitoring systems need to be implemented. In South Sudan, promotion of sustainable utilization of grazing land resources has been very challenging and is more likely to continue to degrade due to limited information about existing rangelands and inadequate human resource capacity to promote rational utilization of existing range resources. For long term progress in livestock production and range development a better understanding of the current rangeland conditions and performance is needed. Information is needed concerning grass species, forb (or flowering plant used as forage) and brush species, propagation, fertilization, root structure, production cycles and other general plant characteristics prior to making any recommendations.
(2) Objectives:	• To promote optimum utilization of rangeland in South Sudan. • To improve nutrition and promote better health of livestock. • To assess the effect of the protracted war and other disasters on the eco-system. • To carryout range trials and research improved varieties of forage species. . • To train local personnel on range management techniques.
(3) Overall description including temporal and spatial extent of project:	A comprehensive assessment of the current conditions of rangeland in South Sudan is a critical first step to this project. Once an assessment has been made then the most damaged areas of rangeland need to be identified and plans developed for rehabilitation. Rangeland is South Sudan is vast, covering millions of hectares. Complete rehabilitation is not realistic and will be cost prohibitive. However, those areas where livestock grazing consistently occurs should take priority on rehabilitation and management. Also receiving special priority are steps to improve the supply of water and reduce degradation of riparian areas (land bordering water). The construction of water catchments is presented in a separate project profile sheet within the CAMP project. For rehabilitation and management of rangelands to take place, government and extension staff assigned as range specialists will need to be trained by international consultants. These government and extension staff would then be expected to provide on-going training and technical assistance to pastoralists and livestock producers. In addition to training, and at later phases of the project, research trials can take place at either livestock research centres or demonstration farms to identify the viability of improved range grasses, forbs, and shrubs. The research aspect of improved forage is outlined in a separate CAMP project profile sheet. For those areas of rangeland that have been rehabilitated, continued monitoring needs to take place to insure proper long term sustainability.
(4) Component structure:	Component 1: Rangeland assessment Component 2: Rangeland rehabilitation efforts Component 3: Training Component 4: Monitoring

Items	Information

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:

Component 1: Rangeland assessment

Activity 1.1: A team consisting of international and national specialists will conduct an in-depth assessment of current rangeland conditions across South Sudan.

Outputs: An assessment team will consist of the following specialists:

- 1 international rangeland consultant
- 1 international GIS mapping consultant
- 1 MLFI GIS mapping specialist
- 2 MLFI range specialists
- 2 MLFI livestock extension specialists
- 10 state range officers (1 per state)

For a period of no less than 1 year this assessment team will travel throughout South Sudan measuring the current status of rangeland. They will look at quantity and type of grasses, forbs, shrubs, water features, riparian areas, seasonality of feeds, flooding issues, migratory routes, grazing patterns (of both domestic livestock and wildlife), and in their assessment will identify the most degraded rangeland in each state that will be marked as a priority for a pilot rehabilitation program. The published assessment will be shared with all stakeholders.

Component 2: Rangeland rehabilitation efforts

Activity 2.1: A rehabilitation team consisting of international, national, state, and county specialists will conduct pilot rehabilitation projects in each state. This will include fencing off riparian areas, re-distributing grazing patterns to improve plant recovery and growth, fertilization, removal of invasive grasses and brush through mechanical means (machinery such as bulldozers), marking migratory routes so that livestock migration has minimal impact on the environment, and implementation of transects (line transects are used when you wish to illustrate a particular gradient or linear pattern along which communities of plants and, or animals change for each pilot site).

Outputs**:** Pilot sites are recommended for each state. Each pilot site would consist of approximately 100 hectares. Range rehabilitation is expensive so approximately $50,000 should be allocated to rehabilitating each pilot site (10 sites x $50,000USD= $500,000 total). Costs would include hiring bulldozers for mechanical removal of invasive species, fencing costs on major riparian areas, some fertilization, and creation of inexpensive transects.

Component 3: Training

Activity 3.1: A training team consisting of international and national specialists will provide in-depth training to all state range officers. Training subjects will include: creating and monitoring transects, grass/forb/brush specie identification, upkeep of water catchment areas and riparian areas, general animal science training, grazing management techniques, and range rehabilitation best practices.

Outputs: The training team will consist of the following:

- 1 international rangeland consultant
- 2 MLFI range specialists
- 2 MLFI livestock extension specialists

Training will take place for 3 weeks (5 days per week). 2 weeks will be spent in the field and 1 week in a classroom setting in Juba. Attendees would include 20 state range conservation officers and at least 10 livestock extension workers (1 per state). Total attendees would be 30 people.

Component 4: Monitoring

Activity 4.1: Continued monitoring of rangelands by state range conservation officers is essential to long term sustainability. These officers will need to continually monitor transects to determine improvement of native plant species, whether overgrazing is taking place, maintenance of water access points, and to prevent degradation of riparian areas.

Outputs: 20 state rangeland conservation officers (2 per state) will provide on-going monitoring of the rangelands that fall within their jurisdiction.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:

Primary services providers will be the MLFI Department of Range Management and state range officers.

(2) Description of beneficiaries within the framework of the project:

Primary beneficiaries will be livestock keepers, both pastoralist and sedentary agro-pastoralists

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:

Healthy rangelands that are able to provide feed to the millions of livestock in South

Items	Information
	Sudan, while still conserving the surrounding environment that will sustain plant and wildlife species.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: d Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Livestock grazing if not properly managed can have a significant negative impact on the environment by overgrazing native plant species, degrading riparian areas, and depleting scarce water resources. Proper government oversight and enforcement along with proper producer education are the mitigation factors that can prevent negative impact. Careful consideration should be given when selecting the locations of the pilot projects to avoid areas prone to conflict. (Positive) • If properly managed rangeland can provide cost free, nutrient rich feed to the livestock of South Sudan. Also wildlife can benefit from rangeland improvement projects.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No monitoring or improvement rangeland projects in South Sudan
(2) Measurable indicators and situation at the end point:	• Number of monitoring transects placed on rangeland in South Sudan • Number of producers trained • Annual rangeland reports by state range officers
(3) Methods of measurement and sources of information:	• Range transects • Attendance sheets • Annual reports
(4) Responsible parties for the monitoring and evaluation:	• MLFI Department of Animal Production and Rangeland Development • State range officers

2.7 Required human resources

(1) Principle of human resources management:	• Trained, competent employees in the public sector to manage and monitor the rangelands.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 2 senior level MLFI range staff • 10 senior level technical staff at the states level (state directors for range management) • 10 mid-grade administrative staff (1 for each state) • 20 (2 for each state) - conservation officers with enforcement and regulatory authority • 1 MLFI GIS mapping specialist • 2 MLFI livestock extension specialists
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• 1 international rangeland consultant. 2 year assignment. • 1 international GIS mapping consultant. 1 year assignment.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The expected risk is high for this project. Risk comes in the form of inadequate funding which would stop progress on rangeland rehabilitation. There is also a risk of conflict between tribes over grazing lands and livestock migratory routes.	

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	None

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 2 senior level MLFI range staff • 10 senior level technical staff at the states level (state directors for range management) • 10 mid-grade administrative staff (1 for each state) • 20 (2 for each state) - conservation officers with enforcement and regulatory authority • 1 MLFI GIS mapping specialist • 2 MLFI livestock extension specialists Other on-going costs: • Cost of maintaining archives • Cost of computers • Communication allowances (cell-phones and internet services) • Office maintenance

Items	Information
	• Transportation (vehicles and fuel) for staff to monitor rangeland quality and enforce grazing allotments

02.24 Rangeland management project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**1,732**	**1,980**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**						**3,885**	**971**	**66%**
1 Deployment of government staff											**104**	**198**														**301**	**75**	**5%**
1 Assessment survey (per diem)											77	77														154	38	3%
2 Assessment survey (transportation)											27	27														54	14	1%
3 State officer training (per diem)												76														76	19	1%
4 State officer training (transportation)												18														18	5	0%
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)											**1,620**	**1,620**														**3,240**	**810**	**55%**
1 International consultant (rangeland management)											1,080	1,080														2,160	540	37%
2 International consultant (GIS mapping)											540	540														1,080	270	18%
4 Implementation of staff training												**144**														**144**	**36**	**2%**
1 Training for 30 state officers at Juba (per diem)												57														57	14	1%
2 Training for 30 state officers at Juba (transportation)												27														27	7	0%
3 Training for 30 state officers at state (per diem)												60														60	15	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**8**	**19**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**						**200**	**50**	**3%**
1 Fuels for assessment survey											8	8														15	4	0%
2 Fuels for 30 states officers field training at states												12														12	3	0%
3 Fuels for monitoring by rangeland officers													22	22	22	22	22	22	22	22						173	43	3%
2 Construction of infrastructure and procurement of equipment													**1,000**	**1,000**												**2,000**	**500**	**34%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities													**1,000**	**1,000**												**2,000**	**500**	**34%**
1 Rehabilitation of rangeland													1,000	1,000												2,000	500	34%
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment																												
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											**1,732**	**1,980**	**1,022**	**1,022**	**22**	**22**	**22**	**22**	**22**	**22**						**5,885**		**100%**
Total (USD '000)											**433**	**495**	**255**	**255**	**5**	**5**	**5**	**5**	**5**	**5**							**1,471**	
% to total											**29%**	**34%**	**17%**	**17%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**						**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

3.4.25 Creation of livestock research centres project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock						
(2) Project name:	Creation of livestock research centres project						
(3) Project ID:	0	2	.	2	5	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2025/26					Ending FY: 2034/35	Duration (years): 10
(5) Total investment:	SSP 8,414,000					USD 2,104,000	Note: Not including recurrent cost

1.2 Project characteristics:

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	09	MLFI-RD	Directorate of Animal and Fisheries Research and Development	Table 2-6
		MLFI- All	All MLFI Directorates	Table 2-6
(3) Activity types:	204	SP-RE	Service delivery and infrastructure development- Research and experiment	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	
	73	UT	Unity State	
	81	WA	Warrap State	
	82	NB	Northern Bahr el Ghazal State	
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	
	91	WE	Western Equatoria State	
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	Research is important for any industry for long term survival. However, research facilities are expensive to build and operate and manage. Without meaningful government and industry input, research facilities can lose function and fail to address industry needs. For long term progress in livestock production, pasture development, and rangeland management, a better understanding of the current native species is needed. Many times poor production is explained as poor genetics when in reality the problem is not poor genetics but a symptom of the environment. For example, reproductive efficiency is said to be low in South Sudan due to the delay in females reaching maturity from 36 to 49 months and the average age at first calving ranges from 44 to 56 months. Some of this delay could be contributed to the genetic nature of the current breeds but studies over the last twenty years have found that much of the delay can be attributed to poor nutrition. Another additional problem is a lack of understanding how to coordinate reproduction with the availability of feeds. A better understanding of the current breeds, management systems and growing conditions is needed before the introduction of new genetics. There is limited information about the grazing lands of South Sudan. Information is needed concerning grass/brush/forb (or flowering plant used as forage) species, propagations, fertilization, root structure, production cycles and other general plant characteristics prior to making any recommendations. It should be noted that both livestock and plant performance is an expression of the environment in which species reside. Changing the genetics may or may not improve performance and could actually result in poorer performance. For example, limited recorded effort has been given to selecting faster maturing females from the current local breeds. Furthermore, animals that have adapted to the local environment can resist heat and disease threats better than breeds brought into the country from significantly different environments. Numerous research studies indicate that both neonatal nutrition and nutrition during the first few months has a significant impact on sexual maturity and hence performance. The issue of genetics is complicated and simply stating that the genetics of a herd will be improved by introducing new breeds can be problematic. Recent observations from Australia in the popular press indicated that a ranch was more profitable raising two smaller maturing animals as compared to one large framed animal that was not adapted to the region (Australian Livestock Reports, accessed June 30, 2014). Changes in genetics are long term changes that must be carefully studied and applied. A full understanding of the existing information and production cycle has to be considered. This is just one example of where an efficient livestock research centre is greatly needed. It is recommended that this project be designed and implemented with an internationally recognized university, consortium of universities or international research consortiums which have recognized experience in animal science, rangeland science, and forage disciplines. Moreover, an arrangement of this sort will allow for an exchange program for students and professors to enhance skills and technical ability.
(2) Objectives:	The objective of the program is to establish livestock research centres which address the needs of the livestock industry. With this comes the flexibility to search for new technologies, management systems and applications to improve livestock efficiency and health. It will also lead to the production of protein products for the consumer of South Sudan. Assessments for the component and activity objectives could be done in the form of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis. This type of analysis is commonly done when starting a project or business venture.
(3) Overall description including temporal and spatial extent of project:	The project will start in 10 years time and is designed to evaluate the industry and, with the assistance of an industry wide steering committee, determine research priorities and develop a strategic plan to address the priorities. This project will help develop long range solutions to addressing genetic improvement of livestock and grasses. The strategic plan that is developed could include creating research facilities or it could suggest linking with known research organizations. CAMP's overall goal is to allow the industry to grow and human capacity to develop in all industry segments before starting this project addressing long term research goals. The goal of the project is to develop a long range solution to addressing genetic improvement of livestock and grasses. The recommendation is to have at least 3 livestock research centres in South Sudan. They should be housed in already existing agricultural universities. Funding for these centres after donor agencies have completed the initial project should come from a partnership of university and Ministry of Agriculture funding. Faculty and staff working in the research centres will also be responsible for obtaining funds through research grants.

Items	Information
	Private industry can play a major role in funding research projects affecting specific issues within the livestock industry.
(4) Component structure:	Component 1: Assessment of industry resources Component 2: Establishment of Steering Committee and strategic plan Component 3: Location selection and construction phase Component 4: Staff selection and training

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Assess industry resources both services and physical Activity 1.1: Assess the meat industry in terms of providing an ongoing supply of animal protein with an accompanying Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. Outputs: SWOT for meat industry. 3 current government mid- level staff (livestock specialists) will take 2 months to create assessment. Activity 1.2: Assess the dairy industry and develop a SWOT analysis. Outputs: SWOT for dairy industry. 3 current government mid- level staff (dairy specialists) will take 2 months to create assessment. Activity 1.3: Assess grasslands (rangelands) and other potential areas for production. Outputs: Completed Grasslands (rangelands) assessment. 3 current government mid-level staff (range specialists) will take 4 months to complete assessment. Activity 1.4: Assess the demonstration farms. Outputs: Completed assessment of current demonstration farms. 2 current government mid-level staff (extension specialists) will take 1 month to complete assessment. Activity 1.5: Assess all livestock facilities, slaughter, processing, inputs, universities, etc. Outputs: Completed livestock facilities and service industry assessment. 2 current government specialists (livestock specialists) will take 3 months to complete assessment. Component 2: Establish a Steering Committee with the purpose of providing industry guidance for developing research priorities Activity 2.1: Develop method for identifying industry association members, identify members. Outputs: Association members identified. 2 Association members will participate in quarterly meetings annually at University of Juba. Activity 2.2: Develop method for identifying appropriate ministry members, identify members. Outputs: Ministry Members identified. 2 Ministry members will participate in quarterly meetings annually at University of Juba. Activity 2.3: Develop method for identifying members of teaching facilities and universities (identify members, but members from universities should be administrative level such as Deans and Department Heads of Agricultural Colleges/Departments with emphasis on Animal Science and Rangeland Science departments. Outputs: Members of teaching facilities and universities identified. 2 university administrators (6 total) from each of the universities where livestock centres are located will attend quarterly meeting annually in Juba. Activity 2.4: Develop method for identifying members from in-country development partners, identify members. Outputs: Development partner identified. 4 development partners will attend a quarterly meeting annually in Juba. Activity 2.5: Develop a guiding Charter which addresses roles and term limits for the steering committee. Outputs: Charter established. Activity 2.6: Develop subgroups based on industry sectors. Outputs: Subsector groups identified. Activity 2.7: Develop short, medium and long term research objectives. Outputs: Short, medium and long term research objectives identified. Activity 2.8: Develop plan to address the research objectives which can include the development of research centres. Outputs: Research objectives identified through steering committee. Activity 2.9: Implement strategic plan. Outputs: Strategic plan implemented. Component 3: Location selection and construction phase. Activity 3.1: Steering committee will choose at least 3 locations (within already existing agricultural universities). Outputs: Possible locations include Juba University, Upper Nile University, and Western Bahr el Ghazal University. Activity 3.2: Using a transparent bid process select a contractor to either construct new

Items	Information
	facilities on university land or remodel existing structures within the university. Research centres would need to have adjoining land where livestock could be corralled as well as land for rangeland grass, shrub, and forb research plots could be maintained. Outputs: Each research centre will need the following minimum inputs: 10 hectares of land (30 hectares total) Each centre will need 1 main building to house offices. 3 buildings total (1 for each centre) with each building being 1,000 sq. meters. Holding pens for livestock. Each centre will need 1 hectare of land for holding pens. Storage barns. Each facility will need 1 storage barn. Each storage barn will be a minimum of 3,000 square meters. Component 4: Staff selection and training Activity 4.1: Staffing selection would be as follows: 3- Senior level research centre Directors (1 for each centre) 12- Mid to Senior level researchers with experience in Animal, Rangeland, and Veterinary Sciences (4 for each research centre) 9- Entry level research assistants (3 for each research centre) 6- Mid-level administrative assistants (2 for each research centre) Activity 4.2: Training will take place for 24 research centre technical staff to ensure they understand proper research design, statistical analysis, and methods for publishing completed work in scientific journals. Outputs: 24 staff trained for 30 days during the first year of the project. Location of training will be Juba University, Juba.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	The assessments will need to be completed by: • 3 current government mid- level staff (livestock specialists) will take 2 months to create assessment. • 3 current government mid- level staff (dairy specialists) will take 2 months to create assessment. • 3 current government mid-level staff (range specialists) will take 4 months to complete assessment. • 2 current government mid-level staff (extension specialists) will take 1 month to complete assessment. • 2 current government specialists (livestock specialists) will take 3 months to complete assessment. Staffing of research centre staff will be as follows: • 3- Senior level research centre Directors (1 for each centre) • 12- Mid to Senior level researchers with experience in Animal, Rangeland, and Veterinary Sciences (4 for each research centre) • 9- Entry level research assistants (3 for each research centre) • 6- Mid-level administrative assistants (2 for each research centre) Steering committee will consist of: • 2- livestock association (private sector) members • 2- Ministry of Agriculture members • 6- university administrators • 4- development partner members
(2) Description of beneficiaries within the framework of the project:	The end beneficiaries will be the livestock producers followed by consumers. Producers will benefit from the information that will result in improved production and efficiency. Consumers will benefit from increase production at a more economical price.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	The outcome is to have a strategic plan and defined research priorities for the industry. The impact will result in a focused strategic research plan for the livestock industry.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: b Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • Research centres may have a negative impact on the environment due to animal waste. However, animal waste can be collected and then composted. Compost can then be sold to farmers for fertilizer. (Positive)	

Items	Information
	• Research centres will have a significant positive impact on the livestock industry by introducing advanced livestock production techniques unique to South Sudan.

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Find copies of recent assessments • Long range research plans and priorities discussed • Steering committee members identified • No operational livestock research centres in South Sudan
(2) Measurable indicators and situation at the end point:	• Updated assessments completed • Steering committee developed and operational • Charter for Steering Committee developed and available to public • Long Range research plans and priorities developed • At least 3 livestock research centres constructed/remodelled and operational • Staff hired and fully trained
(3) Methods of measurement and sources of information:	• Reports, interim and final • Steering committee meeting notes • Research grants obtained • Research published in scholarly journals and presented at professional conferences
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Animal and Fisheries Research and Development; all other MLFI Directorates.

2.7 Required human resources

(1) Principle of human resources management:	• Capacity building of members • Having private industry help set direction of research
(2) Required human resources in the public sector (Positions, grades and numbers):	• 3- Senior level research centre Directors (1 for each centre) • 12- Mid to Senior level researchers with experience in Animal, Rangeland, and Veterinary Sciences (4 for each research centre) • 9- Entry level research assistants (3 for each research centre) • 6- Mid-level administrative assistants (2 for each research centre)
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	Livestock industry representatives (private sector) will work with research centre staff to help direct research needs and goals. The actual number of representatives is still yet to be determined due to the fact it is unknown which industry representatives are indeed interested in this partnership. At least 2 will be involved as members of the steering committee.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H | L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	There is a high level of risk associated with the project. There are several groups represented and there is a high risk for conflict. Moreover, the project is cross cutting and should be driven to address industry concerns and direction. Strong leadership at the Ministry and university levels are essential for success of this project.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Research programs are expensive to develop and maintain. Moreover, staffing is critical and yearly operation costs can be prohibitive. Results from the investment may be years in the future and short term success may be limited. It is recommended that the program be initiated at the later stages of the CAMP initiative to ensure that the staff have the necessary skills; that the industry has had the opportunity to find direction; and, that funding sources are understood. It is recommended that this will be a long term project.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 3- Senior level research centre Directors (1 for each centre) • 12- Mid to Senior level researchers with experience in Animal, Rangeland, and Veterinary Sciences (4 for each research centre) • 9- Entry level research assistants (3 for each research centre) • 6- Mid-level administrative assistants (2 for each research centre) Other costs (on-going): • Land with sufficient size to house livestock and to maintain grass/forb research plots • Equipment procurement, upkeep, and staying up to date • Livestock for centres • Feed for livestock housed at centres • Tractor and implements for each centre to maintain research plots • Office supplies and maintenance • Communication allowances (cell phones and internet) • Transportation (each centre will need at least one car for staff transport and one truck for completing farm work)

02.25 Creation of livestock research centers project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project											**6**	**2**	**210**	**66**	**66**	**66**	**66**	**66**	**66**	**66**						**680**	**170**	**8%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)																												
4 Implementation of staff training											**2**	**2**	**146**	**2**	**2**	**2**	**2**	**2**	**2**	**2**						**164**	**41**	**2%**
1 Steering committee quarterly meeting											2	2	2	2	2	2	2	2	2	2						20	5	0%
2 Staff training at Juba													144													144	36	2%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**4**		**64**	**64**	**64**	**64**	**64**	**64**	**64**	**64**						**516**	**129**	**6%**
1 Fuels for assessment work											4															4	1	0%
2 Feed													60	60	60	60	60	60	60	60						480	120	6%
3 Office supplies													4	4	4	4	4	4	4	4						32	8	0%
2 Construction of infrastructure and procurement of equipment												**7,734**														**7,734**	**1,934**	**92%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings												**7,212**														**7,212**	**1,803**	**86%**
1 Building for centre												5,400														5,400	1,350	64%
2 Storage barn												1,800														1,800	450	21%
3 Holding pens												12														12	3	0%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment												**522**														**522**	**131**	**6%**
1 ICT equipment (laptops)												120														120	30	1%
2 ICT equipment (printer)												6														6	2	0%
3 ICT equipment (copier)												12														12	3	0%
4 Tractor												252														252	63	3%
5 Laboratory equipment												120														120	30	1%
6 Office equipment												12														12	3	0%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)											**6**	**7,736**	**210**	**66**	**66**	**66**	**66**	**66**	**66**	**66**						**8,414**		**100%**
Total (USD '000)											**2**	**1,934**	**53**	**17**	**17**	**17**	**17**	**17**	**17**	**17**							**2,104**	
% to total											**0%**	**92%**	**2%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**						**100%**		

Public sector project | Private sector project
Routine work by government | Routine work by private sector

3.4.26 Development of livestock extension systems including Community Animal Health Workers (CAHW) project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Development of livestock extension systems including Community Animal Health Workers (CAHWs) project			
(3) Project ID:	0 2 . 2 6	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2020/21	Ending FY: 2029/30	Duration (years): 10	
(5) Total investment:	SSP 18,726,000	USD 4,681,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation	08	MLFI-EX	Directorate of Livestock and Fisheries Extension	Table 2-6
	05;07	MLFI-AP;VS	Directorate of Animal Production and Range Management; Directorate Veterinary Services	Table 2-6
(3) Activity types:	203	SP-EX	Service delivery and infrastructure development- Extension and training	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	It was estimated in December 2012 that there were 2,245 individuals throughout South Sudan that have received training by various organizations as Community Animal Health Workers (CAHW). These trainings have been provided by 28 organizations and the CAHWs are an important asset for the livestock industry. Moreover, in surrounding countries CAHWs or the equivalent have played an important part in the livestock industry both in veterinarian services and general livestock production. CAHW workers have been serving as the "extension services" for the livestock industry. The purpose of this program is to first recognize the workers (identify), second is to develop a strategy for long term use within the industry, and third create a national livestock extension service with some of the CAHW workers incorporated into this service. It is important to mention that livestock extension services will be very important for the commercialization of the livestock and poultry industry. It is important that the Ministry of Animal Resources and Fisheries (MFLI) and the government of South Sudan recognize that they are an important part of the development of South Sudan and will enable the country to be recognized by the World Organization for Animal Health (OIE) and achieve economic growth within the livestock industry. These individuals can assist in many activities for the industry such as livestock identification, census of the industry, disease monitoring, livestock and poultry production training, vaccination campaigns, early warning system, and emergency preparedness. Of importance is the standardization of training that these extension staff will receive. Over the years several organizations have incorporated training of community animal health workers as part of their assistance plans for the people of South Sudan. There is tremendous variety in the information provided, teaching methodologies and significance of the information for the industry. It is understood that CAHWs play an important part in the implementation of veterinarian and livestock production services throughout the country. With acceptance into OIE, extension services can immediately assist the country in meeting monitoring, vaccination and other services requirements. However, due to the wide variety of training and vast differences in the technical ability of organizations involved, it is critical that training be standardized to meet the needs of South Sudan.
(2) Objectives:	A national livestock extension service can play an important role for the livestock and poultry industry in South Sudan. However, existing CAHW individuals must be identified, existing livestock technical specialists identified, and together their training standardized to achieve any advantage. Additionally, there must be a method for directing the individuals to achieve these goals. Before any benefit can be received these individuals must be identified. Once identified the areas where they are located must be mapped and any gaps in coverage for the country must be identified and newly recruited and trained extension staff be placed in these areas that need coverage. The national extension system will not need the 2,245 current CAHW workers. These workers will have the opportunity to apply to be a livestock extension worker but there will not need to be more than 65 livestock extension workers/specialists in the entire country. States that have a higher concentration of livestock will have more extension staff assigned. CAHW workers not hired into the extension service can continue providing a valuable resource to their communities in the same manner that they have for the past few years.
(3) Overall description including temporal and spatial extent of project:	The goal of the program is to identify CAHWs, create a national livestock extension service, incorporate a selected number of CAHWs into the extension service, update/standardize training and utilize extension services in the livestock sector. This will be done by the creation of a national livestock extension service created for the implementation of many animal production and veterinarian services to producers. Currently the number of professionally trained animal scientists and veterinarians in South Sudan is inadequate when supplying vaccinations and general health services to the private sector. Similarly, there is a lack of readily available technical (extension) services available for livestock and poultry producers in remote locations. Moreover, the current structure for vaccination supplies is under the direct supervision of MLFI which again has insufficient reach when undertaking nation-wide vaccination, health care programs and other activities. An additional challenge is with the training that current CAHWs have received. There has been no standardized and officially recognized training program. These trainings were provided by 28 different organizations many of which have limited technical capacity within the industry. Establishing a common baseline for a new livestock extension system will provide a common starting point for the delivery of animal and veterinary services. In addition, existing CAHWs can become an important source of extension services in production areas as well as disease monitoring. It will be several years before there are sufficient numbers of professionally trained veterinarians available in South Sudan to provide private sector services. The local technical experts from MLFI Veterinary Science and Animal Production with

Items	Information
	assistance from international technical and educational (training) experts will work together to develop a standardized multi-level training program for livestock extension staff. The training material, modules and evaluation forms must be appropriate for the learners. The information developed will be used by all organizations designated to provide extension training. This will be a country requirement with no exceptions. This will ensure that the material is the same throughout the country and that extension staff can be certified. In other words, a standardized training program for livestock extension certification will be developed. Once this initial project no longer receives funding from a donor agency, MARF will need to fund the extension services program. Funding could come from the national, state, and county levels. This is the funding model for extension services in the United States.
(4) Component structure:	Component 1: Identify CAHW, review any certificates, record trainer (organization) and map location of CAHW service areas. Component 2: Develop strategy, work plan, training plan and implementation guidelines Component 3: With the help of government ministry staff, livestock industry leaders, and development agency partners create a national livestock extension system. Component 4: Implement the national livestock extension system with certified livestock extension staff located in each state.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs	Component 1: Identify CAHW, review any certificates, record trainer (organization) and map location of CAHW service areas. Activity 1.1: Develop a database with name, courses attended, certificates received, organization whom provided training and work area (physical location). The locations and work areas will be mapped. It is critical that all areas have representation and if a location is lacking in coverage a plan to increase coverage will be developed. Outputs: 5 mid-level staff from the Directorate of Animal Production and Range Management would be assigned to find this information and enter it into a database. Component 2: Develop a national livestock extension program under the supervision of MLFI that has a direct connection with the livestock research centres. Activity 2.1: Create a system for the hiring of livestock extension staff (current CAHWs would have the opportunity to apply). Outputs: 7 senior-level staff from the Directorates of Animal Production, Livestock and Fisheries Extension, and Veterinary Services would serve on this national hiring committee. Activity 2.2: National livestock extension services implemented in each state with staff being housed in one of the following: current state government office facilities, universities, demonstration farms. Component 3: Staffing and training Activity 3.1: The following staffing would take place: 70- Certified livestock extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). 45- Mid-level administrative staff (4 in each of the 10 states and 5 at the national level). 50- Community Animal Health Workers (CAHW) (2 in each border point according to 25 border points). 158- CAHW's (2 in each county according to 79 counties of south Sudan). Activity 3.2: Standardized training would take place for all 70 extension specialists. Specialists will need to have backgrounds in animal science, rangeland science, veterinary medicine, agri-business (as related to the livestock industry), and poultry production. Additionally standardized training will need to take place for CAHW workers. Outputs: 70 extension staff will participate in 30 days of training in the first year in Juba. Each year after that they will participate in an annual conference held in Juba. 208 CAHW workers will participate in 14 days of training the first year in Juba. Each year after the first year they will all attend an annual conference in Juba. Activity 3.3: Extension specialists will be expected to work closely with demonstration farms, universities, livestock research centres, and border crossing facilities. Outputs: Information being obtained through research centres and demonstration farms will be disseminated to producers by extension staff.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	For obtaining information on current CAHW and creating database: • 5 mid-level staff from the Directorate of Animal Production and Range Management would be assigned to find this information and enter it into a database. National hiring committee to select extension workers for each state: • 7 senior-level staff from the Directorates of Animal Production, Livestock and Fisheries Extension, and Veterinary Services would serve on this national hiring committee.

Items	Information
	National extension staff: • 70- Certified livestock extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). • 45- Mid-level administrative staff (4 in each of the 10 states and 5 at the national level). • 50- Community Animal Health Workers (CAHW) (2 in each border point according to 25 border points). • 158- CAHW's (2 in each county according to 79 counties of south Sudan).
(2) Description of beneficiaries within the framework of the project:	Livestock producers in each state will benefit from modern technologies disseminated by extension workers.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A functional livestock extension system that provides non-biased research based information to livestock and poultry producers throughout South Sudan.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right)	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • The expected environmental impact during this phase is negligible since the activities are primarily identification and skill training of livestock extension workers. (Positive) • There is substantial positive impact to livestock producers. They will receive non-biased, research based technical assistance from extension specialists that will improve their production and income levels.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Unknown number of CAHWs identified and no operational livestock extension system.
(2) Measurable indicators and situation at the end point:	A national livestock extension system that is implemented by MLFI. A total number of 70 certified female and male extension specialists working in all 10 states that have received standardized training.
(3) Methods of measurement and sources of information:	• Simple sign in sheets and data entry into simple commercial data base. • Use of computer software to write up final livestock extension system.
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Livestock and Fisheries Extension; Directorate of Animal Production and Range Management; Directorate of Veterinarian Services.

2.7 Required human resources

(1) Principle of human resources management:	This project requires the ability to identify the CAHWs, develop a data base with name, training and location and then use this information to include the CAHWs into the proposed national livestock extension program. The project will further require the hiring of qualified livestock extension specialists and qualified administrative staff.
(2) Required human resources in the public sector (Positions, grades and numbers):	For obtaining information on current CAHW and creating database: • 5 mid-level staff from the Directorate of Animal Production and Range Management would be assigned to find this information and enter it into a database. National hiring committee to select extension workers for each state: • 7 senior-level staff from the Directorates of Animal Production, Livestock and Fisheries Extension, and Veterinary Services would serve on this national hiring committee. National extension staff: • 70- Certified livestock female and male extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). • 45- Mid-level administrative staff (4 in each of the 10 states and 5 at the national level). • 50- Community Animal Health Workers (CAHW) (2 in each border point according to 25 border points). • 158- CAHW's (2 in each county according to 79 counties of south Sudan).
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	1 experienced consultant to lead the process that has an extensive background in extension education systems. Consultant would work for 1 year.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H	L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The level of risk is High due to the fact that an entirely new national extension system is	

Items	Information
	being developed. This system will eventually need their own line item in the MLFI budget to continue on-going extension services. The risk of this project not continuing to be funded is high as this may not be seen as a high priority in the future by Ministry officials. However, extension systems are the backbone of driving new technologies and disseminating important information to agricultural producers.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This is a long term project that will need to be funded by MLFI after the donor agency funding is discontinued. To reduce costs of implementing this project, extension staff could be housed in already existing state/county government offices, at demonstration farms, and at universities.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 70- Certified livestock extension specialists (10 in the 4 states with the most livestock and 5 in the additional 6 states). • 45- Mid-level administrative staff (4 in each of the 10 states and 5 at the national level). • 50- Community Animal Health Workers (CAHW) (2 in each border point according to 25 border points). • 158- CAHW's (2 in each county according to 79 counties of south Sudan). Other costs (on-going): • Transportation (vehicles and fuel) enabling extension workers to travel to livestock producers within their assigned geographic regions. • Computer equipment for extension staff. • Communication allowances (cell phones) for staff to utilize in communicating with livestock producers. • Office space in existing government or university buildings. • Office supplies and maintenance. • Well-equipped extension studios for editing radio and TV programmes (approximately $10,000 to purchase equipment)

02.26 Development of livestock extension systems including community animal health workers project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project						**3,423**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**											**14,524**	**3,631**	**78%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)						**1,080**																				**1,080**	**270**	**6%**
1 Supervisor						1,080																				1,080	270	6%
4 Implementation of staff training						**1,408**	**157**	**157**	**157**	**157**	**157**	**157**	**157**	**157**	**157**											**2,818**	**704**	**15%**
1 Training for 70 livestock extension specialists at Juba						585																				585	146	3%
2 Training for 208 CAHWs at Juba						823																				823	206	4%
3 Annual conference for all livestock personnel at Juba							157	157	157	157	157	157	157	157	157											1,409	352	8%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance						**935**	**1,077**	**1,077**	**1,077**	**1,077**	**1,077**	**1,077**	**1,077**	**1,077**	**1,077**											**10,626**	**2,657**	**57%**
1 Office supplies for states, counties and boarder points						228	228	228	228	228	228	228	228	228	228											2,280	570	12%
2 Communications in states, counties and boarder points						228	228	228	228	228	228	228	228	228	228											2,280	570	12%
3 Fuels for states						48	48	48	48	48	48	48	48	48	48											480	120	3%
4 Fuels for counties						341	341	341	341	341	341	341	341	341	341											3,413	853	18%
5 Fuels for boarder points						90	90	90	90	90	90	90	90	90	90											900	225	5%
6 Repair and maintenance of vehicles (states)							38	38	38	38	38	38	38	38	38											338	84	2%
7 Repair and maintenance of vehicles (counties)							79	79	79	79	79	79	79	79	79											711	178	4%
8 Repair and maintenance of vehicles (boarder points)							25	25	25	25	25	25	25	25	25											225	56	1%
2 Construction of infrastructure and procurement of equipment						**4,202**																				**4,202**	**1,051**	**22%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles						**3,580**																				**3,580**	**895**	**19%**
1 pick up for states						1,500																				1,500	375	8%
2 motorbike for CAHWs						2,080																				2,080	520	11%
7 Procurement of equipment						**622**																				**622**	**156**	**3%**
1 Database software						30																				30	8	0%
2 ICT equipment for project office at Juba						12																				12	3	0%
3 ICT equipment for project office at Juba						2																				2	1	0%
4 ICT equipment for project office at Juba						4																				4	1	0%
5 ICT equipment for state						80																				80	20	0%
6 ICT equipment for state						20																				20	5	0%
7 ICT equipment for county						316																				316	79	2%
8 ICT equipment for county						158																				158	40	1%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												

02.26 Development of livestock extension systems including community animal health workers project (cont.)

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
Total (SSP '000)						**7,625**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**	**1,233**											**18,726**		**100%**
Total (USD '000)						**1,906**	**308**	**308**	**308**	**308**	**308**	**308**	**308**	**308**	**308**												**4,681**	
% to total						**41%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**	**7%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock			
(2) Project name:	Enhancement of inter-government, donor agencies, civil society, and private sector coordination project			
(3) Project ID:	0 2 . 2 7	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development		
(4) Start and ending fiscal year:	Starting FY: 2015/16	Ending FY: 2019/20	Duration (years): 5	
(5) Total investment:	SSP 94,000	USD 23,000	Note: Not including recurrent cost	

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	02	MLFI-SC	Directorate of State Collaboration and Special Projects	Table 2-6
	01;04	MLFI-PL;IM	Directorate of Planning; Directorate of Investment, Marketing, and Supplies	Table 2-6
(3) Activity types:	104	ID-IM	Institutional development- Implementation and monitoring	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	X
	04	CAADP-P4	Pillar 4: Agricultural research	
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	X
	02	MT	Medium-term (5 to 10 years)	
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	
	02	PH2	Phase II (2020/21-2024/25, 5 years)	
	03	PH3	Phase III (2025/26-2029/30, 5 years)	X
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	X
	02	NS	National-State project	
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	The objective is to develop a registration process within the Ministry of Livestock and Fisheries Industry (MLFI) that registers all organizations working in livestock and veterinarian services. This information will be coordinated and utilized by those organizations for training the private sector in livestock and business activities. Currently it is estimated that 28 organizations are involved with the livestock industry. Many of the projects are humanitarian and offer limited technical value to the industry nor is there any clear guidance for the implemented programs. Livestock are an important economic resource for South Sudan and measures need to be implemented to guide organizations. Training should be consistent and standardized across the implementing bodies (NGOs, etc.) and the program outcomes consistent with the long term strategy for the livestock industry. From 1983 to 2005, Non-Governmental Organizations (NGOs) and other agencies worked in a consortium with Operation Life Line Sudan coordinated by UNICEF. This was an emergency operations program with limited supervision from the government. The lack of supervision has resulted in a negative impact with duplication by various agencies, with concentration in some regions and not others. Furthermore, the budgets and work plans (activities) were not discussed with ministry and government officials to coordinate efforts and address any existing gaps. Experience with surrounding countries demonstrates that donor and implementing partners need to coordinate with government ministries and implement within the policies, strategy and framework of the country.
(2) Objectives:	An oversight organization that consists of a Ministry specified number of oversight committee members that registers NGOs, civil society organizations, and any other organizations that are working or are intending to perform services or work in the livestock and poultry sector of South Sudan. This committee will need to consist of subject matter specialists as well as Ministry government officers. The overall goal will be transparent organizations that implement plans and standardized training in accordance with national strategy.
(3) Overall description including temporal and spatial extent of project:	This is a safe guard mechanism until the South Sudan public sector has the ability themselves to provide educational and vocational training for professionals working directly with livestock and poultry producers. With the assistance of current subject matter specialists and international subject matter specialists a guiding organization will be developed with a process for reviewing livestock and veterinarian training material that is used by NGOs, civil society organizations and other entities working in livestock and veterinary services plus registering organizations. It is important that the quality of information used in training be consistent with the long term agricultural goals of South Sudan and that the information is technically correct and not misleading. There have been reported cases of inaccurate information being conveyed to producers. This organization allows for the registration of groups plus reviews proposed activities with the appropriate division of a government ministry. The agency will enhance transparency between organizations and the agricultural government ministries.
(4) Component structure:	Component 1: Develop (organize) a ministerial group or mechanism to register people (organizations) providing technical and vocational information to livestock and poultry producers. Component 2: Develop a review process of reviewing education material and plans of the organizations.

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Develop a functional oversight organization that can register individuals and organizations working with livestock and poultry in South Sudan. Activity and Outputs for Component 1 are the same: An official registration form that is provided to organizations. An oversight committee within MLFI creates a method for reviewing the information to be used during training and activities involving the livestock and poultry industry. 13 MLFI staff will meet at the start of the project for a 5 day conference in Juba. 10 MLFI staff will meet twice per year after the first year for a 3 day conference (6 days total per year) in Juba. No new office or building space will be needed since already existing MLFI staff will be tasked with completing this project. Component 2: Develop a method utilizing local subject matter specialists, with the assistance of qualified international subject matter experts, to ensure that the information that is to be taught and shared with the private sector is in agreement with the long term industry goals and is technically correct. Activity and Outputs for Component 2 are the same:

Items	Information
	The oversight committee will review curriculum material of the organization wishing to be registered to determine technical correctness and that the curriculum is in accordance with national strategy. The oversight committee will then register the organization with an official certificate (if organization is in compliance) or if the organization is not in compliance will request the organization to correct recommended curriculum.

2.3 Service providers and beneficiaries

(1) Description of service providers within the framework of the project:	Providers must have the ability to develop a simple licensing (registration) process. This includes developing an application form, an application review process with appointed authorities with signature power, and a certificate of permission or license to work in the livestock industry. • A team of at least 3 mid-level government staff will need to conduct a survey to determine all the NGO's and civil society organizations delivering services in South Sudan. • At least 3 staff from the appropriate government ministry assigned to serve on the committee to evaluate, approve or reject, and register organizations that apply for certification. • At least 5 senior level subject matter specialists (livestock, crops, irrigation, fisheries, and forestry) to serve on the oversight committee. • At least 2 office staff who receive applications, enter information in a computer database, and complete the final certificate for the organization. • Two computers for office staff to use. • Transportation resources for visits to NGO and civil society organizations. • Communication allowance (cell phone and internet) for office staff to stay in touch with registered organizations.
(2) Description of beneficiaries within the framework of the project:	The primary beneficiary is MLFI. This provides a simple registration process that enables better coordination and enhances government efficiency. Secondary beneficiaries are producers that will benefit since programs will be in accordance with national strategy and curriculum will be technically correct.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A licensing and coordination committee that allows subject matter experts to review the information to be utilized during trainings and other activities.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative and positive impact (select an indicator from the list in the right):	Negative: a Positive: d	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures:	(Negative) • There will be a minimal environmental impact. The main goal is to develop an organizational body with the responsibility to oversee organizations and sector specific training material. (Positive) • Coordination among all technical providers in South Sudan will be a positive step that will ensure producers are receiving standardized, factual information from trainers.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• No registered organizations within South Sudan.
(2) Measurable indicators and situation at the end point:	• Number of registered organizations within South Sudan that have received MARF registration and certification.
(3) Methods of measurement and sources of information:	• Number of certificates approved.
(4) Responsible parties for the monitoring and evaluation:	• Department of State Collaboration and Special Projects; Directorate of Planning; Directorate of Investment, Marketing, and Supplies

2.7 Required human resources

(1) Principle of human resources management:	The committee assigned by MILF will have the ability to develop an application form, review the information, and provides a certificate of authorization. Furthermore, subject matter specialists on the committee will conduct a simple review process that reviews training and education material to be utilized during the organization's work in country. • A team of at least 3 mid-level government staff will need to conduct a survey to determine all the NGO's and civil society organizations delivering services in South Sudan. • At least 3 staff from the appropriate government ministry assigned to serve on the

Items	Information
	committee to evaluate, approve or reject, and register organizations that apply for certification. • At least 5 senior level subject matter specialists (livestock, crops, irrigation, fisheries, and forestry) to serve on the oversight committee. • At least 2 office staff who receive applications, enter information in a computer database, and complete the final certificate for the organization.
(2) Required human resources in the public sector (Positions, grades and numbers):	• No required human resources from the private sector. This will be a MLFI driven project.
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	An international consultant that can provide technical assistance in organization and process development. It is assumed that additional technical experts will be involved in the review and standardization of the training.

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	M L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The risk associated with this project would be rated as medium due to the lack of any program or process from the past. Currently many organizations are working in South Sudan and the current government is not aware of their activities or their presence. These organizations may take offense at the process and complain. It is important for the advancement of the industry that people or organizations working in the livestock industry understand that the long term responsibilities belong to the government and people of South Sudan who have an important and valid concern about their future.

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	Coordination mechanism to be instituted. Monitoring and evaluation every quarter of the project life.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	• At least 3 staff from the appropriate government ministry assigned to serve on the committee to evaluate, approve or reject, and register organizations that apply for certification. • At least 5 senior level subject matter specialists (livestock, crops, irrigation, fisheries, and forestry) to serve on the oversight committee. • At least 2 office staff who receive applications, enter information in a computer database, and complete the final certificate for the organization. • Two computers for office staff to use. • Transportation resources for visits to NGO and civil society organizations. • Communication allowance (cell phone and internet) for office staff to stay in touch with registered organizations.

02.27 Enhancement of inter-government, donor agencies, civil society, and private sector coordination project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project	**22**	**17**	**17**	**17**	**17**																					**88**	**22**	**94%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)																												
3 Procurement of professional services (contracted)																												
4 Implementation of staff training	**10**	**5**	**5**	**5**	**5**																					**28**	**7**	**30%**
1 Kick off conference by MLFI officers at Juba	10																									10	2	10%
2 Regular conference by MLFI at Juba		5	5	5	5																					18	5	19%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance	**12**	**12**	**12**	**12**	**12**																					**60**	**15**	**64%**
1 Supplies and materials for oversight committee	4	4	4	4	4																					20	5	21%
2 Communication	4	4	4	4	4																					20	5	21%
3 Fuels	4	4	4	4	4																					20	5	21%
2 Construction of infrastructure and procurement of equipment	**6**																									**6**	**2**	**6%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings																												
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment	**6**																									**6**	**2**	**6%**
1 ICT equipment	6																									6	2	6%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)	**28**	**17**	**17**	**17**	**17**																					**94**		**100%**
Total (USD '000)	**7**	**4**	**4**	**4**	**4**																						**23**	
% to total	**30%**	**18%**	**18%**	**18%**	**18%**																					**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector

3.4.28 Livestock public sector institutions capacity development project

Items	Information

Part 1: Project profile administration

1.1 Project identification

(1) Subsector:	Livestock						
(2) Project name:	Livestock public sector institutions capacity development project						
(3) Project ID:	0	2	.	2	8	01: Crop 02: Livestock 03: Forestry 04: Fisheries 05: Institutional Development	
(4) Start and ending fiscal year:	Starting FY: 2020/21					Ending FY: 2029/30	Duration (years): 10
(5) Total investment:	SSP 52,858,000					USD 13,215,000	Note: Not including recurrent cost

1.2 Project characteristics

	Code	Abbreviation	Description	Reference
(1) Subsector area:		LS.SA2	Public sector institution and management capacity development	Table 2-3
(2) Government organisation:	03	MLFI-AD	Directorate of Administration, Finance, and Human Resource Development-Department of Training	Table 2-6
				Table 2-6
(3) Activity types	210	SP-SI	Service delivery and infrastructure development	Table 2-12

1.3 Project characteristics

	Code	Abbreviation	Description	Selection
(1) Development theme:	01	RR	Reconstruction and recovery	
	02	FS	Food and nutrition security	
	03	EG	Economic growth and livelihood improvement	
	04	AT	Agriculture sector transformation	
	05	ID	Institutional development	X
(2) CAADP Pillars:	01	CAADP-P1	Pillar 1: Land and water management	
	02	CAADP-P2	Pillar 2: Market access	
	03	CAADP-P3	Pillar 3: Food supply and hunger	
	04	CAADP-P4	Pillar 4: Agricultural research	X
(3) State:	71	UN	Upper Nile State	X
	72	JG	Jonglei State	X
	73	UT	Unity State	X
	81	WA	Warrap State	X
	82	NB	Northern Bahr el Ghazal State	X
	83	WB	Western Bahr el Ghazal State	X
	84	LK	Lakes State	X
	91	WE	Western Equatoria State	X
	92	CE	Central Equatoria State	X
	93	EE	Eastern Equatoria State	X
(4) Objective time horizon:	01	ST	Short-term (less than 5 years)	
	02	MT	Medium-term (5 to 10 years)	X
	03	LT	Long-term (more than 10 years)	
(5) Planning time horizon (start):	01	PH1	Phase I (2015/16-2019/20, 5 years)	X
	02	PH2	Phase II (2020/21-2024/25, 5 years)	X
	03	PH3	Phase III (2025/26-2029/30, 5 years)	
	04	PH4	Phase IV (2030/31-2039/40, 10 years)	
(6) Livelihood Zone:	01	EFP	Eastern Flood Plains	X
	02	GBT	Greenbelt	X
	03	HAM	Hills and Mountains	X
	04	ISP	Ironstone Plateau	X
	05	NSR	Nile-Sobat Rivers	X
	06	PTL	Pastoral	X
	07	WFP	Western Flood Plains	X
(7) Ownership:	01	NP	National project	
	02	NS	National-State project	X
	03	SP	State project	
	04	SC	State-County project	
	05	PP	Public-Private Partnership project	
	06	PS	Private sector project	
(8) Funding sources:	11	NBF	National government budget/development fund	X
	12	NLE	National government loans and equity financing	
	21	SBF	State government budget/development fund	X
	22	SLE	State government loans and equity financing	
	31	DPG	Development partners grant	X
	32	DPL	Development partners loans and equity financing	
	41	PSI	Private sector Investment	
	51	NGG	NGO grant	
	52	NGL	NGO loans and equity financing	
	61	FGI	Financed by generated income	

Items	Information

Part 2: Project description

2.1 Project justification, objectives, overall description and component structure

(1) Justification:	There are six recognized educational and technical training centres in South Sudan. They are: University of Bahr el Ghazal; University of Upper Nile; John Garang Memorial University of Science and Technology; Juba University; Marial Lou Training Centre; and Yei Agricultural Training Centre. Yei, John Garang and Marial Lou have all received foreign assistance to address course content and facilities. Of the six, Marial Lou is the only public sector training institute that offers technical skills development where technicians, animal health and animal production auxiliaries can be trained. However, the cost is prohibitive to most students and the curriculum appears to be limited in scope. Additionally, it appears that these 5 institutes minus ML are focused on academic training with a limited focus on technical skills that can be used immediately by extension workers and Community Animal Health Workers that can be then taught to producers. A fully functional education system ought to focus not only on traditional students but also on training older adults with limited skills. Traditional training of older learners is not appropriate and teaching methods differ. As mentioned above, the cost for attending Marial Lou (ML) is prohibitive to most people. A system needs to evolve which allows key community members to receive training. One solution could be to use ML as the basic training centre and have satellite programs in production areas. Moreover, the program could link with the other facilities if a cost advantage is realized. The system needs to be driven by the needs of the industry to develop from what appears to be a subsistence production system to a small holder commercial system. This includes business training and range management training. Best practices from surrounding countries are welcome and the potential for cross training ought to be explored. This project differs but builds on another CAMP project which standardizes delivery of information through NGOs, civil society organizations and others (Development of livestock extension systems including Community Animal Health Workers). The intent of this project is to develop trainers (extension and CAHW workers) who can train both additional trainers and producers while becoming important actors in the livestock value chains. These trainers can serve as important sources of technical expertise for local communities. The goal is to provide information and training to all of South Sudan. The intent of the project is to develop a system that can merge with the future agricultural education system of South Sudan. This project is designed to address the immediate needs of producers while evolving over the next twenty five years. It is envisioned that it will be incorporated into the public education and extension system at some point in time. This system allows the Ministry the time needed to develop the skills and training necessary to manage, lead and design long term educational, extension and research programs that coincide with industry objectives and strategy.
(2) Objectives:	To develop a comprehensive training program for the immediate needs of the livestock industry to evolve into a profitable and commercial industry contributing to rural development, poverty reduction and GDP growth. The design will allow the program to be incorporated into the future educational and ministry systems of South Sudan.
(3) Overall description including temporal and spatial extent of project:	The project is designed to evaluate the current facilities and faculty, and define gaps in skills and facilities. Using the information, a system will be designed to address the gaps and needs of the country to deliver valuable training to producers to enhance basic production skills combined with business basics. The six identified institutes may have the ability to provide all the training needs of student and producers throughout the country. As the country moves from sustainable to commercial production, certain skill sets are required in livestock producers. The primary objective of the program is to address the immediate needs of the producers and workers in the livestock industry with a secondary objective of younger student needs. Moreover, the project will be designed to be adapted in the future educational and Ministry system of South Sudan. The project will address the immediate educational and skill sets required to transform the current livestock industry into a sustainable and profitable industry that leads to economic growth, poverty alleviation, rural development and food security. Furthermore, the project will address the needs of all producers and will address gender needs at all levels.
(4) Component structure:	Component 1: Prioritization based on minimal growth of industry and ability to get services into remote locations. The goal is not to develop graduate programs but to develop knowledge transfer systems for the industry. There is no need for research type programs with this component. Component 2: National staff training and skills enhancement Component 3: Training facility enhancement Component 4: Curriculum development of various study areas Component 5: Specialists, teachers and staff training

Items	Information
	Component 6: Industry specific training Component 7. Extension training and staffing

2.2 Detailed description of project component, activity and outputs

(1) Component, activity and outputs:	Component 1: Prioritization based on minimal growth of industry and ability to get services into remote locations. The goal is not to develop graduate programs but to develop knowledge transfer systems for the industry. There is no need for research type programs with this component. Activity 1.1: Awareness Activity 1.2: Evaluation of current staff skill sets in university and training centres Activity 1.3: Evaluation of current training centres (University of Bahr el Ghazai; University of Upper Nile; John Garang Memorial University of Science and Technology; Juba University, Marial Lou Training Centre and Yei Training Centre) Activity 1.4: Gap Analysis Activity 1.5: Report Component 2: National staff training and skills enhancement Activity 2.1: Basic and advanced animal science training Activity 2.2: Basic and advanced rangeland science training Activity 2.3: Basic and advanced wildlife management training Activity 2.4: Computer and information technology training Component 3: Training facility enhancement Activity 3.1: Determination of facility needs and location or locations. Activity 3.2: Financing plan developed Activity 3.3: Construction or remodelling of facility or facilities Activity 3.4: Staffing Component 4: Curriculum development of various study areas Activity 4.1: Basic and advanced animal science courses Activity 4.2: Basic and advanced rangeland science courses Activity 4.3: Basic and advanced wildlife management courses Activity 4.4: Business management courses Activity 4.5: Computer and informational technology courses Activity 4.6: Extension education courses Component 5: Specialists, teachers and staff training Activity 5.1: Specialists Activity 5.2: Teachers Activity 5.3: Support staff Component 6: Industry specific training Activity 6.1: Beef Cattle Short Courses Activity 6.2: Dairy Cattle and Milking Short Courses Activity 6.3: Sheep Short Courses Activity 6.4: Goat Short Courses Activity 6.5: Poultry Short Course (broiler and egg) Activity 6.6: Hatchery Short Courses Activity 6.7: Feed mill Short Courses Activity 6.8: Rangeland Management Short Courses Activity 6.9: Animal health Courses Component 7: Extension training and staffing Activity 7.1: Development of extension training courses Activity 7.2: Beef Cattle Activity 7.3: Dairy Cattle Activity 7.4: Sheep Activity 7.5: Goats Activity 7.6: Pasture management Activity 7.7: Livestock Business management Activity 7.8: Genetic Improvement Activity 7.9: Broiler Production Activity 7.10: Egg Production Activity 7.11: Delivery of extension courses Activity 7.12: Provision of extension services to producers Outputs: Please Note- The outputs for this project will be the same as those Activities already listed under each component section.

2.3 Service providers and beneficiaries

(1) Description of service providers within the	Technical specialists that understand the needs of the industry to transform it into a commercial industry. Training specialists that understand how to train the target audience

Items	Information
framework of the project:	at the two levels, training of the trainer and producer.
(2) Description of beneficiaries within the framework of the project:	Trainers, facility operators, producers will receive appropriate training.

2.4 Outcomes, impact and contributions to value added (i.e. economic growth)

(1) Outcomes and impact:	A trained staff capable of providing the industry appropriate training for the transformation of the livestock industry from subsistence to commercialization. The impact will be growth in the industry and adoption of modern methodologies and techniques.
(2) EIRR and/or FIRR, and/or other economic analysis:	(if applicable)

2.5 Environmental and social impact, and mitigation measures

(1) Expected level of negative or positive impact (select an indicator from the list in the right)	Negative: b Positive: a	Project: a: is likely to have minimal or little impact on the environment and/or society b: may have an impact on the environment and/or society c: is likely to have a significant impact on the environment and/or society d: will have a significant impact on the environment and/or society
(2) Description of expected negative and/or positive environmental and social impact, and mitigation measures	(Negative) • The project may have a negative impact on the environment with the construction of research and educational facilities. Waste disposal will need to be addressed. (Positive) • Society will be positively impacted by focusing on commercial development and moving beyond subsistence.	

2.6 Monitoring and evaluation for impact measurement

(1) Measurable indicators and situation at a starting point:	• Number of Train the Trainer courses • Number of training courses for producers • Number of trainers trained • Number of producers trained • Number of Short Courses held • Number of facilities modified
(2) Measurable indicators and situation at the end point:	• Number of Train the Trainer courses • Number of training courses for producers • Number of trainers trained • Number of producers trained • Number of Short Courses held • Number of facilities modified
(3) Methods of measurement and sources of information:	• Attendance sheets • Number of qualified trainers • Facility records
(4) Responsible parties for the monitoring and evaluation:	• Directorate of Administration, Finance, and Human Resource Development-Department of Training

2.7 Required human resources

(1) Principle of human resources management:	• Capacity building at all levels, trainers and producers for the livestock industry.
(2) Required human resources in the public sector (Positions, grades and numbers):	• 40 Specialists • 60 (training of trainers) field trainers in facilities • 500 field trainers
(3) Required human resources in the private sector including consultants (positions, qualification and numbers):	• Dairy Specialist • Beef Specialist • Goat Specialist • Sheep Specialist • Wildlife Specialist • Meat Science Specialist • Animal Nutrition Specialist • Agribusiness Specialist • Training – Extension Specialist • Range Specialist • Poultry Specialist

2.8 Risk assessment with respect to project objectives and resources to be applied

(1) Expected level of risk:	H (L: Low M: Medium H: High (select an indicator from the list)
(2) Explanation of expected risks:	The project risk is assumed to be high. The project evaluates facilities which could lead to personal and political interests. The evaluation of programs is also highly risky since it too could be politically influenced. The number of desired trainers is very risky simply because of the volume of people needed. There is a high risk involved with the current ministry structure. The current structure is not designed to address and effectively deliver appropriate training for industry transformation.

Items	Information

2.9 Other special considerations and/or notes

(1) Other special considerations and/or notes:	This project is designed as a short to medium term training project that will be absorbed into the Ministry and educational system in the long term. It is the second part of developing training programs to reach rural producers and ensure the delivery of useful information to move from subsistence to commercialization.

2.10 Routine operation and required resources after the completion of the project

(1) Description of routine activities and outputs and required financial and human resources after the completion of the project. Description of the required resources can be done in an indicative manner.	Human resources (on-going): • 40 Specialists • 120 (training of trainers) senior field trainers in facilities Other on-going costs: • Computer equipment • Communication allowances (cell phones and internet) • Transportation allowances (for specialists and field trainers to travel to provide courses). Office maintenance and printing/copy costs.

02.28 Livestock public sector institutions capacity development project

SSP/USD = 4

Cost group	Phase 1					Phase 2					Phase 3					Phase 4										Total		% to
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	SSP '000	USD '000	total
Project duration																												
1 Management and operation of project							**1,852**	**10,417**	**8,472**	**8,472**	**1,729**	**1,729**	**1,729**	**1,729**	**1,729**											**37,858**	**9,465**	**72%**
1 Deployment of government staff																												
2 Procurement of administrative services (contracted)								**600**	**600**	**600**																**1,800**	**450**	**3%**
1 Print training material								600	600	600																1,800	450	3%
3 Procurement of professional services (contracted)							**1,852**	**1,852**																		**3,704**	**926**	**7%**
1 International consultant (team leader)							1,512	1,512																		3,024	756	6%
2 International consultant (curriculum development)							340	340																		680	170	1%
4 Implementation of staff training								**7,965**	**7,872**	**7,872**	**1,728**	**1,728**	**1,728**	**1,728**	**1,728**											**32,349**	**8,087**	**61%**
1 1 week TOT in Juba (per diem)								63																		63	16	0%
2 1 week TOT in Juba (per transportation)								30																		30	8	0%
3 1 week training course at each centre (per diem)								1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512											12,096	3,024	23%
4 1 week training course at each centre (transportation)								216	216	216	216	216	216	216	216											1,728	432	3%
5 4 week training course at each centre (per diem)								2,688	2,688	2,688																8,064	2,016	15%
6 4 week training course at each centre (transportation)								96	96	96																288	72	1%
7 3 month training at Juba (per diem)								3,240	3,240	3,240																9,720	2,430	18%
8 3 month training at Juba (transportation)								120	120	120																360	90	1%
5 Implementation of research, studies and surveys																												
6 Delivery of extension and training services to the private sector																												
7 Operation and maintenance											**1**	**1**	**1**	**1**	**1**											**5**	**1**	**0%**
1 Supplies and consumables											1	1	1	1	1											5	1	0%
2 Construction of infrastructure and procurement of equipment						**7,500**	**7,500**																			**15,000**	**3,750**	**28%**
1 Construction of office buildings																												
2 Construction of research, training and other specialized buildings						**6,000**	**6,000**																			**12,000**	**3,000**	**23%**
1 Renovation of 6 centres						6,000	6,000																			12,000	3,000	23%
3 Construction of feeder roads																												
4 Construction of production, market and transportation facilities																												
5 Acquisition of land																												
6 Procurement of vehicles																												
7 Procurement of equipment						**1,500**	**1,500**																			**3,000**	**750**	**6%**
1 Education equipment for 6 centres						1,500	1,500																			3,000	750	6%
3 Subsidies, equity and loans																												
1 Provision of cash and/or in-kind subsidies																												
2 Provision of training services to the private sector																												
3 Equity investments																												
4 Provision of loans																												
5 Social assistance/donation (Emergency)																												
Total (SSP '000)						**7,500**	**9,352**	**10,417**	**8,472**	**8,472**	**1,729**	**1,729**	**1,729**	**1,729**	**1,729**											**52,858**		**100%**
Total (USD '000)						**1,875**	**2,338**	**2,604**	**2,118**	**2,118**	**432**	**432**	**432**	**432**	**432**												**13,215**	
% to total						**14%**	**18%**	**20%**	**16%**	**16%**	**3%**	**3%**	**3%**	**3%**	**3%**											**100%**		

Public sector project
Private sector project
Routine work by government
Routine work by private sector