

South Sudan Livelihoods Value Chains Support, Economic and Financial Survey of Aweil and Kapoeta Counties

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Introduction

The Revitalised Transitional Government of National Unity of South Sudan formed in January, 2020 creates a peaceful space and environment to increase economic growth, reconstruction and resilience in South Sudan. About 90% of the total area is arable, with 50% considered as good and prime agricultural land. Out of the total prime agricultural land, only about 5% is currently being utilised and 12-15% is covered by arid and semi-arid lands (ASALs). Livestock has been listed to have a great potential in addition to the agricultural productivity in to contribute to the economic wealth and GDP of South Sudan. Over the years, the severity and occurrence of droughts have increased and their effects are exacerbated by the increasing wonders of unreliable rainfalls, land degradation, global warming and climate change. These circumstances have created conditions of chronic vulnerability in the country with persistent food insecurity, widespread economic hardships, conflicts, migration and unspeakable human sufferings, all affecting the pastoral and agro-pastoral communities that inhabit the ASALs.

Aweil town areas (Aweil Rice Irrigation Scheme) in Northern Bahr Gazal State and Kapoeta Areas in Eastern Equatoria State of the Republic of South Sudan were identified by the government as the intervention areas based on their locations prone to droughts and floods although they are potentially known for their huge rice/agricultural and livestock resources productivity within the semi-arid lands.

The study was initiated in December, 2020 by IGAD with a focus on the IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) to build resilience for food and nutrition security in the Horn of Africa. The study employed various secondary data through literature review to study the identified value chains and the role of various value chain actors, develop standardized report framework, and identify key constraints and opportunities for each value chain most particularly in the production sectors.

The attention of the study is to understand the contributions of value chains in the socio-economic performance of communities, countries and regions in comparison with conventional types of trade and investment. The two areas are faced with severe droughts and floods from Lol River particularly in the eastern part as witnessed by the Two Teams of Experts during the recent field visits to Kapoeta and Aweil (13th-18th July, 2021). This economic and financial analysis study is likely to generate funding for South Sudan feasible projects proposed in details to lessen the economic shocks and trickle down income to the poverty struck communities and the payback income return rate is 12% following South Sudan Agricultural Bank policy.

Financial analysis estimates the profitability of the project, from an investor's viewpoint. The project detailed cost is compared to the expected revenues within the project lifespan as presented in the table below.

Rehabilitation of Aweil Rice Irrigation Scheme (ARIS)

Aweil rice irrigation scheme area envisioned for the rehabilitation is exactly 3000 Feddans ($3000 \times 70 \times 60 / 10000$) = 1,260 ha and the quantity of rice produce in 1 hectare is approximately 3 tonnes. The demand for rice food in the local markets is high compared to other crops. Investment in rice farming will generate more revenues to both community and government. The XIRR here is 37% with the XNPV of 12% amount to talling to US\$ 1,074,599.8

Establishment of Fish farm within ARIS

About 1000 Feddans within Aweil Rice Irrigation Scheme area will be designated for fish farming majoring on Tilapia fish (*Oreochromis Niloticus*) which could easily grow to marketable size within six months and only 80% capacity. Considering five fishes per metre cube and the weight of one fish is one Kg. The sale of 1 kg of fresh fish in the local markets is USD 10 cents and the demand for fish product is extremely very high hence the future economy of Aweil Rice Irrigation Scheme will be dependant majorly on fish farming compared to rice production respectively. Therefore, the XIRR is 39.6% with the XNPV of 12% amounted to US\$ 690,419.9

Rehabilitation of Aweil Livestock Market shade

Aweil Livestock market shade serves as a vital point for revenues generation to both the locals and the government. Its rehabilitation would increase the time of sales and the additional benefits of all actors. Given the strategic location of Aweil town at the border with Sudan would serve as a regional Livestock market center to the livestock traders from Sudan, Central Africa Republic and Chads. The XIRR is 36.5% while the XNPV of 12% amount is worthy US\$ 40,504.7

Rehabilitation of Aweil Vet Clinic

Over 500,000 livestock were vaccinated in 2021 by the Northern Bahr Gazal State Ministry of Livestock and Fisheries supported by the Humanitarian Agencies to prevent disease occurrences. Aweil Veterinary Clinic current status quo is in bad shape and out of stock hence requires rehabilitation to deliver effective commercial services for animal welfare. It's likely to redouble the generation of revenues to both government and community and create job opportunity to the locals. XIRR here is 33.1% with the XNPV of 12% amount worthy US\$ 25,152.6

Construction of Aweil Animal Health Border post

Livestock free movement across the borders with Sudan, C.A.R and Chad has highly increased due to the high demand for livestock products in Aweil Town. The absence of Animal health Border Post made it very difficult to detect and truck diseased animals imported into South Sudan. Construction of Aweil Animal Health Border post will play a great role in the detection and prevention of Trans Animals diseases at the border. There will be increase in revenues generated to sustain its operations and refund the loans borrowed and the XIRR here is 19.0% with the XNPV of 12% amounts equals to US\$ 10,488.6

Construction of Aweil Milk collection Center

Communities in Aweil are Agro-pastoralist who are great consumers' of milk and have made domestic market stable for both producers and brokers. The absence of Milk Collection center made it difficult to control postharvest loss before reaching value addition and market tables. Establishing such center will not only improve milk marketing but will also generate incomes and employment to the locals with the XIRR of 24.9% and the XNPV of 12% equals to US\$ 20,992.9

Construction of Kapoeta South Vet Clinic

Livestock keeping is the main economic activity in Kapoeta South with over 5 million livestock estimated but veterinary clinic is totally absent creating a gap curbing animal diseases. Construction of Kapoeta South Veterinary Clinic helps in prevention and treatments of infected animals. Its construction will increase the generation of revenues to both government and community and create job

opportunity to the locals. The XIRR here is 22.8% and the XNPV of 12% which amounted to US\$ 17,928.8

Rehabilitation of Slaughter house/latrine/crush/fence in Kapoeta South

Kapoeta South slaughter is currently in a bad shape with limited space to meeting huge market demand. Its rehabilitation is likely to increase the supply of ruminant animals' meat and hides to both domestic and regional markets. The time of sales and sales will increase highly generating incomes and jobs creation to the locals within the surrounding and the XIRR is 38.2% while the XNPV of 12% which amounted to US\$ 33,733.7

Rehabilitation of Livestock Market Shade in Kapoeta South

Kapoeta South is one of the major trading center for livestock which supply Juba City markets with surplus livestock and the existing livestock market is old enough with very small to receive sales. Its rehabilitation will increase the time for selling livestock and the livestock sales. Residual values and the brokers' fees will also increase by 3% due to the better marketing facilities hence improving livelihoods of the beneficiaries. The XIRR was 25.3% with the XNPV of 12% amounting to US\$ 30,111.4

Construction of Milk collection Center in Kapoeta South and Narus of Kapoeta East

Communities in Narus of Kapoeta East are Agro-pastoralist that keep and consume Livestock products such as milk mostly children which has stimulated the milk marketing. Establishment of milk collection Centre will improve milk value addition, marketing, incomes and job opportunity to the locals and government. Kapoeta South XIRR was 31.6% with the XNPV of 12% amounting to US\$ 23,010.5 while Narus town of Kapoeta East XIRR was 29.4% with the XNPV of 12% amounting to US \$ 21,574.7 respectively.

Construction of Vet Border post in Nadapal of Kapoeta East

Livestock free movement across the borders with Kenya and Uganda has increased greatly because of the high demand for livestock products in South Sudan but it's faced by the absence of Animal health Border Post to detect and truck diseased animals imported into country. Construction of Nadapal Veterinary Border post will play a great role in the detection and prevention of Trans Animals diseases at the border. It will contribute to increasing revenues generated to sustain its operations, health foods and nutrition for well-being. However, the XIRR was 35.1% and the XNPV of 12% amounts worthy \$ 29,363.9

Afforestation /restoration of natural trees in Kapoeta East

Kapoeta East is prone to droughts which affected the natural trees and vegetation within the area. Afforestation and restoration of natural trees project will impact positively on the environment hence producing surplus pastures to feed the livestock throughout the seasons. Livestock and fodder/hay production sales will increase creating more incomes, health foods and local jobs. The XIRR was 24.7% while the XNPV of 12% amounted to \$ 7,171.3 as shown in the table below.

Value chain support	Unit	Financial Analysis			Location beneficiary and budget			
		XIRR (%)	XNPV (\$ US)	Benefit/Cost Ratio	Location	No. of Beneficiary	Budget required	Payback period
Rehabilitation of Aweil Rice Irrigation Scheme (ARIS)	Community	37%	1,074,599.8	2.3	Aweil Town	57,600	1,458,000	15 years
Establishment of Fish farm within ARIS	Community	39.6%	690,419.9	2.5	Aweil Town	96,000	816,800	9 years
Rehabilitation of Aweil Livestock Market shade	Community	36.5%	40,504.7	2.3	Aweil Town	153,600	58,100	6.3 years

Rehabilitation of Aweil Vet Clinic	Community	33.1%	25,152.6	2.0	Aweil Town	2,880	44,300	4 years
Construction of Aweil Animal Health Border post	Community	19.0%	10,488.6	1.7	Aweil North	50,000	50,800	2.9 years
Construction of Aweil milk collection center	Cooperative	24.9%	20,992.9	1.8	Aweil Town	24,000	58,300	2.2 year
Construction of Kapoeta South Vet Clinic	Community	22.8%	17,928.8	1.7	Kapoeta South	109,000	61,800	4.6 year
Rehabilitation of Slaughter house/latrine/crush/fence in Kapoeta South	Community	38.2%	33,733.7	2.2	Kapoeta South	50,000	47,000	3.10 year
Rehabilitation of Livestock Market Shade in Kapoeta south	Cooperative	25.3%	30,111.4	1.8	Kapoeta South	71,000	86,000	3.9 year
Construction of Milk collection Center in Kapoeta South	Cooperative	31.6%	23,010.5	2.1	Kapoeta South	43,000	40,830	4.10 year
Construction of Vet Border post in Nadapal of Kapoeta East	Community	35.1%	29,363.9	2.1	Kapoeta East	89,000	39,100	2.3 year
Construction of Milk collection Center in Narus of Kapoeta East	Cooperative	29.4%	21,574.7	1.9	Kapoeta East	51,000	45,800	4.2 year
Afforestation /restoration of natural trees in Kapoeta East	Community	24.7%	7,171.3	1.7	Kapoeta East	15,300	21,500	4.1 year
Total of Value Chain support		36.2%	2,025,052.6	25.4		812,380	2,233,310	

Economic analysis

Introduction

The current account deficit widened to 6.4% of GDP in 2019 from 4.5% in 2018. Exports of crude oil accounts for more than 95% which is expected to fund the current account deficit and boost foreign reserves. Private investments in the nonoil sector reached an estimated \$22 million in 2019 (AfDB, 2017). Economic growth is the major focus of the R-TGONU and IGAD to derive other sectors developments sustainably in South Sudan and the Production cost is defined as the total economic value consumed to produce an output.

		<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>		<i>12%</i>
<i>Year</i>	<i>12/31/2021</i>	<i>12/31/2022</i>	<i>12/31/2023</i>	<i>12/31/2024</i>	<i>12/31/2025</i>	<i>12/31/2026</i>	<i>XIRR (7%)</i>	<i>XNPV (US)</i>
Rehabilitation of Aweil Rice Irrigation Scheme (ARIS)	(1,644,000)	3,409,860	3,409,860	3,409,860	3,410,360	3,595,360	37%	1,074,599.8
Establishment of Fish farm within ARIS	(243,000)	665,800	665,800	665,800	727,000	1,027,000	39.6%	690,419.9
Rehabilitation of Aweil Livestock Market shade	(47,200)	32,040	32,040	32,040	31,840	41,240	36.5%	40,504.7
Rehabilitation of Aweil Vet Clinic	(32,300)	19,800	19,800	19,800	19,800	19,300	33.1%	25,152.6
Construction of Aweil Animal Health Border post	(51,900)	10,200	12,200	15,600	18,200	23,900	19.0%	10,488.6
Construction of Aweil milk collection Centre	(58,300)	19,700	19,700	19,700	19,700	29,300	24.9%	20,992.9
Construction of Kapoeta South Vet Clinic	(61,800)	21,400	21,000	20,600	20,600	25,500	22.8%	17,928.8
Rehabilitation of Slaughter house/latrines/crush/fence in Kapoeta South	(37,200)	27,720	27,720	27,720	27,720	27,720	38.2%	33,733.7
Rehabilitation of Livestock Market Shade in Kapoeta south	(86,000)	27,800	27,800	26,700	26,000	25,300	25.3%	30,111.4
Construction of Milk collection Center in Kapoeta South	(40,830)	16,800	16,800	16,800	16,800	25,300	31.6%	23,010.5
Construction of Vet Border post in Nadapal of Kapoeta East	(39,100)	21,100	21,100	22,800	24,700	21,500	35.1%	29,363.9
Construction of Milk collection Center in Narus of Kapoeta East	(38,000)	18,300	18,300	18,300	18,300	19,500	29.4%	21,574.7
Afforestation /restoration of natural trees in Kapoeta East	(14,400)	9,600	9,600	9,600	9,600	9,600	24.7%	7,171.3
Total Value Chain	(2,394,030)	4,300,120	4,301,720	4,305,320	4,370,620	4,890,520		
South Sudan Economics						XIRR (12%)	36.2%	2,025,052.6

The currency used

- United States Dollars(\$) is the major currency designated for the proposed projects with direct converting into South Sudanese pounds throughout the operations or best alternatives for success shall be design by the clients and Government of South Sudan. Currently, the value of \$100 is equivalent to 37,000SSP, it will possibly change in the next 2 years and above as the economic situation get stable.
- The maintenance and labor cost might persist or increase slightly depending on the situation after project establishment for effective services rendered.
- South Sudanese Pounds would continue to gain strength against the United States Dollars depending on the increased domestic productions and exports.

Employment opportunity

- The Projects will possibly create more Jobs to the nationals most particularly to the locals in the project sites hence impacting the local economy growth and healthy being.

Social benefits

- Improved households needs such as food security and nutrition, health and education facilities, improved marketing for the local productions to lighten their financial burden.
- Local enterprises that adopt and develop markets sustainably will be enhanced to meeting standards.
- Promotion of local traditions, cultures and customs to the local communities' images and pride as Africans.
- There will be a boost of local investments in heritage resources and amenities that support tourism services.
- Government will earn more revenues through the local levies and taxes.

Gender Benefits

- More women will be equally recruited into the work force to stimulate economic growth which is very vital in IGAD countries with higher unemployment rate and less economic opportunities targeting women hence contributing to African Development goals.

Environmental Benefits

- There will be improved water and air quality, increase in biodiversity, habitat protection and reductions in greenhouse gases which are all inherent in a strategy that protects and preserves lands.
- Provision of food and medicines which fulfill all the human needs either big or small in the project sites.
- Various life cycles existence will be maintain sustainably.
- It will also play a better role in reducing chemicals, soil degradation, and the slowing of floodwaters.

Methodology

Approach

- Raw data was collected from smallholder and commercial farmers, traders, associations/cooperatives and key informants from both Gov't and partners in Aweil and Kapoeta areas, using harmonized mixed designs comprising of both qualitative and quantitative methods to gather sector specific data towards defining target group needs while at the same time adhering to the COVID-19 preventive measures as advised by the Ministry of Health (MoH).

Data management and analysis

- The data collected was reviewed at the end of each day to ensure that the fillings are in line with the study objective and those

that were not clearly filled were rectified. The data collected was entered directly into statistical package IBM SPSS version 21.0 for analysis.

Quality control measures

- All data quality control measures were adhered to during the study process which included; review of the study tools, regular supervision and cross-checking of the completed tools and data cleaning. The tools administered were checked regularly for correctness, completeness and consistency. During analysis, cross tabulations was conducted by comparing the emerging information with secondary data to ensure that any outliers were addressed.

Conclusion

These projects implementation would bolster the national economy and improve the livelihoods of the locals in the country.

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