



Resilience of Pastoral and Farming Communities to Climate Change in North Darfur

Part I: Project Information

GEF ID

10159

Project Type

FSP

Type of Trust Fund

LDCF

CBIT/NGI

CBIT No

NGI No

Project Title

Resilience of Pastoral and Farming Communities to Climate Change in North Darfur

Countries

Sudan

Agency(ies)

FAO

Other Executing Partner(s)

Higher Council of Environment and Natural Resources (HCENR) and, North Darfur State Ministry of Production and Economic Resources.

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Influencing models, Convene multi-stakeholder alliances, Demonstrate innovative approach, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Stakeholders, Local Communities, Beneficiaries, Civil Society, Trade Unions and Workers Unions, Non-Governmental Organization, Academia, Community Based Organization, Private Sector, Individuals/Entrepreneurs, Communications, Education, Awareness Raising, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access and control over natural resources, Participation and leadership, Capacity Development, Access to benefits and services, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Knowledge Generation, Training, Learning, Indicators to measure change, Adaptive management, Theory of change, Enabling Activities, South-South, Knowledge Exchange, Field Visit

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 2

Submission Date

6/15/2021

Expected Implementation Start

1/1/2022

Expected Completion Date

12/31/2025

Duration

48In Months

Agency Fee(\$)

230,820.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change	LDC F	1,600,000.00	10,500,000.00
CCA-2	Strengthen institutional and technical capacities for effective climate change Adaptation	LDC F	829,680.00	800,900.00
Total Project Cost(\$)			2,429,680.00	11,300,900.00

B. Project description summary

Project Objective

To reduce the vulnerability of pastoral and farming communities to climate change along the migratory routes in North Darfur and improve their social protection, food security and nutritional status. Indicator: Number of vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation Target: 25,000 women and 25,000 men

Project Compon ent	Financi ng Type	Expected Outcomes	Expected Outputs	Tru st Fun d	GEF Project Financing (\$)	Confirmed Co- Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
1. Participatory sustainable land and resource use planning strategically addresses climate change adaptation and mitigates resource-based conflicts	Technical Assistance	<p>Farmers and pastoralists cooperatively and effectively managing shared resources to address climate change impacts and build system resilience</p> <p>Indicators:</p> <p>20 villages adopt and implement cooperative resource management framework without conflict</p> <p>200,000 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.</p> <p>3 annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.</p>	<p>1.1 Participatory climate response conflict resolution and decision-making structures in place.</p> <p>1.2. Strategic sustainable land use management framework operational to support farmers and livestock producers? adaptation and resilience.</p>	LD CF	611,210.00	700,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
2. Pastoralists and farmers adopt sustainable , climate resilient practices and livelihoods	Investment	<p>North Darfur communities adopt and implement climate resilient agriculture and livestock management approaches</p> <p>Indicators:</p> <p>50 (50% male/50% female) extension officers leading APFS programs designed to deliver resilience improvements</p> <p>50,000 farmers and pastoralists enrolled in APFS.</p> <p>Male: 50%</p> <p>Female: 50%</p> <p>5,000 nomadic pastoralists reporting improved livestock production values and household nutrition levels as a result of project emplaced actions</p>	<p>2.1 Concrete investments identified and implemented to strengthen the resilience of smallholders and private producers (i.e., individual entrepreneurs, which are generally family farmers, pastoralists and agro-pastoralists , and MSMEs).</p> <p>2.2 Agro-pastoral Field Schools support application of climate resilient production practices</p>	LD CF	1,015,077.00	8,500,900.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
3: Lessons learnt captured, mainstreamed and upscaled	Technical Assistance	<p>Best climate resilient and adaptive practices are mainstreamed and being applied at local, regional, and national levels.</p> <p>Indicators:</p> <p>20 model village level land use plans generated with project support and uploaded into knowledge management website/portal for monitoring, reporting, and upscale.</p> <p>3,000 monthly users of project emplaced knowledge management website/portal</p> <p>200,000 hectares of agriculture and pasturelands monitored and delivering climate change resilient production management targets, including land degradation reductions.</p> <p>Ag: 100,000 ha</p>	<p>3.1 Results strengthen national level resilience and adaptation policies</p> <p>3.2 Project lessons captured and disseminated.</p> <p>3.3 Effective Monitoring and Evaluation Implemented.</p>	LD CF	687,694.00	1,500,000.00

Project Compon ent	Financi ng Type	Expected Outcomes	Expected Outputs	Tru st Fun d	GEF Project Financing (\$)	Confirmed Co- Financing(\$)
				Sub Total (\$)	2,313,981. 00	10,700,900 .00
Project Management Cost (PMC)						
LDCF			115,699.00	600,000.00		
Sub Total(\$)			115,699.00	600,000.00		
Total Project Cost(\$)			2,429,680.00	11,300,900.00		

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Higher Council for Environment and Natural Resources	In-kind	Recurrent expenditures	700,000.00
Recipient Country Government	Higher Council for Environment and Natural Resources	In-kind	Recurrent expenditures	300,000.00
Recipient Country Government	State Ministry of Agriculture and Animal Resources (North Darfur)	In-kind	Recurrent expenditures	100,000.00
GEF Agency	FAO	Grant	Investment mobilized	10,000,900.00
GEF Agency	FAO	In-kind	Recurrent expenditures	200,000.00
Total Co-Financing(\$)				11,300,900.00

Describe how any "Investment Mobilized" was identified

3,900,900 GCF funded GUMS project Livestock mobility and rangeland restoration in neighboring Kordofan States (North Darfur has shared borders between North and West Kordofan States). Relevant interventions include the establishment of livestock corridors, restoration of rangelands, improvement of the enabling policy and institutional environment. 4,600,000 Netherlands-funded Food and Nutrition Security Resilience Programme (FN-REPRO) Project Food security, nutrition and resilience. Relevant interventions include improving access to natural resources, improving livelihoods, increasing incomes and diversification of opportunities through selected value chains especially for Gum Arabic. 1,500,000 EULGP CI Programme Promoting land tenure rights. Relevant interventions include the use of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT) in the in the Greater Darfur region of the Sudan to promote food security for conflict-displaced communities, including small-scale rural farmers, pastoralists, and Internally Displaced Persons (IDPs)

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
FAO	LDC F	Sudan	Climate Change	NA	2,429,680	230,820
Total Grant Resources(\$)					2,429,680.00	230,820.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **false**

PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)
FAO	LDC F	Sudan	Climat e Change	NA	100,000	9,500
Total Project Costs(\$)					100,000.00	9,500.00

Meta Information - LDCF

LDCF true

SCCF-B (Window B) on technology transfer false

SCCF-A (Window-A) on climate Change adaptation false

Is this project LDCF SCCF challenge program?

false

This Project involves at least one small island developing State(SIDS). false

This Project involves at least one fragile and conflict affected state. true

This Project will provide direct adaptation benefits to the private sector. true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false

This Project has an urban focus. false

This Project covers the following sector(s)[the total should be 100%]:*

Agriculture	45.00%
Natural resources management	30.00%
Climate information Services	0.00%
Costal zone management	0.00%
Water resources Management	25.00%
Disaster risk Management	0.00%
Other infrastructure	0.00%
Health	0.00%
Other (Please specify:)	0.00%
Total	100%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise false

Change in mean temperature true

Increased Climatic Variability true

Natural hazards true

Land degradation true

Costal and/or Coral reef degradation false

GroundWater quality/quantity true

[To calculate the core indicators, please refer to Results Guidance](#)

Core Indicators - LDCF

CORE INDICATOR 1	Total	Male	Female	% for Women
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Total number of direct beneficiaries	50,000	25,000	25,000	50.00%
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CORE INDICATOR 2

Area of land managed for climate resilience (ha)	200,000.0
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CORE INDICATOR 3

Total no. of policies/plans that will mainstream climate resilience	20
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CORE INDICATOR 4		Male	Female	% for Women
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Total number of people trained	50,050	25,025	25,025	50.00%
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OUTPUT 1.1.1

Physical and natural assets made more resilient to climate variability and change

Male

Female

Total number of direct beneficiaries from more resilient physical assets	0	0	0
Ha of agriculture land	Ha of urban landscape	Ha of rural landscape	No. of residential houses
		200,000.00	0
No. of public buildings	No. of irrigation or water structures	No. of fishery or aquaculture ponds	No. of ports or landing sites
0	0	0	0
Km of road	Km of riverbank	Km of coast	Km of storm water drainage
Other	Other(unit)	Comments	
0			

OUTPUT 1.1.2

Livelihoods and sources of income of vulnerable populations diversified and strengthened

		Male	Female
Total number of direct beneficiaries with diversified and strengthened livelihoods and sources of income	50,000	25,000	25,000

Livelihoods and sources of incomes strengthened / introduced

Agriculture	Agro-Processing	Pastoralism/diary	Enhanced access to markets
true	false	true	true
Fisheries /aquaculture	Tourism /ecotourism	Cottage industry	Reduced supply chain
false	false	false	false
Beekeeping	Enhanced opportunity to employment	Other	Comments
false	false	false	

OUTPUT 1.1.3

New/improved climate information systems deployed to reduce vulnerability to climatic hazards/variability

		Male	Female
Total number of direct beneficiaries from the new/improved climatic information systems	0	0	0

Climate hazards addressed

Flood

false

Storm

false

Heatwave

false

Drought

false

Other

false

Comments

Climate information system developed/strengthened

Downscaled Climate model

false

Weather/Hydromet station

false

Early warning system

false

Other

false

Comments

Climate related information collected

Temperature

false

Rainfall

false

Crop pest or disease

false

Human disease vectors

false

Other

false

Comments

Mode of climate information dissemination

Mobile phone apps

false

Community radio

false

Extension services

false

Televisions

false

Leaflets

false

Other

false

Comments

OUTPUT 1.1.4

Vulnerable natural ecosystems strengthened in response to climate change impacts

Types of natural ecosystem

Desert true	Coastal false	Mountainous false	Grassland false
Forest false	Inland water false	Other false	Comments

OUTPUT 1.2.1

Incubators and accelerators introduced

Total no. of entrepreneurs supported	0	Male 0	Female 0
No. of incubators and accelerators supported	0	Comments	
No. of adaptation technologies supported	0	Comments	

OUTPUT 1.2.2

Financial instruments or models to enhance climate resilience developed

Financial instruments or models

PPP models false	Cooperatives true	Microfinance false	Risk insurance false
Equity false	Loan false	Other false	Comments

OUTPUT 2.1.1

Cross-sectoral policies and plans incorporate adaptation considerations

Will mainstream climate resilience 0	Of which no. of regional policies/plans 0	Of which no. of national policies/plan 0	
Sectors			
Agriculture true	Fishery false	Industry false	Urban false

Rural
true

Health
false

Water
false

Other
false

Comments

OUTPUT 2.1.2

Cross sectoral institutional partnerships established or expanded

No. of institutional
partnerships
established or
strengthened

0

Comments

OUTPUT 2.1.3

Systems and frameworks established for continuous monitoring, reporting and review of adaptation

No. of systems and
frameworks

0

Comments

OUTPUT 2.1.4

Systems and frameworks established for continuous monitoring, reporting and review of adaptation

No. of systems and frameworks **0**

Comments

OUTPUT 2.2.1

No. of institutions with increased ability to access and/or manage climate finance

No. of institution(s)

Comments

OUTPUT 2.2.2

Institutional coordination mechanism created or strengthened to access and/or manage climate finance

No. of mechanism(s)

Comments

OUTPUT 2.2.3

Global/regional/national initiatives demonstrated and tested early concepts with high adaptation potential

No. of initiatives or
technologies

Comments

OUTPUT 2.2.4

Public investment mobilized

Amount of investment
(US\$)

Comments

OUTPUT 2.2.5

Private investment mobilized

Amount of investment
(US\$)

Comments

OUTPUT 2.3.1

No. of people trained regarding climate change impacts and appropriate adaptation responses

Total no. of people trained	50,050	Male 25,025	Female 25,025
Of which total no. of people at line ministries	0	Male 0	Female 0
Of which total no. of community/association	0	Male 0	Female 0
Of which total no. of extension service officers	50	Male 25	Female 25
Of which total no. of hydromet and disaster risk management agency staff	0	Male 0	Female 0
Of which total no. of small private business owners	50,000	Male 25,000	Female 25,000
Of which total no. school children, university students or teachers	0	Male 0	Female 0
Other	Comments		

OUTPUT 2.3.2

No. of people made aware of climate change impacts and appropriate adaptation responses

		Male	Female
No. of people with raised awareness	0	0	0

Please describe how their awareness was raised

OUTPUT 3.1.1

National climate policies and plans enabled including NAP processes by stronger climate information decision-support services

No. of national climate policies and plans

Comments

OUTPUT 3.1.2

Systems and frameworks established for continuous monitoring, reporting and review of adaptation

No. of systems and
frameworks

Comments

OUTPUT 3.1.3

Vulnerability assessments conducted

No. of assessments
conducted

Comments

OUTPUT 3.2.1

No. of institutions with increased ability to access and/or manage climate finance

No. of institution(s)

Comments

OUTPUT 3.2.2

**Institutional coordination
mechanism(s) created or strengthened
to access and/or manage climate
finance**

No. of mechanism(s)

Comments

OUTPUT 3.2.3

**Global/regional/national initiative(s)
demonstrated and tested early
concepts with high adaptation potential**

No. of initiative(s) or
technology(ies)

Comments

OUTPUT 3.3.1

No. of people trained regarding climate change impacts and appropriate adaptation responses

Total no. of people trained	0	Male 0	Female 0
Of which total no. of people at line ministries	0	Male	Female
Of which total no. of community/association	0	Male	Female
Of which total no. of extension service officers	0	Male	Female
Of which total no. of hydromet and disaster risk management agency staff	0	Male	Female
Of which total no. of small private business owners	0	Male	Female
		Male	Female

Of which total no. school
children, university students **0**
or teachers

Other

Comments

OUTPUT 3.3.2

No. of people made aware of climate change impacts and appropriate adaptation responses

	Male	Female
No. of people with raised awareness		
Please describe how their awareness was raised		

Part II. Project Justification

1a. Project Description

1.a PROJECT DESCRIPTION

A. CONTEXT

Geographic

1. The Republic of the Sudan lies between latitudes 10°N and 23° N and longitudes 21°45'E and 38°30'E and borders South Sudan, the Red Sea and six other African nations. The total land area is approximately 1.9 million km².

2. The majority of the land is defined by arid plains interspersed by hills and mountains. Outside of the Nile basin, water resources are very limited, drought is common, and soil fertility is low. Sudan has a variety of soils including clay deposits in its central and eastern regions, stabilized sand dunes in western and northern regions, red ironstone soils in the southern region, as well as alluvial soils along the river Nile and other water streams and deltas[1]¹.

Socio-Economic

3. The total population is estimated at 41.5 million. According to the World Bank[2]², Sudan has a large poverty incidence (estimates set the average rate of poverty incidence at 46.5%) and great inequality between regions. Gender-based disparities are substantial and human development indicators remain low. Sudan ranked at 166 out of 187 countries in 2014. The latest Integrated Food Security Phase Classification (IPC) estimates that 3.9 million people in Sudan are classified as 'food insecure' and in 'crisis' or 'emergency' phases.

4. Sudan's Human Development Index (HDI) value for 2018 was 0.507, ranking the country 168th out of 189 countries and territories. The country scored 0.560 on the gender Inequality Index (GII) positioning itself 139th out of 162 countries assessed in 2018. According to the Multidimensional Poverty Index (MPI) based on the most recent available data of 2014,

52.3% of Sudan's population or about 21 million people are multidimensionally poor across 3 dimensions namely health, education and standard of living. An additional 7 million people or 17.7% of the population are vulnerable to multidimensional poverty[3]³.

5. Sudan's real GDP shrunk by an estimated 2.4% in 2019, and is projected to further contract by 1.6% in 2020 and 0.8% in 2021 driven by weaknesses in domestic demand, private sector investments and the political situation. Inflation crossed the 50% threshold in 2019 driven by high input costs and is predicted to climb even higher reaching 61.5% for 2020 and 65.7% for 2021. Unemployment rates averaged 14-15% over two decades, these rates are even higher reaching 25% among the youth making them one of the most affected social groups [4]⁴. The macro-economic situation in Sudan is negatively impacting the purchasing power of households especially in poor and flood-affected areas. The Sudanese Pound (SDG) depreciated compared to the USD from 170 in August 2020 to 240 by mid-October. Following the removal of fuel subsidies in October 2020, fuel prices skyrocketed with a 400% increase with a litre of gasoline sold at about 120 SDG on October 28 compared to 28 SDG before. This resulted in more than 100% increase of Khartoum transportation tariffs which could lead in return to an increase in prices of food and non-food items.

6. In October 2020, national wheat prices were on average 150% higher than last year, and 400% above the 5-year average. Wheat imports are expected to reach 1MT to cover consumption needs till the next local wheat harvest around April 2021. Livestock prices were 90-100% higher compared to 2019, and 200-300% above the 5-year average. These could be explained by the deterioration of the national currency, the macroeconomic situation, and the higher costs associated with flash floods and Covid-19. With regards to income from agricultural labour, wages increased by 20-30% during the June-October period with wages reportedly increasing from 400-600 SDG/day in October 2020 compared to 250-350 SDG/day last year. However, labour-to-sorghum ratio decreased by 24% because of the higher increase in sorghum prices[5]⁵.

7. Between June and September 2020, 9.6 million people were estimated to be in high acute food insecurity[6]⁶, an increase of 65% compared to the same period of 2019[7]⁷. Most areas in Sudan are expected to face some level of food insecurity between October 2020 and May 2021, with North Darfur among the states expected to be in crisis[8]⁸. Among the key drivers are Covid-19 prevention measures with negative impact on income, expenditure and food prices. This is also exacerbated by floods, and conflicts that are driving population movements in Sudan with an estimated 1.89 million people internally displaced.

8. The empowerment of women to participate into decision making and the workforce, as well as to benefit from adequate health coverage is still an area of work in progress. In 2018, women held 31% of Sudan's parliamentary seats, while female participation in the labour market reached 24.5% in contrast with 70.3% for their male counterparts. An estimated 311.0 women die from pregnancy related issues for every 100,000 live births[9]⁹.

Climate

9. Sudan is a hot and dry country located in desert, semi-desert and savannah climate zones, station data and climate models show that with decreasing rainfall and increasing temperatures, the country is getting even drier adding more stress and tensions to the already fragile socio-economic equilibriums of agropastoral communities whose livelihoods hugely depend on rain-fed agriculture, pastureland, water and livestock. Across Sudan, mean annual temperatures vary between 26C to 32C, while extreme temperatures over 43C can be recorded in northern areas. Most rainfall occurs between June and September, areas receiving more than 500mm during the rainy season are contracting hence exposing populations in areas such as Darfur to rainfall deficits. From June to September 2020, rainfall was above average causing flash floods and waterlogging across Sudan with North Darfur among the most affected areas. Estimates indicate that floods affected over 875,000 people, damaged or destroyed over 175,000 houses, submerged about 1.4M Ha of cropped land, and killed more than 35,000 heads of livestock[10]¹⁰. As already highlighted in the 2007 NAPA, agriculture, water resources and public health were the 3 high priority sectors expected to suffer the most from the consequences of a changing climate and where urgent action is needed.

Agriculture and Livestock

10. Agriculture in 2016 accounted for about 30% of Sudan's GDP, 80% of non-oil exports, and 65% of the population's livelihoods. Agriculture is a key economic sector and the main employer for 80% of Sudan.[11]¹¹ Agriculture is a strategic priority for Sudan, investing in sustainable and more resilient agricultural and livestock systems in a socio-economic context shaped by conflicts and climate change can generate the much-needed revenues from agriculture and livestock which in return will compensate for oil revenues, accelerate growth and lift millions out of poverty. Yet, according a recent report from the World Bank in 2019, Sudan ranked very low with a score of 29.27 out of 101 countries assessed for the ability of their regulatory environment to enable the business of agriculture against eight indicators, related to

seed supply, fertilizer registration, water security, registration of machinery, sustaining livestock, protection of plant health, food trading, and access to finance[12]¹².

11. Irrigated agriculture consumes 94% of freshwater and households 5% of water demand. Livestock and industrial product account for the remaining 1%. With the projected increase in water demand driven by the expansion of large irrigated agriculture scheme to reach 3.2 million ha by 2027 according to Sudan's 25-year strategy (2002-2027), associated with population growth and increasing demand from livestock and other activities, the total demand would reach about 59.2bcm, almost double the available water supply ranging between 29.7 to 31.7bcm.

12. Sudan's share of the Nile's water amounts to 20.5bcm (billion cubic meter) based on the 1959 agreement with Egypt, with 75% of the flow happening during the rainy season between July and October. Rivers or small streams outside the Nile basin called 'wadis' are very sporadic and provide irregular flood flows with an estimated 5-7bcm, they play an important role in groundwater recharge such as in the case of 'Wadi Azum' in Darfur, half of which flows into Chad and the other half infiltrates into aquifers. Groundwater accounts for an estimated 4.2bcm per year, it's 3 to 20 deep on average and is found in the alluvium formations underlying the Nile, the Nubian Sandstones, and other formations where its depth can reach 10 to 200m. Unconventional water sources are still very limited to sea water desalination in Port Sudan and sewage treatment in part of the capital Khartoum.

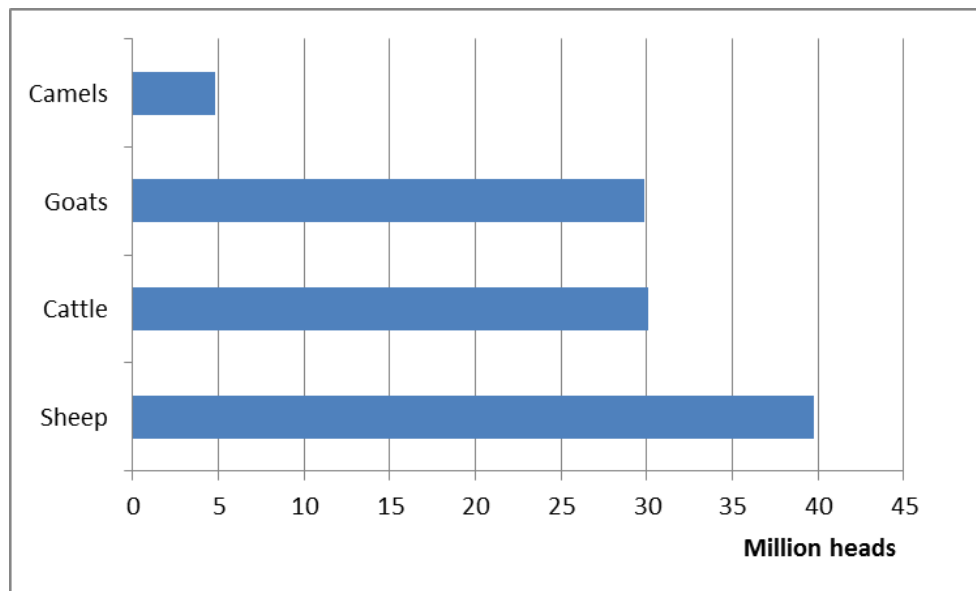
13. According to an assessment by Abdalla, et al., 2011, water availability in Sudan shows extreme seasonal variations. Existing water sources encompass rainwater, rivers, sea water and groundwater, most of them are transboundary and rainfall remains the most important renewable water source.

14. Traditional rainfed agriculture farmers hold small size areas of about .5 ? 5 hectares. Most work is done manually using family labour and traditional hand tools with little or no external inputs. Agricultural yields are low, farmers have little resources and poor access to markets to sell their produce. Impacts of climate change on Sudan's rainfed agriculture can be seen in its decreasing yields, shorter growing season for crops, soil erosion and declining soil fertility, in addition to the changing distribution of insects, weeds and diseases leading to crop failure as well as livestock mortality.

15. Livestock raising and livestock production have and continue to play a central role in the Sudanese economy and culture. The livestock sector has consistently provided more than 60% of the estimated value added of agriculture to the Sudanese economy and is a substantially more important to the national agricultural GDP than crop farming.[13]¹³ Livestock is by value the largest subsector of Sudan's domestic economy. This was the case even prior to secession from

South Sudan when agriculture contributed more to the national GDP than petroleum and livestock represented the largest percentage of agriculture. Although statistics on livestock and its contribution to the economy are incomplete and unreliable, official figures (quoted in Behnke, 2012) show significant growth of cattle population from about 16 million to over 40 million heads between 1975 and 2010. Similar increases exist for sheep, goat and camels.

FAO estimates for livestock population in 2013^[14]¹⁴



16. The vast majority of livestock production ? possibly 90% of the total, although the actual figure is not known ? is from smallholders and migratory producers. The combination of mobile and sedentary pastoral and agro-pastoral production by farming and herding households is an important pillar of the Sudanese economy. In the transhumant systems, women are typically responsible for managing and processing small stock and other animals kept near the homestead such as poultry, calves and small ruminants, and for sick animals. Both women and men in The Sudan can sometimes have major herding and management responsibilities for large stock. In the agro-pastoral system, women generally manage and control the animals that remain near the homestead, including cattle production and sheep fattening, while men herd the other animals.

B. Description of Target Landscapes

17. The Darfur Region lies to the west of Sudan and borders with South Sudan, Chad and Libya. The total population is currently estimated at approximately 8.1 million^[15]¹⁵, a dramatic

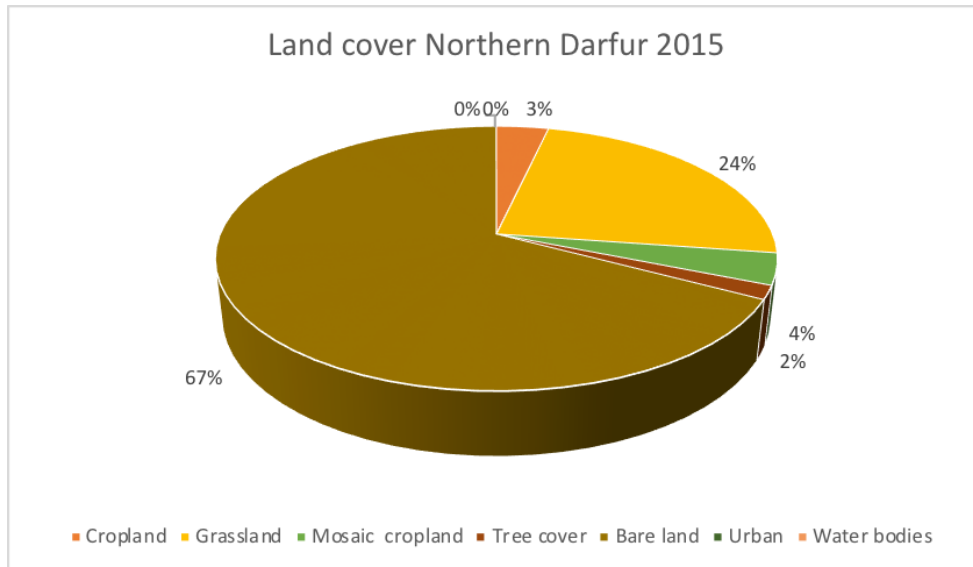
increase from approximately 1 million in 1954. The total Darfur Region covers approximately 514,000 km². The Darfur Region consists of five States: North Darfur, Central Darfur, Eastern Darfur, Western Darfur and Southern Darfur. The economy is based upon farming and livestock keeping. More than 70 percent of the population relies on traditional and subsistence agriculture, mostly rainfed agriculture and pastures. Darfur is arid and semi-arid with few permanent water sources and small areas with good pasture seasonally dispersed.

18. The North Darfur State is one of five states within the Darfur Region. North Darfur covers an area of approximately 317,614 km² with approximately 2,514,000 people. It has some of Sudan's most marginalized communities. The vast majority of Darfur residents are highly vulnerable farmers and pastoralists. Most depend upon livestock for subsistence. The Project will intervene along the traditional herder migration routes in North Darfur. This will cover the areas that lie to the north and north-western parts of North Darfur state, mainly North Mellit, Sayah, North Kutum, North Kebkabyia, Umbaru, Saraf Omra, Elserief, Kuma, North Umkaddada, and Malha.

19. The northern part of North Darfur is entirely a desert. To the south there is slightly more rainfall with the eastern side being plains with low sandy hills. The volcanic Marra Mountains occupy most of the western side. Because of its dry nature, the state is the least food secured in Darfur. Most important crops produced include dukun (millet), dura and groundnuts and tombak (*snuff tobacco*). The state is also famous for the production of camels, sheep and goats.^{[16]¹⁶}

20. In a recent FAO study, the overwhelming majority of households in one region reported that their produce is not enough to provide for household consumption (96%). The majority of households (86%) do not store cereals at the present time although they did this before the conflict in Darfur (75%). Nearly 90% reported that they take 2 meals per day and 71% of the surveyed households reported that they are not food secure. However, less than half (45%) reported that one or more household member suffers malnutrition.^{[17]¹⁷}

21. Resource-user groups in Darfur can generally be categorized into three main groups: pastoralists, agro-pastoralists, and sedentary farmers.



Source: Extracted and recategorised from CCI-LC maps at 300m spatial resolution, 2015 (WGS84)

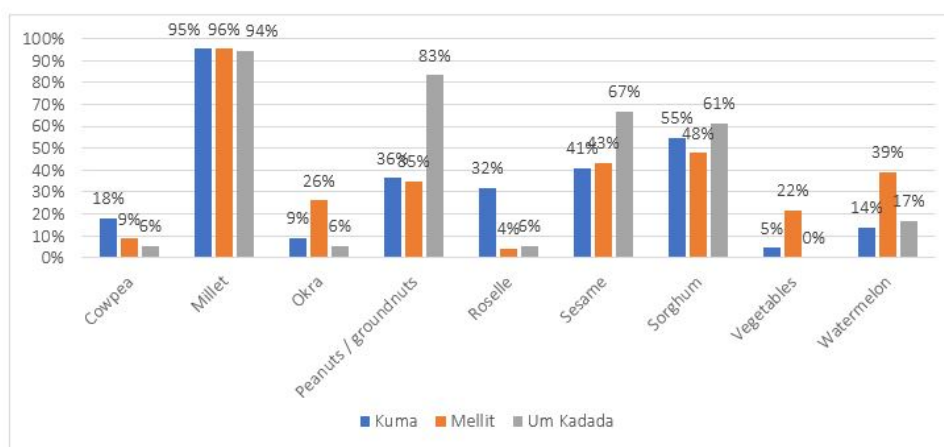
22. Pastoralists once depended primarily on livestock and mobile pastoralism, both within and beyond Darfur. Recent changes and the conflict have increasingly restricted their mobility, often to within the State border and to restricted locations within the State. As a response, many have resorted to other livelihood strategies including crop husbandry, sale of firewood, building material, fodder and forage and crop cultivation depending on the areas. Many became less mobile or sedentary. This group covers a wide range including semi-nomadic camel herders and settled baggara.

23. Sedentary farmers form the largest user groups. FAO studies have found that over 90% of the population of some North Darfur regions are farmers. Most sedentary farmers claim traditional land rights through inheritance. However, land tenure is extremely complicated in North Darfur. The area covered with agricultural crops is very limited, with some regions having only 1.3% of the total land cover under cropping. Nearly all croplands are rainfed with limited irrigated crops along water courses (wadi). Millet and sorghum are cultivated mainly for family consumption. Faba beans, peas, red beans, okra, watermelons, tomatoes, reddish and different types of vegetables are grown along the Wadis for profit. Tobacco (snuff) is the main cash crop for farmers and also the main source of revenue for some localities.

24. According to the FAO/SHARP+ household survey and analysis conducted during the PPG, the most common crop across the pilot area is millet, which is planted by an average of 95% of households in the three districts visited. Sorghum is another important crop among producers in the three sites as it is cultivated by 54% of farmers overall (61% in Um Kadada, 55% in Kuma and 48% in Mellit). Farmers usually relied on an average of 2.74 hectares of land for the production of their crops. Though larger extensions of land were observed for the

cultivation of millet (8.5 ha on average) and sesame (4.7 ha on average). Cowpea (0.93 ha), roselle (0.71) and okra (0.69) were cultivated in less than a hectare. About 75% of farmers interviewed mentioned to hold over 5 hectares (ha) private land, with similar patterns in both Kuma (80% of households) and Um Kadada (80% of households), whilst over 95% of farmers in Mellit access more than 5 ha of land. Additionally, more than 40% of households in Um Kadada and Mellit own 20 ha or more.

25. Importantly, legumes (cowpeas and peanuts) are more predominant in female-led households than in male and dual-led households. This situation positively contributes to soil health and nutrition (if consumed by the family).



26. Most farmers interviewed (94%) declared to only utilize native / local crop varieties and species in their production systems, while only 2% (one household) mentioned to use new varieties exclusively. About 5% of the sample mentioned to rely on native varieties mixed with a small share of non-local crop varieties. Seeds and seedlings are mostly produced (or reproduced) in the farm, as declared by 83% of farmers, while local markets or shops represent the second main source for 49% of producers, with no large differences among districts.

27. About 84% of households (54 of respondents) have trees growing on their farmland and some differences can be noticed among districts. Around 96% of households in Mellit have trees, while 82% in Kuma and 74% in Um Kadada do. Forests are accessed by 64% of producers on average (41 households), with some differences among districts.

28. Nearly three-fourths of farmers assessed (73%) mentioned not to have experienced (major) crop losses after harvesting. About 17% said that only some of the production was lost, 5% mentioned that almost half of it was lost, and 5% acknowledged that most of the production was lost.

29. Fuelwood is the prevalent source of energy of families in the sites assessed, as it is used by 100% of these to meet their household needs and by 78% to meet the agricultural ones, while electricity was not reckoned by any of the respondents. At district level, the use of crop residues was also deemed as an important energy source in agriculture by 11% of farmers overall.

30. Agro-pastoralism simply refers to groups that practice both livestock rearing and agriculture. This is a livelihood strategy used by both pastoralists and sedentary farmers to improve livelihoods and increase food security through better management of risks.

31. The main livelihood strategies for income diversification for all groups are: labour migration and remittances to families for household needs; collection and selling of charcoal, firewood, grass, local construction materials; and collection of wild foods for household. Among the underlying social and environmental drivers of conflict, are the changing resources dynamics and the expanding poverty, the context in Darfur demonstrates how the interplay of ecological degradation combined with the erosion of community governance among other factors created critical obstacles hindering any long term solutions to conflict^[18], and became the key to an enhanced resilience in a context where vulnerabilities are already exacerbated by climate change.

Cultivated Area North Darfur 2019/2020	
Source: FAO Crop and Food Supply Assessment Mission (CFSAM) to The Sudan, February (2020)	
Crop	Area Planted (Hectares)
Sorghum	214,000
Millet	196,000
Sesame	155,000
Groundnuts	336,000

32. The livestock herd of North Darfur was about 8.13 million head in 2016, the equivalent of 2.40 million Tropical Livestock Unit (TLU) with its feed requirements amounting to 7.20 million tons of dry feed/year. Feed production from herbaceous layer and browse was 10.8

million tons in 2016 (Fadlalla et.al, 2016, General Directorate of Range and Pasture and Miraj 2016). While these figures show a surplus of 3.6 million tons in that particular year, there are several factors to take into consideration, First, feed production is subject to large variations from one year to another and deficits do occur. Second, large quantities of feed produced on the rangelands remains unavailable due to the inaccessibility of water points in some locations and to insecurity in other areas. Also, rangelands and pasturelands in North Darfur are also utilized by livestock coming from outside from other States and vice versa.

33. According to the FAO/SHARP+ analysis and other PPG activities, women tend to be more engaged in smallholder livestock farming. Households headed by men tend to raise livestock using a more nomadic approach. Goats and donkeys are the most common animals owned by the households assessed, as 100% of households (38 out of 38) own goats, and 95% of households (36) own donkeys. Poultry is raised by 58% of households (22), while sheep by 29% of households (11).

34. The vast majority of households (97%; 37 respondents) only use local breeds, while one respondent declared to have a mix of both local and non-native livestock breeds. Almost 80% of producers declared that most of their breeds were well adapted to local climate conditions; 18% said that only some of their breeds were and 3% (1 respondent) said the breeds were not adapted. Around 80% of households (30 out of 38) have lost a significant number of livestock in the last 12 months as declared by respondents. The main important reasons for loss were the presence of diseases, as reported by 63% of respondents; and predators as noted by 18% of households. Climate stress (e.g., heat) and other reasons were both acknowledged by only 5% of households. Dry fodder (e.g., hay, straw) constitutes the main food provided to livestock as noted by 82% of respondents; followed by farm residues (34%) and wet fodder (24%), and with similar patterns across districts.

35. Livestock is a critical source of income in north Darfur, if not the most valuable asset especially for displaced families who mostly rely on what is left of their herds after losing their houses and livelihoods due to natural disasters or conflicts. The herds of most nomads are comprised primarily of camels with some small ruminants. Very few nomads continue to raise cattle since grazing conditions have become difficult. Only a few wealthy herders tend to maintain cattle as a symbol of their status in society. Donkeys are used to transport water, firewood, wild foods and other forest products. Women and men derive short term and regular income by selling milk, which is also a critical source of high-quality proteins and essential micro-nutrients to supplements diets in vulnerable households suffering from malnutrition. By breeding livestock on the medium term, households do also sell livestock for meat to provide for their families. Nomads tend to have very little need for cash and only infrequently will they sell livestock. When families wish to sell large numbers of livestock, they customarily push their herds to Khartoum where the markets are located. However, this is changing with trucks increasingly used to transport livestock to markets.

C. THREATS: ROOT CAUSES AND DRIVERS

36. This project's objective is to reduce the vulnerability of pastoral and farming communities to climate change along the migratory routes in North Darfur and improve their social protection, food security and nutritional status. Understanding the dynamic between nomadic herders and sedentary agriculturalists and how this relates to climate change adaptation is critical to understanding how this project intends to reach the intended objective.

37. There are three geographic areas traditionally utilized by nomadic pastoralists: northern grazing areas, central agricultural zones, and southern grazing areas. The herder communities customarily spend the rainy season of June - December grazing the open plains of North Darfur. As the dry season progresses, nomadic herders leave the northern plains and follow a number of seasonal stock routes to reach dry season grazing lands further south.

38. Grazing routes or 'corridors' (masraat/maraheel) have historically been well-known and well-recognized by agriculturalists and nomads. These pastoral corridors were defined by customary land-use rights. The tribal leaders from both sedentary and nomadic groups coordinated the routes with local and native administration authorities. The grazing routes cover hundreds of kilometres and pass through areas with sedentary farmers. Many of these routes lead to Chad and to what is now South Sudan. In one of the project sites, Kutum, there were four main routes for livestock to migrate. The shortest route covers 400 kilometres and the longest covers 700 kilometres.

39. Migratory corridors are not always 'narrow' passages. The corridor may be over a kilometre wide while shrinking to less than 200 meters when passing through agriculture areas. The livestock corridors have areas designated for 'short-term' resting (Sinya) which can be sometimes cover 4 ? 5 kilometre in radius containing both water and forage for livestock. There are also larger 'long-term' resting areas designated (Manzila) which can have a radius of more than 30 kilometers. In these areas, livestock may rest for a period of several weeks. In addition, pastoralists have traditional rights to make temporary settlements or 'darma' along the tracks. Frequently, family members are stationed at these *darma* for extended periods of time while the herds are in the southern or northern grazing areas.[19]¹⁹

40. The relationship between nomadic herders and agriculturalists has traditionally been more or less mutually beneficial. Southern migrations generally occur early in the rainy season during the period June ? July which is locally known as "Shogara" in reference to the early sprout of herbaceous cover. Starting from August, pastoralists move north to the Damar (main domain) and sometimes farther north when Gizu[1] grazing is available. The area is also visited during the rainy season by camel nomads from East Darfur (Ma'alya) and West Kordofan (Hamar)[20]²⁰. Arriving in the fields post-harvest, nomadic livestock would graze crop residues (e.g., stalks). Livestock manure would provide much needed fertilizer to the agricultural lands.

When the rains returned, the herding families would again move northwards to the plains following the same routes.

41. For centuries, this traditional system underpinned livelihood security and managed conflicts between and within livelihood groups. Customary management arrangements ensured that the level of inter-community conflicts was low. Although the region was always resource-scarce, people and livestock were able to co-exist governed by informal, but structured, native institutions based in large part upon tribal structures. Historically, the pastoralists passed through these regions without spending a significant amount of time.

42. In the recent past, the equilibrium between herders and agriculturalists has changed drastically due to a host of reasons. Because of the conflict, many of the migratory routes were altered and/or closed. At the same time, climate change has altered the seasonal patterns of rainfall and related harvest and migration. This is making it difficult for agriculturalists to strategically adjust to changing climatic conditions. At the same time, the political and climatic changes have led nomadic herders to change their grazing patterns, often moving into agricultural lands earlier, staying longer, or putting herds in areas where they have not traditionally been placed.

43. As a result, North Darfur is an area with high resource conflict exacerbated and largely driven by climate change. Land degradation is a major issue generating resource conflicts between user groups as well as increased exposure and vulnerability to climate change. Changes in weather patterns along with increased competition for dwindling resources and conflicts have disrupted the historical equilibrium. Resource constraint is leading agriculturalists and nomadic pastoralists increasingly to points of often violent conflict. For instance, herders are supposed to not use grazing areas along drive-trains until February. Environmental constraints are increasingly forcing herders to move into cultivated areas as early as October. In the past, the herders would be found along these drive trains for a matter of weeks. Now many stay for months.

44. There are a number of factors contributing to the climate change induced resource conflicts.

? *Altered Migration Patterns:* As noted, political issues have constrained the ability of nomads to travel to areas in the South that were traditionally open. On the whole, pastoralists can no longer leave the Darfur States to neighbouring South-Sudan, Chad or CAR. Further, within North Darfur, many of the previous grazing lands are inaccessible. The result is that herders are forced to stay in the agricultural areas for longer periods as they wait out the dry season. Where herders do move to southern grasslands, they are finding these areas overcrowded as herders from around North Sudan compete for the same seasonal grazing areas.

? *Increased Agriculture Pressure:* The end of the 20th Century witnessed great instability and costly civil conflict in Darfur. Apart from the very high cost in human lives, the conflict led to very high numbers of internally displaced persons (IDPs) and it devastated the social structure and economy in Darfur. It has also contributed to the further degradation of the natural resource base with large numbers of migrants moving into the fertile agricultural areas. These 'new-comers' do not always know and/or abide by traditional management regimes. This increased agricultural pressure is further exposing farmers to climate change risks again straining production limits and leaving little elasticity for climate change adaptation strategies. With climate change advancing, they face rainfall variability with intense storms bringing erosion and longer dry seasons with dwindling amounts. As a result, crop fertility rates are decreasing. This is compounded by damage to crops by livestock, mainly camels owned by nomadic pastoralists who are unable to resume their full North-South migration route.

? *Agricultural Expansion:* As noted, there are specific areas that are traditionally designated and often demarcated for use by nomadic herders. However, agriculture is expanding and often making use of these traditional drive-train grazing areas. This further limits the seasonal availability of pasture for nomads. An increasing number of households now concentrate their productive activities into smaller areas. This creates a very competitive landscape for limited resource access.

? *Water Scarcity:* Climate change is altering water availability and seasons, particularly in the northern herding areas. Although there are areas with grass available for livestock, with no or little water available for their herds pastoralists are also competing for the same water used for agriculture and households. Normally, livestock would not move through the agricultural lands until January well after crops are harvested. Now water frequently becomes scarce as early as September or October. The conflict resulted in the loss of critical infrastructure. Much of the water harvesting and storage infrastructure upon which communities depended was destroyed, causing an even greater strain and further concentrating impacts on limited resources. This is forcing herders to move their livestock into agricultural areas while crops are still standing, causing substantial hardship and conflict.

? *Altered Commodity Markets:* As livestock numbers have increased and forage has become scarce, the value of crop residues has increased. Often, trucks arrive from Khartoum to purchase these residues and transport them to livestock in other regions. Agriculturalists are now harvesting residues (e.g. stalks) and are no longer as interested in having migrant herders graze residues on the field.

? *Increased Nomadic Livestock:* The numbers of livestock are increasing. Nomads are keeping larger herds as a 'bank account'. Most herds are comprised of camels with a few ruminants. Although there is a meat market for camels, there is no easily accessed abattoir and/or incentive to sell these livestock

to incentivize quality of stock over quantity of stock. This means larger numbers of nomadic livestock are competing for dwindling resources.

? *Increased Sedentary Livestock:* In addition, agriculturalists are changing approaches and increasingly diversifying into mixed livestock and agricultural production systems. With climate change threatening crop production that is not based upon sustainable coping strategies, livestock is seen as a risk management mechanism. Great numbers of agriculturalists owning livestock requires more resources while they continue to extend their cropping areas to feed their growing households. Some sedentary population has improved livestock breeding to the extent that they cannot keep them in the village. In this case they start moving outside the village in limited migration patterns. This trend was growing fast before the war but has been brought to a sudden still by the conflict.

? *Fire:* The incidences of fire are increasing across the landscape. Fire is often used to manage crops and grasslands. However, the fires are being driven by climate change. Sporadic and intense rainfall is causing increased fuel-loads that are drying earlier. These fire events further constrain available resources.

? *Land Tenure and Decision-Making:* The issue of land tenure and decision-making is complicated in Sudan. Traditional decision-making structures, particularly tribal allegiances, remain strong. There are also issues with colonial and post-colonial land tenure legalities. In addition, there are issues related to open access grazing rights colliding with more sedentary rights slowly being established across agricultural areas. All of this creates a very challenging atmosphere for determining spatial planning and oversight to make certain resource use remains within sustainable bounds and is effectively promoting climate change adaptation.

45. These intermingled drivers are exacerbated by climate change. Climate change's impacts such as increased temperatures, more erratic rainfall patterns, and a dramatic decrease in seasonal rains will potentially have severe repercussions for Darfur's agriculture and livestock dependent communities. Extreme climatic events such as flush floods and dry spells are also a major concern for communities who witnesses great losses and fatalities. The additional stress caused by climate change will be potentially catastrophic for Darfur's communities if tangible improvements are not made quickly.

46. Water is a limiting factor for all socio-economic activities in Darfur due to scarce rainfall, high rainfall variability, and high evaporation rates. Darfur's climate is principally arid and semi-arid with annual rainfall ranging from under 100 mm in the very North to possibly 500 mm in the very South. Darfur's rainfall is notably highly variable in both geographical and

temporal terms. For El Fasher, there is a great inter-annual variability in both total annual rainfall and number of rainy days during the period 1917-1986.^[21]²¹ Complete recent data is not available. However, available data suggests that average rainfall has declined sharply over the past century. For example, the 200mm isohyet moved South across most of North Darfur between 1940-70 and 1977-86.

47. A recent climate assessment by IFAD discusses how climate change will likely challenge resources users in North Darfur over the coming decades.^[22]²² Average temperatures will increase across the region at least 2 degrees centigrade with West Kordofan and South Darfur facing possibly higher increases. Seasonal temperatures will also increase. The Red Sea, River Nile, Northern and North Darfur States will see anticipated highest seasonal variability with increases projected to be greater than 2.5 degrees Celsius.

48. While heat stress affects the performance of livestock especially the dairy breeds, droughts directly affect the availability of feed and water driving human and livestock displacements and triggering tribal conflicts. With valuable grazing areas turning into deserts and sand hills, and in an attempt to sustain their precious livelihoods, herders had to change their stocks and husbandry. Darfur's herders once famous for their cattle herds are switching into sheep and camels. Driven by the twin challenges of land degradation and changing climate, herders are forced to migrate south for better pasturelands in the tsetse belt exposing their animals to diseases and compounding the challenge of disease control through long-range movement of animals.

49. Over the coming years, most states will have more annual rainfall while others will have less. However, rain periods will become less reliable with the rainy season likely becoming more dry overall. The states predicted to have the most seasonal variability are the Red Sea, River Nile, Northern, and North Darfur. The precipitation changes in North Darfur are predicted to be dramatic with the wet season precipitation likely decreasing by 9%.

50. In 2020, the above-normal rains promoted pasture regeneration and water availability across most pastoral and agropastoral areas in Sudan. The Normalized Difference Vegetation Index (NDVI) showed a 140% increase in vegetation across the main grazing areas including most of Darfur. With regards to seasonal livestock movements, quasi-normal movements of transhumant pastoralists were into wet season grazing areas in northern areas along most of the traditional migratory routes. Nevertheless, water shortages due to the destruction of open water sources (boud dam) by flash floods are expected to affect the post-harvest livestock migration in December/January to summer season grazing areas^[23]²³.

51. Historical records over the 1975 to 2009 period indicate a warming of +1C within the extended Darfur region. This increase in temperatures will amplify the impact of heat stress especially on rainfed agriculture and livestock. The overall trend of declining precipitations is most pronounced on the northern edge of the Sahel in North Darfur. Since records began in North Darfur's capital El Fasher, the 10-year moving average fall from 300mm to about 200 per year. Historical climate change recorded in Darfur shows how the decline in rainfall transformed the landscapes turning millions of hectares of marginal semi-desert grazing lands into desert. Pastoralists facing the stress of desertification on their livelihoods are forced to move south for pastures.

52. Under a climate change scenario predicting a warmer and drier Sudan, climate variability will only worsen this peculiar situation in Darfur underscoring the need for sustainable and innovative approaches to boost community resilience and adapt to a changing climate. When there is too much water, floods and related natural disasters can force entire communities to become displaced and experience homelessness, leaving behind what is left of their precious livelihoods and exacerbating their vulnerabilities to poverty, food insecurity and conflicts. In 2019, floods destroyed an estimated 50,000 houses and damaged another 36,000 homes, as well as a significant number of health, education and water facilities. On the other hand, when there is too little water and precipitations are below average during dry spells or prolonged droughts, competition over scarce natural resources intensifies and competing uses of water for rainfed agriculture, livestock, rangeland and forests become primary drivers of conflicts.

53. Climate change and accompanying weather variability and drought are further contributing to ecosystem degradation and resource shortages. Meanwhile, communities continue to adopt and proceed with maladaptation practices. This includes over-stocking beyond resource capacity limits, expanding cropping onto unsuitable soils, allowing livestock to graze on cropping land before crops are harvested, and over-extraction of water resources.

54. Climate change is exacerbating an already difficult social and environmental situation. This is resulting in increased levels of desperation and competition for limited and degraded resources. Conflict between the three production groups (pastoralists, sedentary farmers, and agro-pastoralist) is already occurring. There is a very real and imminent danger that conflict will escalate.

55. The areas with most degradation and most prone to conflict are concentrated along pastoralist migratory routes that will be targeted by the project. These are the locations where the three agriculture/livestock production methods collide most frequently, compete for limited resources, and generate the highest levels of climate change vulnerabilities.

D. BARRIERS

Barrier One: Limited capacity to strategically address climate change impacts and reduce conflicts

56. Under the existing situation, the government stakeholders and private producers (pastoralists, agropastoralists, and sedentary farmers) have very limited capacity and experience with the application of tools required to address climate change impacts and avoid conflicts. Extension officers and other government service providers do not have exposure or experience with the requirements for generating assessments, strategically implementing programs, and/or working with local communities to reduce conflicts focused upon climate change issues. This is particularly the case in regions where resource stress compounded by climate change generate heightened risks.

57. The erosion of customary law and the weakening of the role played by traditional governance systems of natural resources, following the introduction of statutory law, the dissolution of the native administration and years of armed conflicts, created a governance vacuum which weakened in return the institutional and human assets through which natural resources are regulated in Northern Darfur. While there are efforts to build state-level and local capacities at village level to fill in the governance gap and address conflicts, little is known about the specific impacts of climate variability and future climate change on livestock, rainfed agriculture in Northern Darfur, in the absence of effective institutional mechanisms to mainstream strategic climate action mainly climate adaptation into local development plans. This is particularly the case at the level of localities and villages in Northern Darfur.

58. Even in localities or villages where there are relatively well established participatory mechanisms to regulate the use of land, access to water, farmland and pastureland, such mechanisms are not able to cope with the extra pressure on resources driven by climate variability, hence the urgent need to upgrade the capabilities of the existing governance bodies to strategically mainstream innovative climate adaptation into local planning, through capacity building of institutional and human capacities at federal, state and locality levels.

59. A recent review of development in the Darfur commissioned by the Darfur Development Strategy Board found that "Natural resources are at the heart of Darfur's economy and NRM is key to much of development programming. This is essentially about governance, but progress in this area is modest compared with the DDS objectives. Demarcation of pastoralist livestock migration routes has been a component of many projects but too often depends upon an engineering approach demarcating a fixed physical route when it should be based on concepts of human interaction and negotiation between farming and pastoral communities."^[24]²⁴

60. Current management plans at village and locality level lack the necessary tools and capacities to capture the complexity of the interplay between climate change, conflict and

resource management. These limitations point to the urgency to provide training and facilitate the use of participatory tools to design and implement gender-sensitive and climate-smart resource management plans that are inclusive of sedentary farmers, pastoralists, agropastoralists, and other social groups most at risk, and equally important that are adapted to the specific needs of the targeted communities in the 20 villages.

61. Harmonizing the perceived needs and demands of both parties will be challenging. There is a need to assist the Government of Sudan to build the capacities required to meet this challenge. Agriculture and pastoralist communities must be positively engaged to build consensus to manage limited resources within the constraints of shifting dynamics and climate change. This includes building upon and strengthening conflict reduction tools that are emerging during the on-going peace process.

62. For example, there are instances where farmers have applied to register leasehold lands within areas that are part of historic livestock migration routes. This despite the fact that the statutory system requires the Forest Department and Department of Animal Resources to visit the land to be certain it is not within an "animal corridor". This occurs because Darfur and relevant agencies do not have adequate monitoring and mapping to provide clarity regarding routes and particularly "long-term" resting areas which are often linked with availability of water resources. Again, the advance of climate change further complicates this situation with variations in rainfall pattern, forage availability, and other resource constricting impacts.

63. There is an urgent need to address these issues in a strategic and informed manner. This includes completion of and setting in place a process for comprehensive climate change vulnerability assessment and monitoring to determine risks and innovate targeted approaches. There is a need to organize land use, particularly as it relates to the productive livestock and agriculture sectors, to improve land management, address land degradation, and reduce climate change vulnerability and climate-based conflicts. This needs to be done in a manner that is informed and designed to directly result in improved livelihoods and food security. In the existing situation, the capacity to design and implement these tools is absent. This includes the capacity to capture and benefit from best regional and international principles and practices.

Barrier Two: Limited experience and knowledge regarding identification and implementation of innovative practices and adapted solutions to address climate-related challenges

64. Vulnerable smallholders and private producers (pastoralists, agro-pastoralists, and sedentary farmers) are in desperate need to gain exposure and knowledge of best practices and innovations that can be applied to address current climate change related challenges. This includes knowledge and exposure to solutions to climate change problems as well as organizing the delivery of capacity required to move these solutions forward. Most problematic is that there is a lack of and limited access to financing required to model these practices. This includes the need to build capacity for more efficiency in both livestock and agriculture sectors. Extension services are generally under-capacitated to move these issues forward.

65. Agricultural and livestock management approaches do not reflect best international principles and practices in terms of climate change adaptation and coping strategies. Livestock management tends to focus upon having large numbers of animals rather than innovations to drive quality over quantity. This includes a need for both the agriculture and livestock sector to better access and capitalize upon value chains designed to increase value in ways that reduce cumulative demands and pressures upon natural resources that have already far out-paced carrying capacity. There is a need to build the technical capacity to identify and implement innovative approaches to reasonably value access to croplands. In some parts of the Sudan, herders pay fees to graze croplands during the dry season. However, this is not the case in the North Darfur. There is very little knowledge and awareness, for instance, regarding climate smart agriculture and associated innovative approaches to reducing climate change vulnerabilities.

66. FAO studies show that most households do not have access to any credit. Access to crop and livestock insurance is very low. Extension services are extremely limited. There is limited information available, mostly via radio, regarding early warning and climate forecasting. Farmers organizations exist in only one sub-region, established in the 1980's through a GIZ investment. The other regions of the North Darfur do not benefit from this organized approach to capacity building and livelihood improvements.

67. Skills and opportunities need to be defined with regards to grasslands management. Ideas circulating such as the potential for opening new watering points for nomads need to be grounded in principles related to carrying capacity and adaptation needs. For instance, making certain that increasing ground water availability does not lead to additional problems such as increased grazing and, potentially, further encroachment by agricultural settlers.

Barrier Three: Limited ability to capture, mainstream and upscale best practices

68. The current management system in North Darfur is not designed to capture, mainstream and upscale best practices. There are numerous government policies moving forward that should incorporate and reflect improved practices to drive climate change resilient and adaptive practices. However, the current system does not do a very good job of identifying challenges and/or capturing best practices due to capacity constraints. There is also a need to harmonize regulatory and policy approaches to make certain best practices are mainstreamed. There is a need to assist the North Darfur with the ability to move forward with this required additionality.

69. Very importantly, the Government of Sudan requires assistance to build capacities to monitor resource constraints and identify potential points of conflict. This includes remote sensing, mapping, and ground-truthing. Capacity needs to be enhanced in terms of the ability to identify potential solutions and monitor these solutions to determine whether they are delivering intended benefits (e.g., lowering conflict, alleviating resource pressure, and supporting positive climate change adaptation strategies). This includes the Government's ability to work with nomads and agriculturalists to help increase awareness regarding what strategies work and

which strategies should be avoided. This needs to be linked to vulnerability assessments and early warning systems to help agriculture and livestock producers identify strategy coping strategies.

70. As noted, the capacity of Government agencies particularly at the demonstration site level to map, assess, and otherwise monitor natural resource use, productive activities, and climate change impacts is limited. This includes an absence of equipment and experience required to generate and utilize data to inform decision-making and, especially, support the strategic design and implementation of strategic approaches for climate change adaptation. There is no training and/or budget for these critically important activities.

E. The Baseline Scenario and any Associated Baseline Projects

71. Under the baseline scenario Government, smallholders and private stakeholders recognize the need to address climate change challenges and related impacts such as resource-based conflicts. The existing policy and institutional framework, although weak and in need of strengthening, is capable of providing supporting for project implementation. A number of institutions are in place with dedicated staffs, including extension services. However, the existing baseline does not benefit from the capacity required to identify and implement solutions required to address existing and emerging climate change challenges. This includes the need to improve exposure to and experience with the application of successfully proven management and production approaches.

Institutional Framework

72. The federal system in Sudan is comprised of 18 States, each governed by a Wali and 7 to 10 State Ministers, in addition to 4 to 5 commissioners assigned to different provinces and localities. States has full administrative and fiscal autonomy with State-level legislative assemblies

73. Governance is highly decentralised. Each state government has significant autonomy over legislation, budget execution, development programming and service delivery. There are a number of smaller investments by both national and state governments aimed at improving resiliency and adaptation for Darfur's livestock and agriculture sector. Examples include genetic improvement programmes for cattle and a seed distribution programme. Government initiatives are under-funded and insufficient to make a significant impact.

74. The existing extension services include many knowledgeable practitioners and experts in the State government line ministries and in the State level stations of the technical institutes (ARC, FNC). However, existing extension services are not very operational and lack recent grass-roots experience. Moreover, given the recent security situation, they have developed a more theoretical rather than a "hands-on" approach.

Stakeholder	Mandate	Project Role
Federal Government		
Higher Council for Environment and Natural Resources (HCENR)	<p>The HCENR is the technical arm of the Council of Ministers of the Government of Sudan, under the Chairmanship of the Prime Minister, in charge of formulating environmental policies, legislation and strategic planning for the conservation and sustainable management of Sudan's environmental and natural resources. As an inter-ministerial government agency, it coordinates environmental affairs and sustainable management of natural resources across all socio-economic sectors at federal and state levels.</p> <p>Its mandate also includes oversight and facilitation of the implementation and enforcement of environmental policies and legislation in coordination with respective executive bodies of the federal and state governments. It also aims to promote international cooperation, coordinate participation in global environmental conventions and protocols and utilize associated multilateral financing instruments and technology transfer mechanisms.</p>	<p>Project Executing Entity</p> <p>Lead for cross sectoral coordination among all relevant Government entities at federal and state levels</p> <p>The HCENR (at national level) will Co-lead the implementation of project outcomes and outputs together with the MoAAR (at State and local levels)</p>
National Commission of farmers and pastoralists	Currently being established as a result of the recent peace agreement signed in Oct 2020, between Sudan's Transitional Government and Revolutionary Movements. It is expected to play a key role at the institutional level to support establishing the needed equilibrium between customary and statutory laws, to lay the foundation for sustainable community governance of land and natural resources	Support project interventions related to land tenure, NRM and CCA (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)

Ministry of Agriculture and Forests (MoAF)	<p>Since its inception in 1953, its name changed according to its specializations and tasks, it is currently called the Ministry of Agriculture since 2015.</p> <p>In charge of policy formulation, planning and monitoring of developments, research and extension services for agriculture and overall natural resources protection, conservation and development. Has a number of associated research centres at federal and state levels</p> <p>Its tasks and specializations include: 1) Select and adopt appropriate technology in the field of agriculture; 2) Develop programs and methods of agricultural extension; 3) Supervising and investing natural resources; 4) Rationalize the use of agricultural lands to stop environmental degradation and combating drought and desertification in cooperation and coordination with the relevant authorities; 5) Train human resources in the fields of agriculture and natural resources; 6) Develop and maintain pastures in coordination with the relevant authorities; 7) Monitoring and combating national pests in coordination with the concerned authorities; 8) Follow up on the implementation of laws that encourage and protect forests; 9) Supervise federal investment in the field of agriculture; 10) Supervise agricultural statistics and publish them at the national level; 11) Supervise international and regional cooperation projects and investments in the field of agriculture; 12) Promote cooperation in the fields of agriculture and natural resources</p>	<p>Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>
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Ministry of Animal Resources	<p>Since its inception in 1902, its name changed according to its specializations and tasks, it is currently called the Ministry of Animal Resources since 1996</p> <p>In charge of policy formulation, planning and monitoring of developments, research and extension services for livestock and rangelands. Has a number of associated research centres at federal and state levels</p> <p>Its tasks and specializations include: 1/Ensure livestock health to boost food security and exports of livestock and fish; 2/Develop and maintain slaughterhouses in line with international standards; 3/Develop and maintain veterinary services in the states; 4/Valorise Sudanese species and increase their productivity; 5/Improve breeds for intensive meat production systems to increase their competitiveness; 6/Prepare standard specifications for Sudanese animal products in conformity with international standards; 7/Facilitate the introduction of modern technologies to improve performance; 8/Encourage investment in of livestock and fisheries to achieve food security and support exports; 9/Provide market information on internal and external markets for animal and fish products; 10/Developing and qualifying veterinary extension and supporting pastoralist development programs; 11/Contribute to programs to combat poverty and increase family incomes; 12/Provide veterinary medicines, vaccines and monitor their uses; 13/Supervise the import and registration of medicines; 14/Upgrade the level of drug control; 15/Provide local poultry and fish production inputs, focusing on the optimal utilization of local resources; 16/Work to introduce livestock in the southern states into the national economy; 17/Develop and maintain infrastructure in war-affected areas; 18/Establish model productive farms; 19/Develop federal and state legislation to support production, marketing, quality control, consumer protection and environmental protection; 20/Follow-up programs to employ veterinary, animal production and natural resources graduates in appropriate fields in the public and private sectors.</p>	<p>Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>
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<p>Forest National Corporation (FNC)</p>	<p>The FNC is a Parastatal service-oriented and autonomous corporate body, it is the federal institution mandated to manage all federal forests in the country and is in charge of: 1) Technical supervision for forests, range and natural resources all over the Sudan; 2) Training and qualifying the technical staff in the field of forest and natural resources; 3) Dissemination of awareness amongst the officials and citizen in matters relating to forests and natural resources; 4) Conducting studies and researches in order to lay out the necessary plans for assessing forests and natural resources all over the Sudan and developing them; 5) Increasing the forests, range and natural resources areas by reserving more areas and by increasing the required areas at a ratio not less than 25% of the total area of the country; 6) Coordinating efforts with the competent authorities in matters relating to general policies of forests, range and natural resources together with the preparation and implementation of anti-desertification projects; 7) Coordinating efforts with the competent authorities in matters relating to land use and land investment for the purpose of establishing new forests and range, developing them and encouraging agricultural afforestation; 8) Cooperating with the competent authorities in forest related fields such as: range, natural resources and encouraging applied research; 9) Encouraging investment in forests, range and natural resources in collaboration with the competent authorities in the country; 10) Employing a qualified staff in order to enable the corporation to carry out its responsibilities; 11) After obtaining the competent Minister's approval the corporation shall proceed to owning, buying and selling of lands, real state and constructing buildings on them as well as maintaining such buildings and constructing different facilities thereon in order to realize the corporation's objectives; and 12) Imposing tariffs or fees or increasing royalties on forests crops and gum Arabic, range and natural resources in accordance with the regulations.</p>	<p>Support project interventions related to CCA & Forest extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>
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Agricultural Research Corporation (ARC)	<p>ARC is Sudan's principal research arm on agriculture, it ambitions to become a Centre of Excellence for agricultural research by developing skilled manpower, conducting quality research, and transferring technologies to ensure sustainable crop production. It aims to achieve food security, alleviate poverty, generate income, promote agricultural exports and conserve natural resources.</p> <p>ARC has about 24 national research programs, structured into 4 thematic areas namely: 1) Sustainable crop production; 2) Natural Resources management; 3) Agricultural socioeconomics and policy analysis; and 4) Knowledge management and Up scaling</p> <p>It runs 14 research centres (including the Forestry Research Centres), 27 research stations (including in Khartoum area, Dongula, Marwe, and Wad Medani) and employs about 610 staff, out of which more than 300 hold a PhD.</p>	Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
Animal Resources Research Corporation (ARRC)	Established in 1995, the Animal Resources Research Corporation if a Government entity affiliated to the Ministry of Animal Resources, it has several research centres working on different thematic of livestock-related research.	Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
General Administration for National Energy Affairs	<p>Formerly the National Energy Administration which was affiliated to the Ministry of Energy and Mining since 1980. In 1995, it became part of the Sudanese Petroleum Corporation, under the name of the General Administration of Energy Affairs.</p> <p>The GANEA is an applied research department for renewable energy technologies. It is structured into 2 departments namely: 1) The Alternative Energy Department, working on solar, wind and hydroelectricity; and 2) The Department of Biomass working on Biogas, Composting of agricultural waste and Biofuels.</p>	Support project interventions related to CCA & clean energy alternatives (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)

Ministry of Irrigation and Water Resources	<p>Established in 2012, under the name of Ministry of Water Resources and Electricity, is in charge of maintaining the national water infrastructures, developing and efficiently using water resources using cost effective best practices in irrigation, drinking water & electricity to satisfy demands in line with the Standards, while taking into consideration environmental conservation.</p> <p>It has a Training and Capacity Development Unit in charge of planning and coordinating specialized training programs in all areas related to water resources, including the preparation of a concept and curriculum for training courses.</p> <p>It also has a Regional Water Harvesting Centre in charge of carrying out specialized training programs, capacity development activities, and raising awareness and knowledge in the field of water harvesting through training courses for participants at the national and regional levels.</p>	Support project interventions related to the integrated management of water resources (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
Ministry of Finance and Economic Planning (MoFEP)	As the main body responsible for managing Sudan's economy, the Ministry aims to invest internal resources and attract external resources towards a sustainable economic pathway in line Sudan's strategic economic and social goals.	Has a key role in mainstreaming CCA and rural livelihoods into budgeting and planning processes
General Directorate of Women and Family Affairs	Part of the Gender Machinery in Sudan in charge of strengthening the capacity of federal and state institutions to deliver specific functions and responsibilities that accounts for gender equality and human rights of women	Will facilitate gender mainstreaming in line with the GAP and the upscaling of gender inclusive practices across productive landscapes in Sudan
Ministry of Higher Education and Scientific Research (MOHE)	<p>The Ministry aims to provide higher education according to quality and competence standards, to provide students with appropriate knowledge and skills for the job market.</p> <p>It also works to build human resource capacities in various scientific disciplines, develop and disseminate knowledge through scientific research and promote local technology.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to manage and disseminate the knowledge generated from the project
Ministry of Planning and Infrastructure	In charge of land-related processes such as: surveying, planning, land-use management, building, monitoring and controlling of housing development settlements	Will support CCA-related interventions in North Darfur (Under the co-lead of the HCENR, MoAAR and in cooperation with other federal and state entities)

National Land Commission	In charge of assessing land tenure issues and work at federal and state levels with government agencies responsible for land use and natural resources.	Will facilitate the implementation of project interventions related to land tenure in close coordination with the HCENR, MoAAR and other federal and state entities
State and Local Government		
State Ministry of Agriculture and Animal Resources (MoAAR)	<p>The State Governments exercise authority in their respective States and provide proximity public services. The State Ministry of Agriculture and Animal Wealth in North Darfur, support the formulation of State land use maps, provide trainings, support the necessary infrastructure and equipment such as roads, irrigation canals, water pumps, improved seeds, veterinary services, valorization and marketing of agricultural products.</p> <p>It has a number of Directorates, namely: Directorate of Agricultural Sector, Directorate of Animal Resources, Directorate of Rangelands and Pasture, Directorate of Extension and Technology Transfer and, Directorate of Agricultural Engineering.</p>	Will Co-lead the implementation of project interventions at State level in close coordination with the HCENR and other federal and state entities
North Darfur State Commission of nomads and pastoralists	It is currently being established as a result of the recent peace agreement signed in Oct 2020, between Sudan's Transitional Government and Revolutionary Movements. It is expected to play a key role at State level to support establishing the needed equilibrium between customary and statutory laws, to lay the foundation for sustainable community governance of land and natural resources	Support project interventions related to land tenure, NRM and CCA (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
State Water Corporation	Part of the Ministry of Irrigation and Water Resources, in charge of water-related issues at State level such as issuing permissions for the installation of new water yards.	Will facilitate the implementation of project interventions related to water at State level in close coordination with the HCENR, MoAAR and other federal and state entities
Darfur Land Commission	In charge of assessing land issues and work at state level with government agencies responsible for land use and natural resources.	Will facilitate the implementation of project interventions related to land tenure at State level in close coordination with the HCENR, MoAAR and other federal and state entities

State Planning Committees	These are in charge of preparing planning and housing policies and procedures for land allocation and land use at State level	Will facilitate the implementation of project interventions related to land tenure at State level in close coordination with the HCENR, MoAAR and other federal and state entities
Rural Councils and Localities of Um Kedada, Mellit, Kuma, Kebkabya, and Kutum	Local governments are a subset of State governments. the Rural Councils were established following the People's Local Government Act of 1971, intended to have a wide range of responsibilities independent of the central government and to derive their authority from regular local elections	Will facilitate the implementation of project interventions at local level in close coordination with the HCENR, MoAAR and other federal and state entities
Native Administrations	<p>Each tribe has its own dar and each clan has its own territory. The Native Administration uses a strongly hierarchical approach for management, including of land, with three levels, the sultan/Nasir at the top, the omda and the sheikh at the bottom. Some tribes do not use the term sultan or omda but use other local terms, however the function is the same. Sheikh is commonly used, based on an Arabic word meaning wise and prudent man and the role of a sheikh is most closely linked to local communities. The Native Administration rules both the people and the land and, in most of the tribes, these are not split between different functionaries. However, in a few tribes there is a sheikh for the people and another sheikh for the land.</p> <p>Historically, people in Darfur relied on Judiyya to settle their disputes. The Judiyya Council consists of elders respected by the community and the parties in conflict, and it is a community-based dispute-resolution system for mediation, remission and compensation. It depends on concessions by the different parties and reconciliation, and is based on the Islamic principle, local traditions and community norms that encourage people to settle their disputes peacefully, which is considered the best settlement. It is believed that anyone who forgives and sets things right will receive his or her reward from God. Opponents of the Judiyya judgments are subject to community and tribal sanction and exclusion. Judiyya is particularly important for family, tribal, land and natural resource disputes. [25]²⁵</p>	Will facilitate the implementation of project interventions at local level in close coordination with the HCENR, MoAAR and other federal and state entities

International Organization		
FAO	Led detailed project design, FAO representatives participated to the inception and validation workshops, as well as the technical meetings Series during the PPG phase. FAO did also ensure that economies of scale are achieved with the LDCF project in North Darfur during project design and implementation.	GEF Implementing Agency. Will support implementation and technical back-stopping.
UNDP	UNDP has implemented/is implementing several projects in Sudan including "Darfur Livelihoods Recovery Project", "Promoting the Use of Electric Water Pumps for Irrigation in Sudan", "Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors", "Darfur Community Peace and Stability Fund", and "Youth Volunteers Rebuilding Darfur Project (YVRDP)"	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
World Bank	Provided loans and grants through various projects in Sudan with a portfolio of approximately \$130 million. The bank implemented/is currently implementing several projects such as the GEF-funded Sudan Sustainable Natural Resources Management / SSNRMP, the Sustainable Natural Resources Management Project -AF, and the Sustainable Livelihoods for Displaced and Vulnerable Communities in Eastern Sudan.	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
IFAD	Implemented various projects in Sudan, currently the GEF implementation Agency for the Sustainable Natural Resource and Livelihood Adaptive Programme (SNRLAP)	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
UNEP	Implementing a number of projects in Sudan, including Sudan's First State of Environment and Outlook Report 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
AfDB	Provided loans and grants to implement several projects in Sudan including the \$14.96 million "Accelerating Women's Entrepreneurship and Access to Finance (AWEAF) project approved in 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
Academia		

University of El Fasher (UofEF)	<p>Established in 1975, its structure includes a College of Environmental Sciences and Natural Resources, a Youth Training Center as well as research centers and experimental farms.</p> <p>It aims among other objectives to 1) Conducting applied scientific research related to the needs of the local and national community in order to serve and advance it, 2) Innovating technology and employing it to serve the Sudanese community in cooperation with universities and other higher education institutions in the country; 3) Conserving the Sudanese environment in general and the environment of North Darfur State in particular; 4) Interacting with citizen in the countryside by understanding their problems, recognizing their knowledge and experience; 5) Strengthening scientific, cultural and technical work and cooperation.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to empower youth, and disseminate knowledge generated from the project
Sudan University of Science & Technology, College of Forestry & Range Sciences (SUST)	<p>The university includes 25 colleges, including the College of Forestry & Range Sciences, offering programs at postgraduate levels (doctorate, masters and higher diplomas) and other degrees at the bachelor's and technical diploma levels, as well as training and continuing studies programs</p> <p>The university offers its programs through traditional methods, by affiliation and via e-learning. Relevant programs include agriculture, veterinary, and forests, and</p> <p>It has a number of Institutes and research centres including the Institute for Women and Community Development.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to mainstream gender into project interventions, and disseminate knowledge generated from the project
National Centre for Research (NCR)	<p>Established in 1991, is affiliated to the Ministry of Higher Education and Scientific Research, and has a similar status to Sudanese universities. Its conducts scientific and applied research for the purpose of economic and social development in Sudan. The NCR has research relations with several national and international institutes.</p> <p>The Centre includes various Research Institutes including on Environment and Natural Resources, as well as an information and documentation centre, and a publication department. Research is carried out by 180 researchers, with facilities available for foreign scientists interested in working in Sudan.</p>	Cooperation to design and deliver the FFS curricula and training and the design/implementation of CCA-related demonstration practices

University of Khartoum, faculty of Forestry (UofK)	Its faculty of Forestry has 4 departments specialized in Forest Management, Forest Products and Industries, Forest Protection and Conservation and well as Forest Silviculture. It also several institutes including the Institute of Environmental Studies and Peace Research the Institute.	Cooperation to design and deliver the FFFS curricula and training and the design/implementation of CCA-related demonstration practices
CSOs		
Farmers Associations and Unions	Such as the Producers? Organizations in North Darfur State, associations and unions empower and defend the interests of their members	Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices in North Darfur
Gum Arabic Producers Association	Civil society organization that encourages its members to increase production and protect the gum trees	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
SOS Sahel Sudan	Operating in Sudan since 1985, and as an independent Sudanese NGO since 2010. Working to tackle poverty, with experience in natural resource management, capacity building, women?s empowerment, local conflict resolution, livelihoods and food security.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Local associations, (Ewaa Azaayna, Alargoona, Azaytona Societies)	Various local CSO?s exist within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Herders? Unions in localities	Similar to farmers, livestock producers are structured into associations and unions within the target landscapes, working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices

Women and youth groups	Various women and youth led groups are structured in local CSO's exit within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Private Sector		
Agricultural Cooperatives (agriculture, livestock)	Similar to CSOs, farmers and livestock herders, are also structured into private for-profit entities such as cooperatives, they provide their members with different services and defend their interests.	Consultations and cooperation to support FFS trainings and CCA-related experimentation practices
Private Service providers	These are involved in the procurement and distribution of different goods and services to farmers, livestock herders and fishermen in the landscape, including agricultural inputs and equipment, as well as veterinary products and services.	Consultations and cooperation to support FFS trainings and CCA-related experimentation practices
Private Entrepreneurs	Sudanese women & men are increasingly doing business through digital mediation (using computers and smartphones) through social media platforms, linked to digital communities, to sell typical female consumer goods, such as cosmetics and perfumes.	Consultations and cooperation to support women-led and youth-led start-ups and entrepreneurship along NTFPs value chains at local and national levels
Operators of NTFPs value chains	A number of private producers and small companies are operating along local value chains processing biodiversity-derived products such as NWFPs, extracts from aromatic and medicinal plants.	Consultations and cooperation to valorise NTFPs, structure local value chains and empower women and youth to generate alternative income
Banks and micro-finance institutions (e.g. Agricultural Bank of Sudan)	Such as the Agricultural Bank of Sudan, through its rural finance programs such as the microfinance Initiative (ABSuMI) providing small loans not exceeding SDG 2,000 and oriented towards of entrepreneurs, farmers, pastoralists, herdsman, and craftsmen from small rural families.	Cooperation to close the last-mile in rural micro-finance to establish micro-financing schemes for incomes generating activities through the valorization of NTFPs, and the introduction of clean energy alternatives to fuelwood

Sudatel	A telecommunications and Internet service provider in the Sudan. It reportedly contributed to development projects including the construction of water plants, networks, reservoirs and water pumps in rural areas.	Cooperation to mobilize private cofinancing for interventions related to ICT solutions and providing water-services to people, agriculture and livestock along the migratory corridors in North Darfur
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National Policy Framework

75. The existing policy framework provides the basic support required to implement project activities. However, this framework will require strengthening in order to support major resilience improvements.

76. A customary land regime known as 'Hakura' emerged under the 'Fur' Sultanate in the 18th century, land granted to tribal leaders evolved over time into tribal homelands known as 'Dar'. While the individual rights to land were recognized and could be inherited, the land was still owned by the tribe and communal rights overrode individual user's rights. The native administration was the custodian of land through a system of local governance, with native administrators in charge of implementing customary rules related to land rights and allocation of resources. Paramount chiefs through village headmen known as 'Sheikh' regulated grazing activities of tribes and outsiders, they enforced boundaries separating grazing and farming areas, regulated the routes and timing of seasonal flows of livestock, and the use of water points to avoid conflicts between farmers and pastoralists. The application of statutory land law in Darfur notably with the 1970 unregistered land act, the dissolution of the native administration in 1971, and the growing pressures on land resources driven by population growth and the commodification of land created additional tensions which evolved over time into armed conflict[26]²⁶.

77. The Unregistered Land Act of 1970 plays a critical role in determining land tenure. All land registered prior to the passage of this act remains freehold. However, no freehold land has been registered in Sudan since the adoption of this act. All land is considered leasable, including customary lands. In some parts of the Sudan, registered leasehold lands are common with the Government serving as the owner or lessee.

78. In the Darfur, it is very uncommon for lands to be registered under leasehold structures. Nearly all of this land is under customary ownership. The UN estimates that only 1% of lands in Darfur are under leasehold with the remainder under customary ownership. [27]²⁷ Customary ownership is quite complicated and may be through tribes (dar), small groups (hakura), family (housh), or individuals.

79. Grazing areas are constituted of all land which is not put under cultivation. Thus forests are considered typical grazing areas. Harvested farmland is also subject to open grazing rules. Range management is traditionally performed through native administration capacities who are also responsible of guarding against wild fires by establishing what is known as fire lines (clearing grass along certain corridors to enable containment of fire if it breaks out). The locality usually has a rangeland officer that liaises with the native administration authorities.

80. As to the administration of nomads and corridors, the Agriculture and Pastoralism Organization Law of 2013 was applied and there are committees tasked with farm protection. However, the armed forces of the Rapid Support Forces units must now intervene and stop nomads from damaging farms.

81. Additional key regulatory frameworks include:

? Agricultural and Livestock Professional Organization Act (2011) which established the legal basis for new autonomous producers? organizations.

? Range Organization and Development of Fodder Resources Act (2015) which provides a list of definitions, for example of range land, reserves, fire lines, fodder, agricultural residue, livestock, cultivated rangeland, range protection, etc. The Act is broad, for example covering: the establishment of reserved rangeland; rangeland management; responsibilities of the Range Administration; rangeland protection and delineation of cattle routes; prohibited practices on rangelands, etc.

? Darfur Peace Agreements (2006, 2011, 2020): The Abuja Agreement (2006) was signed on May 5 2006, it covered issues related to power and wealth sharing, ceasefire and security arrangements, as well as dialogue and consultation mechanisms [28]²⁸. The Doha Agreement (2011) was finalized in May 2011, it provides the framework for a comprehensive peace process in Darfur in another attempt to address the root causes of the conflict including issues related to power sharing, wealth sharing, human rights, justice and reconciliation, compensation and return, and internal dialogue[29]²⁹.

According to the Juba Agreement (2020), signatory factions are entitled to seats in the sovereignty council. The transitional cabinet and the transitional legislature.

? Physical Planning and Land Disposal Act (1944): It lays out the procedures and institutional responsibilities for urban planning, such as the delimitation of town and village boundaries, gazetting, expropriation of land for public interest, compensation modalities for expropriated land, disposal of government land through leases, and procedures for acquiring land leases.

Baseline Projects and Programs

82. The following development partner projects and programmes constitute the baseline for the LDCF project. Each project will provide evidence, lessons, tools and approaches to inform LDCF project implementation. Several of these projects will contribute to the co-financing of the LDCF project. However, the challenges are far greater than the current scope of investment and continue to persist.

83. Under the baseline, current investments do not generally cohesively apply innovative tools such as VGGT and APFS to address the fundamental issues and linkages between land use management, production practices, and strategic decision-making frameworks required to comprehensively alleviate conflicts between pastoralist and sedentary agriculturalists. This is a niche where the LDCF investment will provide critical additionality.

84. A number of projects are working towards increasing food security. A handful of efforts have been launched to address the conflicts between pastoral and sedentary producers. Some projects are showing initial successes with the application of VGGT. Others are underway designed to strengthen the capacity of land commissions. There are projects working to increase the capacity of weather forecasting to build early warning enhancements.

85. Great Green Wall: FAO assisted the Government of Sudan in completing its Great Green Wall (GGW) action plan, which has an overall budget of USD 228,600,000, in 2015.^[30] Since then, the Government of Sudan has implemented one GGW project, BRIDGES, financed by the Turkish Government and with technical assistance from FAO, in Kassala State in Eastern Sudan. The GAMS project will contribute to all four substantive components of Sudan's GGW Action Plan: (i) rehabilitation of degraded lands; (ii) forest and rangeland sustainable management and restoration; (iii) support to livelihoods and resilience of

local communities; and (iv) capacity development through research and knowledge management and dissemination of best practices.

86. *Darfur Development Strategy (2013 ? 2019)*:^[31]³¹The DDS was to provide a sequenced, coordinated and holistic plan for equitable, sustainable and participatory development, vital to move Darfur out of a cycle of conflict and poverty, towards a stable and prosperous future?. The Government of Sudan pledged approximately US\$ 2.75 billion to support this initiative with over US\$ 700 million committed by international partners. The program was to improve governance, land reform, community reconciliation, and improve natural resource management. Although all efforts were not fully successful, this investment creates a strong baseline upon which to build.

87. *Gums for Adaptation and Mitigation in Sudan (GAMS)*: Enhancing adaptive capacity of local communities and restoring carbon sink potential of the Gum Arabic belt, expanding Africa's Great Green Wall. This is a recently approved GCF project that will be supported by both the HCENR and FAO. The project is designed to align with the proposed LDCF investment. The project will cover approximately five years with a GCF investment of US\$ 9.9 million. the project will support climate resilient gum agroforestry and rangeland restoration and address the main causes of landscape degradation at scale by improving livestock mobility and cross-sectoral coordination. The project's sequestration objective will be reached through agroforestry restoration/reforestation (125,000 ha) and rangeland restoration (151,000 ha). This approach can be scaled up over millions of hectares in Sudan's 9 other gum belt States and in other countries in the Sahel region, through the planned GCF-UNCCD Great Green Wall umbrella programme, which will link ecosystem restoration with locally appropriate smallholder non-timber forest product value chain improvements in other countries in the Sahel to achieve both climate change mitigation and adaptation objectives.

88. The GAMS Component 2 is most closely aligned with the LDCF investment. Component 2: Livestock mobility and rangeland restoration will have approximately US\$ 3.9 million in funding. The project was designed to align with the approved GEF/LDCF PIF and includes Climate-resilient Village Cluster Plans (CRVCP) completed and adaptation interventions (land restoration and revegetation, water conservation & management) prioritized and implemented in 125 village clusters.

89. Four hundred (400) km of stock routes renegotiated with local government, farming communities and pastoralists, demarcated on the ground and equipped (watering points) and arbitration mechanisms will be established to resolve conflicts among different user groups. As part of this output, 60 km of potential conflict hotspots will be demarcated with concrete markers on the ground to avoid conflict, and mobile stock route co-management teams established to help customary authorities prevent and manage conflicts between different user groups. Approximately 151,000 ha of rangelands associated with stock routes restored by local and

transhumant communities supported by the project (121,000 ha in South Kordofan, 15,000 ha each in North and West Kordofan).

90. *FAO VGGT Project:* Covers almost 32% of Darfur land mass, targets 28% of Darfur Population with activities in Kutum, Kabkabyia, Elfashir, El Tawila and Millet localities. Duration: 2017-2021. Addresses rights of access to land and conflict. Arrangements made between sedentary farmers and nomadic pastoralists to ensure safe passage of animals avoiding crop damage during critical agricultural season. The land tenure involving interdependence between sedentary farming and pastoralist modes of production is contested by new developments pertaining to drought. This fuelled the war in North Darfur.

91. Additional baseline projects include:

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Baseline Project	Baseline Project Details	Complementarity as LDCF Baseline
Recovery of Livelihoods of Vulnerable Pastoralist and Agro pastoralist Households in the Darfur Region.	<p>Funder: Qatar</p> <p>Budget: US\$ 4.8 million</p> <p>4,881,188</p> <p>IA: FAO, ILO and UNOPS.</p> <p>Duration: 2016 ?2019</p>	<p>The overall project objective was to improve food and nutrition security for conflict-affected farmers and nomads by supporting their agriculture and livestock-based livelihoods. Enhanced access to sustainable water resources, certified seeds, veterinary and livestock services and agribusiness skills, and promotion of community natural resources management systems have been promoted, and will feed into the LDCF project.</p> <p>This project supports conflict-affected communities to adopt sustainable crops and livestock production practices. The project supports some villages along the livestock migratory routes to adopt climate resilient agricultural practices.</p> <p>The LDCF project will build upon the results and lessons from this concluded project, and mainstream climate resiliency in a participatory manner.</p>

Assessment and Technical Support to Darfur Land Commission and Addressing Land Concern at Return Sites.	Funder:	<p>The project objective is to strengthen the capacity of the Darfur Land Commission and its partners at state and local levels to formulate a land rights disputes mechanism, making recommendations to the competent authorities on necessary changes to people-centred land reform policies and legislation, including the restoration of land rights to their owners. In addition, this Project also aims to address land concerns at return sites following traditional practices through participatory planning.</p> <p>This project has a component related to collection of background information on current and historical nomadic corridors, carry out comprehensive conflict mapping along the proposed corridors, and establishment and testing a monitoring system for migratory routes. This component complements the LDCF project. Information generated by the project will be used by the LDCF project to mainstream climate variability and climate resilience into participatory decision-making along the migratory routes through activities such as strategic planning.</p>
	Qatar	
	Budget:	
	US\$ 6 million	
	IA:	
	Implemented jointly by FAO, UNDP, UN-Habitat, UN-Women	
	Duration:	
	2016 ?2019	

<p>Promoting the provision of legitimate land tenure rights using VGGT for conflict-displaced communities, including small-scale rural farmers, pastoralists, and IDPs in the Greater Darfur region of Sudan.</p>	<p>Funder:</p> <p>European Commission</p> <p>Budget:</p> <p>US\$ 3.4 million</p> <p>IA:</p> <p>FAO</p> <p>Duration:</p> <p>2016 -2019</p>	<p>The overall project objective is to increase inclusive and transparent management of fragile land resources in line with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT) guidelines on Land Tenure.</p> <p>The project will facilitate reform of the Sudan's land tenure system by providing practical solutions to the existing challenges of access to land and ownership rights for natural resources through VGGT guidelines.</p> <p>The project will provide solutions to secure access to crop land, livestock routes, rangelands and pasture, including the provision of adequate and practical dispute resolution mechanisms.</p> <p>This project support reduced land resource competition and building consensus on its uses and management using tools such as mapping community resources and developing community action plans for natural resources management. These outputs complement the LDCF project, which will strengthen the decision-making structure in targeted communities, and ensure mainstreaming climate change adaptation in community action plans in participatory manner.</p>
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Strengthen the Sudan Meteorological Authority's hydro-meteorological network and climate services	Funder:	The project introduces, within the meteorological and forecast centres, modern computer models to produce seasonal weather forecasts and climate predictions. It helps foster cooperation in the field of climate change vulnerability, risk assessment, adaptation and mitigation.
	Ministry for the Environment, Land and Sea of Italy	
	Budget:	The main goal of the project is to strengthen the Sudan Meteorological Authority's hydro-meteorological network and climate services with the following specific objectives:
	US\$ 580,000	
	IA:	Training of technical staff of SMA on advanced use of WRF including the use of data assimilation techniques and validation of the weather forecasting system. Training of technical staff of SMA on the use of RegCM4 for long-term climate projection, including the setup of a suitable model configuration for the area of interest. Support the enhancement of computational resources for weather and seasonal forecasting and climate projections. Support the rehabilitation and expansion of the ground based observational network. Strengthened hydro-meteorological and climate services undoubtedly benefit improved resilience efforts, and therefore the project is capitalized as co-financing in full.
	FAO	
	Duration:	
	2019- 2020	

Livestock Marketing and Resilience Programme.	<p>Funder:</p> <p>IFAD, ASAP, GEF-LDCF, GOS</p> <p>Budget:</p> <p>US\$ 119 million</p> <p>Duration:</p> <p>2015 ? 2021</p>	<p>The overall project objective is to increase food security, incomes and climate resilience for poor households in pastoralist communities.</p> <p>The programme aims at increased incomes from improved livestock productivity, new enterprises in livestock, agriculture and diversified economic activities; enhanced productive natural resource assets; improved resilience of poor rural communities to future climate variability and/or financial shocks; and increased net trade surplus in hides and skins, red meat, live animals and related products.</p> <p>Although the project does not target the Darfur, at the national level the Programme will support the Animal Production Research Corporation to undertake applied livestock research in the field of enrichment and densification of crop residue, feed types, readymade feed, local produced feed mix, and feed supplements across different breed/cross-breeds of animals and age groups. Lessons learned from the Programme will be captured and contribute to the LDCF project. Additionally, the research results on animal feeding practices would complement the LDCF project.</p> <p>The Programme targeted states are characterized by high frequency and intensity of conflicts between transhumant livestock producers and sedentary farmers over land and water, as well as vulnerability to climate change, therefore, lessons learned and developed livestock, crops and NRM practices are complementing the LDCF outcomes. Additionally, the value chain approach and the market information system.</p>
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<p>Draught Resilient and Sustainable Livelihoods Programme in the Horn of Africa.</p>	<p>Funder: ADB, GEF, GOS</p> <p>Budget: US\$ 32 million</p>	<p>The overall programme objective is to contribute to poverty reduction, food security and accelerated sustainable economic growth through enhanced rural incomes. The project aims to enhance drought resilience and improve sustainable livelihoods of pastoral and agro-pastoral populations.</p> <p>The Programme supports Water development for livestock, crop production and human consumption; Rangelands management; Securing access to natural resources; Livestock production and health; Food and feed production; and Livelihood diversification. Sustainable practices and lessons learned from these areas will potentially provide inputs to proposed Darfur activities.</p>
<p>Wadi El Ku Catchment Management Project ? Phase II</p>	<p>Funder: European Development Fund</p> <p>Budget: Euro 2,000,000</p> <p>IA: UNEnvironment</p> <p>Duration: 2018 - 2021</p>	<p>The first phase of the project contributed to improving livelihoods of conflict-affected populations in Darfur through the sustainable use of natural resources. This meant increasing all aspects of agricultural sector productivity in targeted areas of Wadi El Ku in North Darfur, through rehabilitation and improved management of natural resources, in particular land, vegetation and water. In the second phase, the project continues to demonstrate how effective and inclusive natural resource management can improve relationships over natural resources, therefore contributing to peace in a conflict affected region of Sudan, and improve livelihoods through enabling sustainable increases in agriculture and related value chain productivity. Participating communities will achieve sustainable increases in agricultural and related value-chain production through the rehabilitation and improved management of land, forest and water resources.</p>

<p>Building Food system Resilience in Protracted Crises</p>	<p>Funder:</p> <p>Dutch Development Cooperation</p> <p>Budget:</p> <p>US\$ 27 million</p> <p>IA:</p> <p>FAO</p> <p>Duration:</p> <p>2019 - 2023</p>	<p>This global project aims to improve food and nutrition security and capacity of households, within their livelihoods, to withstand and adapt to shocks with a focus upon Gum tree production.</p> <p>The project will bring humanitarian, development and peace actors together to break the vicious cycle of hunger and conflict in ways that address root causes of persistent vulnerabilities causing hunger and malnutrition. The initiative addresses both causes and consequences of food and nutrition insecurity in a conflict sensitive way. The resilience initiative will help to formulate a complementary framework that bridges humanitarian and development objectives through resilience building (breaking through strictly humanitarian or development interventions).</p>
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SOS Sahel Sudan	<p>Funder: SIDA</p> <p>Budget: US\$ 1.3 million</p> <p>Duration: 2019-2021</p>	<p>Adopts a sustainable integrated development approach where stakeholders involved in planning and implementation.</p> <p>The project is designed to improve food security, water provision, capacity building emphasising women, responsible governance of natural resources. Some of the main activities include maintenance of water sources; Building of dams to facilitate recharge of water in Al Kuma and Mellit and Kabkabyia ; Upgrading of hand pumps into small stations using solar power and supplied with tanks; Broadcasting of range plants seeds in Al Kuma and Mellit in cooperation with range department; Construction of fire lines in collaboration with the range</p> <p>administration; Training of youth on brick making; Two seed stores were built in Al Kuma and Mellit using brick blocks; Improved sorghum and sesame seeds distributed; 3 farmer field schools established at Kuma and Mellit; 3 demonstration farms established; 1 field day convened with participation from the communities and the relevant departments; 3 nurseries established at Al Kuma and Mellit that produced seedlings of fruit trees and Acacia Senegal, Acacia mellifera and other forest trees; 22 societies trained and connected with funding organizations e.g. Agricultural Bank of Sudan and Investment Bank; The organization of the professions of agriculture and livestock production help with completing the procedures and accessing inputs such as fuel; Women supported by solar energy for wells and charging mobile phones; Water harvesting at Al Kuma and Mellit using Crescent Terraces; Production of range seeds on two sites (0.84 ha each) Problems as seen by SOS Sahil Sudan:</p> <p>Environmental degradation, low productivity, traditional methods of agriculture, lack of improved seeds, poor veterinary services, poor rangelands, expansion of agriculture, displacements which occurred at the expense of rangelands, poor awareness, inadequate water sources for pastoralists, blockage of livestock routes, poor services at stock routes especially markets and need for safe settlement. The project has an office at Kabkabyia while the other localities are run from El Fashir.</p>
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Food and Nutrition Security Resilience Programme (FN-REPRO)	<p>Funder:</p> <p>Netherlands</p> <p>IA:</p> <p>FAO</p> <p>Budget:</p> <p>US\$ 7.8 million</p> <p>Duration:</p> <p>2019-2023</p>	<p>The project targets 25,384 households with the objective of improving food security, nutrition and resilience. Improving access to natural resources, improving livelihoods, increasing incomes and diversification of opportunities through selected value chains especially for Gum Arabic.</p>
Wadi El Ku Catchment Management Project	<p>IA:</p> <p>UNEP</p> <p>Duration:</p> <p>2018-2020</p>	<p>This is an integrated rural development project with an emphasis upon water resources. The primary activities are water harvesting, dam construction; tree planting; improved seeds; improved stoves; fire lines, documentation of local knowledge; coordination between gov. departments and communities; COVID 19 awareness. A forum of 24 persons from gov. depts. And stakeholders supervise work at localities.</p>

?Building resilience in the face of climate change within traditional rainfed agricultural and pastoral systems in Sudan? project	Funder: GCF IA: UNDP Budget: US\$25.6 million Duration: 2020-2025	This GCF-funded project, will support climate change adaptation efforts among subsistence agro-pastoralist and nomadic pastoralist communities in dryland zones across 138 villages in nine states in Sudan across West Darfur, Central Darfur, East Darfur, Western Kordofan, South Kordofan, Kassala, Red Sea, Northern, and Khartoum states. It aims to promote a paradigm shift in dryland pastoral and farming systems through an integrated approach by increasing the resilience of food production systems and improving access to climate-resilient water sources. It supports the continuation of traditional livelihoods, with more resilient and sustainable practices. It is targeted at benefiting at least 200,000 households.
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GEF Supported Initiatives

92. Besides aligning with relevant GEF investments in Sudan, the project will also establish appropriate coordination, knowledge management and innovation mainstreaming mechanisms to enable cross-learning and mutual supportiveness, while promoting south-south and triangular cooperation with other similar projects in the Sahel region, more specifically with the ?Agriculture and Livestock Producer Resilience in South-East Mauritania? project which will be implemented by FAO in Mauritania during the same period (2022-2025), with GEF financing of USD4,416,210.

93. The project is designed to align with the following GEF investments in Sudan.

Project	IA/EA, FA, GEF\$, Duration	Proposed Coordination arrangements
Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors to the Adverse Impacts of Climate Change in Sudan	IA/EA: UNDP FAs: LDCF GEF\$:\$3 million Duration: Completed	The proposed project will benefit from the lessons learnt and the national level capacity established.
Sudan Sustainable Natural Resources Management Project (Great Green Wall Initiative)	IA/EA: World bank FAs: GEF\$:\$7.7 million Duration: Ongoing	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.
Climate Risk Finance for Sustainable and Climate Resilient Rain-fed Farming and Pastoral Systems	IA/EA: UNDP FAs: LDCF GEF\$:\$5.7 million Duration: Ongoing	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.
Implementing Priority Adaptation Measures to Build Resilience of rainfed farmer and pastoral communities of Sudan, especially women headed households to the adverse impacts of Climate Change	IA/EA: UNDP/CIDA FAs: GEF\$: Duration: Ongoing	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.

Livestock and Rangeland Resilience Program	IA/EA: IFAD FAs: LDCF GEF\$:\$8.526 million Duration: About to start	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.
Rural Livelihoods Adaptation to Climate Change in the Horn of Africa - Phase II	IA/EA: AfDB FAs: LDCF GEF\$:\$7.56 million Duration: Hard pipeline	Lessons will be shared. There is geographical complementarity as the intervention states are different.
Enhancing the Resilience of Communities Living in Climate Change Vulnerable Areas of Sudan Using Ecosystem Based Approaches to Adaptation (White Nile State)	IA/EA: UNEP FAs: LDCF GEF\$:\$4.284 million Duration: Hard pipeline	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.
Sudan Sustainable Natural Resources Management Project II	IA/EA: World bank FAs: GEF\$: Duration: Soft pipeline	Activities and inputs may be shared, lessons will be shared. There is geographical complementarity as the intervention states are different.

F. Proposed Alternative and Theory of Change

94. The Darfur area is defined by extremely poor and vulnerable communities that rely upon agriculture and livestock production for their survival. Existing resource management is unsustainable and results in degradation, climate change vulnerability and conflict over diminishing resources. Future climate change and accompanying impacts resulting from

temperature increases, weather variability, and water shortages will exacerbate this already tenuous situation. Communities located along the traditional pastoralist migratory routes where agriculture/livestock production come into conflict are particularly vulnerable.

95. The Government and communities recognize the challenges and are fully willing to engage in the promotion and implementation of improved scenarios. However, they are ill-equipped to emplace the improvements required in order to reduce vulnerabilities and insulate already at-risk communities from inevitable climate change impacts.

96. With financial support from LDCF to cover additionality, the proposed alternative will address this situation by assisting communities to identify and adopt necessary management improvements. The alternative will set in place two innovative and complementary tools that FAO and its partners have developed extensively in recent years: Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) and Agro-pastoral Field Schools (APFS). Based on past experience in the region, these tools and approaches work to ensure that vulnerabilities are sustainably reduced in rural communities facing issues similar to the North Darfur.

97. The project is designed around three fully integrated Components. Under Component one, the project will build the institutional and planning support required to assist private sector agriculturalists and livestock owners to effectively address climate related conflicts. This will be achieved through setting in place a comprehensive conflict resolution mechanism supported by strategic land-use and sustainable livelihood planning focused upon generating climate change adaptive practices and ecosystem-based resilience. Under Component two, the project will assist smallholders and private producers to implement climate resilient and adaptive practices. This will be supported by capacity building efforts designed to enhance the effectiveness of extension workers and other government service providers to assist smallholders and private producers to identify, prioritize, and implement climate resilient practices. Under Component three, the project will make certain that best-practices are captured and mainstreamed. This will include linkages to important national and regional institutional and policy frameworks. This will also include making certain that best practices are comprehensively captured and effectively disseminated for uptake to generate impacts at higher geographic and social scales.

98. The project will work to strengthen the ability of vulnerable communities to identify emerging climate related challenges, serving to build early warning capacities. The project will set in place innovative tools to manage risk, including concrete tools at the production level and supportive policies and capacities within decision-making structures. This includes making certain gender is well considered and integrated within all project efforts. The project will take an ecosystem-based approach, working to support smallholders, private producers and government service providers to assess resource issues holistically integrating soil, water, weather, forage, forestry, and other factors critical to maintaining the ecosystem services and resilience upon which rural communities depend. The project will approach strategic land use planning as a land-based measure to address poverty, conflict, and displacement. Finally, the

project will result in building resilience of communities, livelihoods, and ecosystems against disasters and weather-related events. These improvements will greatly increase resilience to climate change and variability and will directly contribute to improved food security and nutritional status.

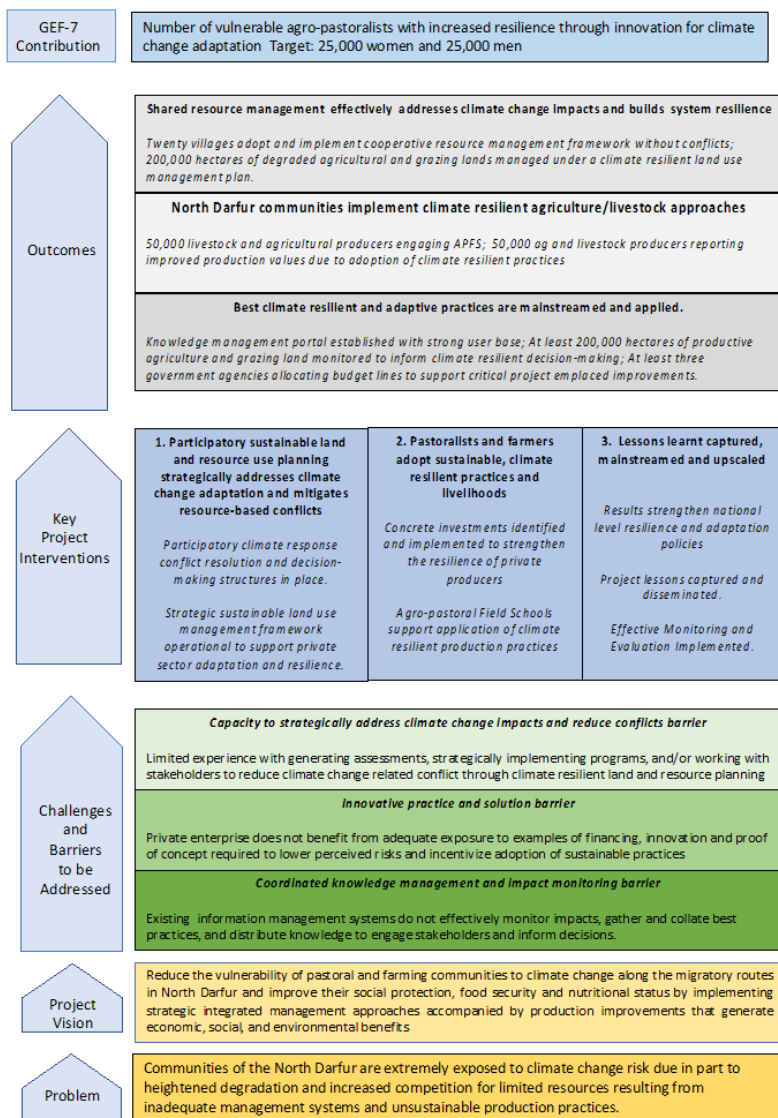
99. Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) is a tool for developing the local governance capacities necessary to increase community resilience. This is a comprehensive, fully-inclusive, structured and participatory tool to create dialogue, to support negotiations, to identify win-win pathways, to collaboratively determine priorities and challenges, to formulate joint objectives and activities, and to establish structures for management, decision-making and conflict resolution. VGGT is particularly useful in conflict-ridden areas where land access and land tenure are key factors contributing to conflict.

100. Agro-pastoral Field Schools (APFS) is an approach to provide the technical capacity required to increase community resilience. This is a group-based, practical-oriented, participatory extension approach. The APFS will provide an opportunity for farmers to learn together, using practical and hands-on methods of discovery learning. APFS emphasizes methods such as observation, discussion, analysis, collective decision-making, presentation and taking appropriate action. Discussion and analysis are also important ways to combine local indigenous knowledge with new concepts and bring both into the decision-making process. Typically, the APFS approach revolves around a planned series of time-bound activities (generally over one agricultural production cycle), involving a group of willing men and women pastoralists and farmers, guided by specially trained men and women facilitators (selected from the local area) or by other lead farmers (?graduating? from completed APFSs). Over the past decade FAO has developed the APFS approach so that it can address combined pastoralist and farmer user groups.

101. Both tools will be mainstreamed through the North Darfur community support systems and particularly extension services. This will serve as a capacity building and model generation approach. The tools will be applied, tested, and adapted to transfer technology and capacity to select rural communities. Based upon project results, lessons learned will be captured and the programs upscaled throughout the North Darfur and nationally for upscaled application.

102. The target beneficiaries are smallholders and private producers (individual and entrepreneur farmers, agro-pastoralists and pastoralists), private enterprises (MSMEs), women and youth groups, CSOs, and producers' associations comprised of the North Darfur's most vulnerable agriculture/livestock producers. These target communities will be benefitting from tangible interventions designed to drive climate resilient and adaptive practices at the producer level. The positive impacts will result in a community-based program that benefits from a strong decision-making framework. The project's direct beneficiaries will include: 20 Villages and 10,000 households (approximate 50,000 people, half of which are women).

Theory of Change



G. Brief Description of Expected Outcomes and Components

Project Objective	To reduce the vulnerability of pastoral and farming communities to climate change along the migratory routes in North Darfur and improve their social protection, food security and nutritional status.
Impact Indicators	Number of vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation Target: 25,000 women and 25,000 men

Assumptions	<p>Capacity built by project to adequately monitor results</p> <p>Strong government and stakeholder engagement</p> <p>Improved practices adopted</p>
Lead Executing Agency	Higher Council of Environment and Natural Resources (HCENR)
Anticipated Budget	<p>GEF: US\$ 2,429,680</p> <p>Co-Financing: US\$ 11,300,900.00</p>

Component 1: Participatory sustainable land and resource use planning strategically addresses climate change adaptation and mitigates resource-based conflicts

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Outcome 1 Farmers and pastoralists cooperatively and effectively managing shared resources to address climate change impacts and build system resilience

Impact Indicators	<p>20 villages adopt and implement cooperative resource management framework without conflict</p> <p>200,000 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.</p> <p>3 annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.</p> <p>At least 5 livestock annual migration corridors identified and included within a climate resilient land use management planning framework.</p>
Assumptions	<p>Capacity built efficiently and effectively by project</p> <p>Strong government and stakeholder engagement</p> <p>Improved practices adopted.</p>
Lead Executing Agency	Higher Council of Environment and Natural Resources (HCENR)
Anticipated Budget	<p>GEF: US\$ 611,210</p> <p>Co-Financing: US\$ 700,000</p>

*Output 1.1
structures emplaced*

Participatory climate response conflict resolution and decision-making

103. The project will apply proven Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) as a participatory tool to establish structures for management, decision-making and conflict resolution. In particular, the project will strengthen conflict resolution and decision-making structures focused upon addressing climate-related issues. The project will apply VGGT to support this process, building the capacities of government services providers and community members to utilize this tool.

104. The project will support the completion of comprehensive community profiles focused upon private sector agriculture and livestock producers along the traditional migratory routes. Profiling will cover both the resident population and the mobile population that spends part of its annual cycle in the villages. Profiling will lead to a detailed understanding of socio-economic activities, of status by group, of power structures, of decision-making structures, of recent and current use of natural resources, of age group differentiation, of past and previous resource-based conflicts, of past and present consultation tools (e.g. Peace Committee, VDC, etc). Profiling will entail a thorough gender differentiation regarding challenges and opportunities.

105. Based upon the comprehensive assessment of community profiles, the project will support the emplacement of conflict resolution tools. These tools will be focused upon mitigating conflict while addressing the complex challenges related to climate change impacts, resource degradation, and the need for smallholders and private producers to address economic and food security concerns. This will be done through inputs such as awareness raising on climate change, training, providing information, providing access to conflict resolution tools.

106. The conflict resolution/decision-making structures will be cross-cutting and comprehensive in coverage. The tools will reflect traditional systems while integrating best international principles and practices. The approaches will be neutral and seen to be neutral. Importantly, they will empower smallholders, private producers and government services agencies to have the capacity to resolve conflicts and to make informed decisions regarding necessary adaptive measures. These structures will assist producers to coordinate implementation of agreements and plans supported through project effort. This direct improvement in governance will provide a basis for social protection and will be consolidated through subsequent project outputs and activities. By project closure, at least 20 villages will be benefitting from improved management and decision-making structures designed to reduce vulnerability and increase resilience.

Output 1.2 Strategic sustainable land use management framework operational to support private sector adaptation and resilience

107. The project will support the generation of climate change risk and adaptation assessments, financial coping strategies, and complementary sustainable land use management agreements designed as dynamic tools for smallholders, private producers, private enterprises

and government agencies to coordinate their efforts to address emerging climate change challenges and associated conflicts.

108. The project will support the completion of vulnerability assessments. The assessment will reflect best international principles and practices. This will include guidance from FAO. The assessments will integrate issues related to climate change hazards, potential exposure, and the capacity of targeted stakeholders to cope with these hazards. The vulnerability assessment will assist both government and private stakeholders to better identify these issues, including a participatory scoping process.

109. Results will be linked to and will inform the VGGT process and the identification of innovative practices to be supported (Component 2). The vulnerability assessment tools and practices will be reflected in the on-going monitoring to be initiated under Component 3 to inform decision-making and elevate adaptive management approaches.

110. Based upon the findings and results of the climate change vulnerability assessment process, the project will support the completion and implementation of a comprehensive sustainable land use planning and management framework focused upon improving private producers and enterprises' capacity to address climate change impacts. The framework will consist of comprehensive land use planning and management agreements designed to support financial coping strategies. The package of interventions will be designed to address urgent climate change challenges.

111. To make certain that interventions and approaches are strategic and fundamentally predicated upon by best available information and science, the project will assist producers at the community level to generate climate change risk and adaptation assessments. This process will assist producers and government service providers to more clearly identify constraints in the current land-use management system and climate related challenges.

112. Private producers will also be assisted to generate financial coping strategies. All three primary user groups will generate financial coping strategies that target both village level and household level concerns. Private sector producers will identify current financial challenges stemming from climate related impacts and design financial coping strategies. This will likely include value chain analysis for key agricultural and livestock products; identification of alternative and improved livelihood options; market promotion of key agricultural and livestock products from vulnerable communities; and, development of market information services through smart phone applications and radio information services.

113. The financial coping strategies will be based upon FAO's international experience with sustainable production approaches that incorporate climate concerns. This will include micro business skills and management. The project will work specifically with private enterprises engaged in the provisioning of goods and services to livestock and agricultural producers. This

will include engaging with merchants including those who provide inputs such as feed, fertilizer, and equipment as well as private enterprises engaged in the sale and marketing of farm and livestock related commodities and services.

114. Financial coping strategies for private producers may include engaging in off-farm work, seeking alternative sources of income at home and abroad; taking out loans from money-lenders, remittances; selling off livestock; seeking government financial assistance; renting out, selling or pawning farm plots; and reducing food consumption. Each of these strategies will be designed to enhance sustainable livelihoods while addressing climate related challenges. The strategies will be linked to APFS training to be implemented under Component 2.

115. Complementary land-use management agreements will be designed at the community-level to build resilience of vulnerable, private sector producers. The land-use management agreements will inform practices and innovations to be applied under Component 2. The land-use management agreements will be based upon the assessments and potential financial coping strategies. The land-use management agreements will build upon and complement the developed conflict resolution tools. The agreements will be designed to take a cross-cutting, ecosystem-based approach to address resilience. The agreements will focus upon making certain private producers are aligned to manage existing and emerging climate related risks.

116. The proposed land-use management agreements will be designed to sustainably increase productivity of fragile productive landscapes and both avoid and reduce degradation of agriculture and grazing lands. This will include identifying within the land-use management agreements a focus upon comprehensive sustainable land management practices to make certain the project is fully aligned with CCA Objective 2 regarding land degradation and biodiversity.

117. Each land use-management agreement will be based in part upon the concept of sustainable production intensification. The FAO concept of Sustainable Production Intensification is part of FAO's vision for sustainable food and agriculture (SFA), is firmly in line with the global initiative of Sustainable Development Goals (SDGs) and utilizes FAO's Sustainable Food and Agriculture approach, which is based on five principles: (i) Improving efficiency in the use of resources is crucial to sustainable agriculture; (ii) Sustainability requires direct action to conserve, protect and enhance natural resources; (iii) Agriculture that fails to protect and improve rural livelihoods, equity and social wellbeing is unsustainable; (iv) Enhanced resilience of people, communities and ecosystems is key to sustainable agriculture; and (v) Sustainable food and agriculture requires responsible and effective governance mechanisms.

118. Each of the target communities will adopt structures that are designed to address conflict issues and generate balanced benefits for both sedentary and mobile producers. The process will be supported by government extension agencies and other service providers in order to build their capacities to support community-based resilience efforts. The participatory development and adoption of these agreements will further improve social protection. The land use plan and

associated strategies will assist producers to work together to define objectives and principles. The strategies will clarify roles, responsibilities and management rights of the various groups. This will include specifically addressing issues related to gender, food security, and sustainable livelihoods. The strategies will respond to and incorporate the guidance of national level strategies such as the NAPA and NDC.

119. Using regional and global lessons, the strategies will be designed as dynamic tool for smallholders, private producers, native administration and government agencies to coordinate their efforts to address emerging climate change challenges. Each community strategy will be evaluated and updated annually. This will include an evaluation of current resource management trends and emerging climate change impacts. In this way, the management strategies will create a framework whereby women and men producers have an increased ability to identify and adopt actions designed to address adaptation and resilience challenges. This will assist stakeholders to identify emerging climate related impacts and provide for community-wide early warning systems using tools that are appropriately scaled to local conditions. The strategies will help to inform specific technical interventions to be supported through project effort.

120. Management plans will specifically address and incorporate the following issues.

Category	Description
Objectives and Targets	The plans will specify the objectives and targets for land and resource management for each location.
Spatial Zoning	The plan will demarcate areas within the target regions based upon identified criteria.
Best Practices	The plan will identify and propose best practices for each of the zones within the targeted areas designed to deliver GEB targets.

Livestock Management	<p>The plans will address and reverse current negative trends associated with livestock management. This will include an assessment and understanding of livestock numbers, value chain possibilities, and options for easing tensions through better range and water management. This will include working with government, smallholders, private stakeholders and traditional leaders to design grazing regimes predicated upon carrying capacities and adaptive management with regards to climate change adaption needs.</p>
Migratory Routes	<p>Critical to this work will be to help stakeholders determine options for grazing that reflect the current challenges related to altered or unavailable grazing routes. This includes exploring all options that may help alleviate conflicts, particularly those related to fodder and grazing access during critical dry periods in light of how climate change will likely result in variables not currently considered.</p> <p>The project will support the mapping of routes using simple GPS methodology. This information would be supplied to herders, agriculturalists and government managers so that all parties are aware of locations. The project will support the development of options for development of improvements such as water access points and/or payment/trade schemes that allow herders to move onto agricultural land to access forage.</p>
Agriculture Management	<p>The plan will assist stakeholders to improve agriculture management and promote conservation oriented production. This will include determining options to best address critical resource constraints and conflicts, particularly those related to climate change. The assessment and planning activities will help to identify improved agriculture practices designed to better food security, nutrition, and lessen the negative impacts of climate change shocks.</p>
Forest Use	<p>The plans will identify and quantify forest degradation issues. This will include working to help improve sustainable forest management and particularly mechanisms to lower pressure upon the few forests remaining in North Darfur.</p>
Fire Management	<p>The plans will assess and address issues related to fire management based upon ecological principles and practices, including avoidance, controlled burn, and suppression.</p>

Inter-Sectoral Coordination	A key element of the plans will be to clarify and establish clear mechanisms to improve intersectoral coordination.
Financial and Human Resources	The plans will specify responsibilities and costs regarding what inputs will be required to make certain the strategic plans are fully operational.
Community Engagement	The plans will detail how target communities will be meaningfully involved during generation, implementation, monitoring and review processes. This will likely include specific avenues for CBOs, community leaders, women leaders and others to be incorporated within plan implementation guidelines and management.
Gender	Plans will entail specific descriptions regarding issues related to gender, and enable adequate gender mainstreaming actions used the entry points identified in the Gender Mainstreaming Strategy and Action Plan annexed to the Project Document.
Monitoring, data generation, enforcement and reporting	The plans will each incorporate clear targets to measure achievement of proposed objectives.

121. Management plans should be in place and operational by project close. This will include alignment and building upon the existing baseline as described. Importantly, under Component 3, the project will set in place the tools required to support monitoring, informed decision-making and adaptive management to make certain Component 1 emplaced actions remain relevant and continue to address climate change adaptation and resource conflict mitigation objectives.

Component 2: Pastoralists and farmers adopt sustainable, climate resilient practices and livelihoods

Outcome 2: North Darfur communities adopt and implement climate resilient agriculture and livestock management approaches	
Impact Indicators	<p>50 (50% male/50% female) extension officers leading APFS programs designed to deliver resilience improvements</p> <p>50,000 smallholders and private farmers and pastoralists enrolled in APFS.</p> <p>Male: 50%</p> <p>Female: 50%</p> <p>5,000 nomadic pastoralists reporting improved livestock production values and household nutrition levels as a result of project emplaced actions.</p> <p>Male: 50%</p> <p>Female: 50%</p> <p>45,000 farmers reporting positive production values and improved nutrition as a result of adopting innovative climate resilient practices.</p> <p>Male: 50%</p> <p>Female: 50%</p>

Assumptions	Capacity built efficiently and effectively by project Strong government and stakeholder engagement Improved practices adopted.
Lead Executing Agency	Higher Council of Environment and Natural Resources (HCENR)
Anticipated Budget	GEF: US\$1,015,077 Co-Financing: US\$8,500,900

Output 2.1 Concrete investments identified and prioritized to strengthen the resilience of private producers (i.e. individual entrepreneurs, which are generally family farmers, pastoralists and agro-pastoralists, and MSME)

122. Building upon and integrating with Component 1 activities, the project will develop a set of agreed technologies and practices to be used by pastoralists and farming communities to reduce pressures on limited resources and assist producers to lower their risks and exposure to climate change impacts. This will link with the activities and outputs generated under Component 1, including VGGT, financial coping strategies and land-use management strategies. Prioritized investments will align with national level strategies and programs such as the NAPA and NDC. Investments will be identified through participatory, site-specific, science-based assessment of strengths, weaknesses, opportunities and threats. Using APFS, local neutral experts will work with pastoralists and farmers to identify challenges and design sustainable interventions scaled to local capacities. This will include a clear investment structure with identified roles and responsibilities. Considered approaches will be predicated upon FAO's global and regional practices. They will be designed to contribute to sustainable resource management, food security, and sustainable economic development for private sector producers.

123. Practices and approaches will focus upon reducing pressures on limited resources to assist producers to lower their risks and exposure to climate change impacts. Solutions will be

introduced into the farming systems and the practices and technologies used for livestock production, agricultural production and water management. Practices will be determined and applied based upon full stakeholder (agriculture and livestock producer) and native administration engagement. This will be facilitated by extension officers who will be capacitated through project interventions. The process of identifying specific packages of innovations and changes to current unsustainable practices, a fundamental step in the APFS approach, will be supported by FAO global experts who will draw upon successful international principles and practices that may be adapted and applied to best suit local conditions. Principles laying at the basis of the practices and approaches to be promoted and upscaled are listed below.

124. Livestock Production Solutions to Climate Change Related Challenges: Livestock management approaches will focus upon providing technical inputs, capacity enhancements and concrete investments to improve herd quality while reducing climate change induced conflicts. This will increase the profitability of production, limit resource competition, and alleviate points of conflict. Appropriate rangeland enhancement tools will be identified. Models to identify investment opportunities (seeding and rest/rotation practices) will be drawn upon, delivering resiliency improvements. Investments in forage improvements will be considered to buffer negative consequences from rainfall variability and temperature changes. A seasonal feeding calendar can be established and the forage sources identified on a seasonal basis. Constraints the herders face in livestock feeding can be highlighted and appropriate forage shrubs or plants can be introduced as well as conservation techniques of green forage or weeds. Alternative livestock systems likely to generate immediate income can be promoted such as fattening.

125. Improved production of fodder is an integral part of land use management and is central to livestock production as well as to reduction of livestock loss. Integrating with outcome 1 activities, the project will improve fodder availability and access by engaging pastoralists in animal feed production and range management practices. The project will invest in activities that promote and sustain traditional nomadic cultures while assisting these communities to be in a better position to adapt to climate change and migratory route alterations. These include:

Remediation Action	Description
Restoration of degraded rangelands and actions against desertification (e.g. community tree/shrub/grass planting).	This includes provision of training and inputs among Rangeland Management and Producer Groups involved in planting pastures and reseeding degraded rangeland with improved grass; and harvesting pods and foliage from invasive plant species for feed production, while controlling their further spread.

In agropastoral areas, promote good agriculture practices, such as intercropping, to maximize crop yields and improve the nutrition quality of crop residues while diversifying food available for people.	This includes provision of crop (sorghum, cowpea) and grass seeds, fodder enriching ingredients (urea, molasses), and training to households.
Linking fodder/feed producers and traders to consumers.	This will include strengthening the capacity of agropastoral/pastoral producer organizations to participate in the feed/fodder value chain, and stabilize linkages between producers and consumers. This involves capacity development for all involved value chain actors to improve synergies, effectiveness and efficiencies along the chain (from production to consumption); establishment of Public-Private Partnerships (involving local agro(pastoral) producer groups, government and private sector) to stimulate investment in strategic fodder production markets.
Support to storage and processing of feed/forages.	This requires providing necessary equipment and training, especially on good conservation and value addition (e.g. adding molasses). This includes provision of inputs to producer groups (e.g. hammer mills, fodder storage and processing sheds, compressing machines for hay bales) to effectively process and store feed and forages, and related capacity development also using APFS approaches. This may include fodder production for silage and other nutritious feeds that can be used to help sustain nomadic livestock through the dry periods in order to decrease climate change induced conflicts.
Rangeland restoration and fire control	Where appropriate, the project will work with livestock producers, traditional administration and government to strategically rehabilitate rangelands and reserve protected range land.

126. Prioritized investments will seek out innovative methods to address issues related to traditional migratory routes. This may include demarcation and/or infrastructure development. For instance, if migratory herders had access to improve kraal facilities with available water and banked fodder resources, many of the issues related to resource demands and conflicts could be avoided. This would improve landscape resiliency and capacity to support the demands of all stakeholder groups.

127. Agriculture Production Solutions to Climate Change Related Challenges: The project will focus upon providing technical inputs, capacity enhancement, and properly scaled concrete investments designed to alleviate climate induced conflict. Farmers will be assisted to identify appropriate investments in farm-level improvements designed to increase production through climate-resilient cropping and cropland management. This may include introduction of short-maturing and draught-resilient crop varieties, climate-resilient and early maturing seeds, establishment of community seeds multiplication system, seed-banks, grain stores, investments in simple equipment to improve soil retention and fertility, tree nurseries and tree belts to shelter food gardens from dust storms, and identification and costing requirements to adopt improved crop varieties linked to value-chains. Emphasis will be placed upon interventions that are cross-cutting. The project will also explore opportunities to generate more mutually beneficial arrangements between agriculturalists and nomadic herders. The project will assist these stakeholders to identify ways to utilize nomadic livestock strategically to improve soil fertility. Likewise, the project will assist stakeholders to determine appropriate mechanisms for the utilization of crop residues by local herders and disincentivizing the harvest and remote sale of this valuable commodity.

128. For instance, the project will investigate proven systems for nurseries and woodlots, shelterbelts and other integrated approaches designed to address crop and soil management improvements in support of climate-smart practices. The project will assist producers to identify and invest in opportunities related to renewable energy resources to avoid excessive charcoal utilization and fuelwood harvesting and further alleviate climate-induced desertification. Innovative solutions that can be introduced include improved cookstoves, solar pumps for irrigation and other innovative uses of renewable energy in budget-constrained households for cooking, heating and lightening purposes. The project will promote small farm cultivation machinery for soil tilling, levelling, planting, weeding harvesting, and fodder cutting and chopping operations. Wide-scale adoption and access to this farm machinery will be available to farmers through revolving funds replenished through re-payment of catalytic seed-funding provided by the project up front, as well as through credit arrangement with micro-finance, financial and social fund institutions.

129. The project will also support women and youth empowerment, by enabling such vulnerable groups to build critical capacities, identify and implement gender-responsive investments such as women's farms and home gardens to generate sustainable alternative livelihoods. Such investments will not only strengthen livelihoods of women, youth and the elderly, but equally important contribute to food security at household and community levels.

130. Water Resource Management Solutions to Climate Change Related Challenges: Interventions will assist all stakeholders to improve water resource management. This has been identified as a key production constraint and point of conflict for all three production approaches. This issue will become increasingly problematic with the advancement of climate change impacts. Development of ecologically-sound water points, including digging of the wells and construction of impoundments, will be prioritized ? positioned to mitigate localized land

degradation, soil erosion and gully formation caused by heavy livestock movement and watering in a given area. This will likely include design and support of smart irrigation systems with solar pumps, improved water harvesting, increased efficiency of water use, training and support for conservation agriculture techniques. The project will assist producers to identify cost-effective and sustainable approaches including through the use of environmentally friendly alternatives to timber used in shallow well (matara) and the rehabilitation of structures such as water yards, subsurface dams and impoundments.

131. The project will support establishing gender-sensitive water users' groups and a tariff system for sustainable maintenance and management of the system. The 'caisse de r?silience'[32]³² concept[33]³³ will be tested to facilitate and improve the financial inclusion of vulnerable categories such as women and youth and strengthen social cohesion. It is particularly relevant to this post-conflict context, where alternative livelihoods through financial inclusion are needed as well as enhancement of technical skills and activities strengthening social cohesion. Capacity of agro-pastoralists will be built in the APFS, micro-finance schemes will be developed in the APFS and Dimitra listening groups[34]³⁴ will be set up prior to APFS in order to improve social dialogue, trust amongst different community members and stakeholder groups and build the social capital needed for joint landscape management.

Output 2.2 Agro-pastoral Field Schools support application of climate-smart practices

132. The project will support the implementation of prioritized improved practices through the Agro-pastoral Field Schools (APFS) while simultaneously strengthening the capacity of extension services. The APFS will be based upon FAO's global practices and adapted to the particular requirements of Sudan. The APFS will be implemented through the North Darfur State and Locality Extension services. The APFS will be used as a capacity building tool designed to complement and strengthen existing extension services. APFS will target each of the main user groups using programs tailored specifically to individual user group requirements.

133. Existing extension services capacity are rather low. These extension services are not well financed. They are not harmonized to generate synergetic responses and impact. The level of knowledge and awareness by extension officers with regards to best international principles and practices are low. There is not a formal Farmer Field School program emplaced to effectively build smallholders' and private sector's capacities to identify and adopt sustainable and climate-smart production practices.

134. The project will address this issue by providing the technical and catalytic investment required to create and launch an effective FFS program supported by technically capable and well-aligned extension services.

135. The project will support the identification and facilitate the filling of human, financial and equipment resource gaps. During the project's first six months of operation, the project will draft a comprehensive strategy for extension services. The purpose of this strategy will be to identify capacity gaps, identify specific approaches required to fill those gaps, and detail project actions that will be taken to fill those gaps. This strategy and associated project investments will cover at least each of the follow criteria. The strategy will lay out the project's approach for the entire project period. The strategy will provide specific benchmarks for achievement that will be monitored and reported upon through PIRs, mid-term reviews, and final evaluations.

136. The project's approach will be to make certain capacity exists to implement an effective Farmer Field School Program. The program will integrate best available international principles. The strategy will build upon FAO's global practice and decades of experience with FFS. In parallel with the strategy for extension services training, the project will generate a detailed strategy for the development and implementation of the FFS program. Again, this strategy will be completed and approved by the project's management team (Steering Committee, LTO, and FLO) within the project's first six months of operation.

137. Implementation of the AFFS program will serve as a mechanism to further build upon. In this way, the AFFS program will benefit from the project's on-going technical assistance so that extension officers gain ?in-service? training experience under the guidance of relevant global expertise. The AFFS program will draw upon and integrate resources from the existing baseline.

138. The AFFS program will have a specific section dedicated to issues of gender. This includes the creation of women cohorts who will be engaged in separate AFFS training that focuses upon the unique needs of women and builds their capacity to effectively engage in decision-making and benefit from sustainable production practices.

139. Training materials will specifically focus upon climate change adaptation issues relevant to the North Darfur. The programs will provide a basis for improving the resilience and reducing risks faced by vulnerable communities. A specific cohort will be designed to target women to support gender-specific capacity improvements. The APFS will serve as a conduit to provide seed funds necessary to implement and test identified infrastructural and production improvements. This will help to make certain these LDCF investments are strategic and monitored to determine which practices are the most cost-efficient and effective at addressing climate change related issues.

140. The AFFS program will be designed to assist community members to shift towards agriculture, livestock, and forestry management practices that are sustainable and climate-smart, and promote the achievement of GEB targets. The project supported AFFS program will be fully operational within the project's first 18 months.

Component 3: Lessons learnt captured, mainstreamed and upscaled

Outcome 3: Best climate resilient and adaptive practices are mainstreamed and being applied at local, regional, and national levels.

Impact Indicators	<p>20 model village level land use plans generated with project support and uploaded into knowledge management website/portal as part of HCENR Website for monitoring, reporting, and upscale.</p> <p>3,000 monthly users of project emplaced knowledge management website/portal</p> <p>200,000 hectares of agriculture and pasturelands monitored and delivering climate change resilient production management targets, including LD reductions.</p> <p>Ag: 100,000 ha</p> <p>Pasture: 100,000 ha</p> <p>1,200 persons subscribed to and receiving monthly project updates and electronic newsletters.</p> <p>At least 3 government agencies (HCENR, MOAR, MOAF) with budget lines approved allocating adequate financing to continue critical interventions post-project including improved planning, resilient production practices, and monitoring/reporting.</p>
Assumptions	<p>Capacity built efficiently and effectively by project</p> <p>Strong government and stakeholder engagement</p> <p>Improved practices adopted</p>
Lead Executing Agency	Higher Council of Environment and Natural Resources (HCENR)

Anticipated Budget	GEF: US\$687,694
	Co-Financing: US\$ 1,500,000

Output 3.1 Results strengthen national level resilience and adaptation policies

141. National programs, policies, and plans related to land tenure, pastoralism, agriculture, social protection, food security, nutrition and climate change will be amended and improved based upon project results. This will include strengthening national level decision-making required to reduce climate change challenges.

142. Several national initiatives exist which may be able to support replication and sustainability of the Project's impact. These include the National Drought Resilience Initiative (NDRI) and the National Agriculture Investment Programme (NAIP). The Project will facilitate the access of North Darfur to these and other national support programmes. This will help generate a national level political commitment to the Project success, it will also help ensure that future national policy development can take lessons from North Darfur into account.

143. The North Darfur NAP is currently under preparation. The draft NAP sets out the strategic, long and medium term actions necessary for adaptation to climate change in Sudan. Under the NAP, the Government has established a NAP focal point in the North Darfur State Ministry for agriculture and NAP Technical Committee in North Darfur. This Committee is multi-agency and multi sectoral. It will play a key role in guiding and supporting all climate change adaptation programmes, and so will support and guide all technical activities in this Project. It will receive both formal and on-the-job training, in order to be able to play a more proactive role in reducing climate vulnerability in the future. As project results come on-line, they will be used to the inform the NAP and other government processes and policies. Through this effort, the capacities of government agencies will be greatly strengthened.

144. State policy and plans related to land tenure, pastoralism, agriculture, social protection, food security, nutrition and climate change will be amended to better climate change issues based upon project findings and on-going results. State plans and policies related to land tenure, pastoralism, agriculture, food security, nutrition and climate change will be assessed and gaps and weaknesses identified. Recommendations for amendments will be developed and promoted by NAP Technical Committee with project support.

145. The project will initially sponsor the generation of a monthly electronic newsletter to be distributed to all relevant national and district level government agencies to be absorbed and

implemented HCENR by project close. This newsletter will be to provide government and private stakeholders with relevant updates regarding project progress and activity. This newsletter will also serve to capture and report on best practices so that lessons learned can be upscaled and amplified. This will provide an impetus for stakeholders to make continual progress and offer greater transparency and awareness across a larger audience. In addition, this will serve to incentivize the regular gathering and tabulation of data.

Output 3.2 Project lessons captured and disseminated

146. Based upon a comprehensive project communications strategy, best practices and lessons will be disseminated using a suite of knowledge management and communication products. These products will be produced in English, Arabic, and French as appropriate to facilitate broad regional uptake.

147. The project will within the first 6 months of operation generate a comprehensive communication strategy. This will include a "how to" manual for the systematic documentation of good practices and lessons learnt from implementation of the project, which will be translated into knowledge products and communication outputs. This strategy will aim at capturing best practices generated. The effort will focus upon target communities as well as making certain lessons learned are captured for upscale across a larger geographic region incorporating a wider group of private producers. Best practices including VGGT and APFS activity will be collated and systematically organized. They will be presented in a series of communication methodologies scaled to local producers, extension workers, government decision-makers and other key stakeholders. The aim will be to make certain lessons gleaned from project activities are fully-scalable by a larger audience across larger geographic areas. Communication approaches will include development of awareness building materials, generation of electronic and print media publications, and a series of awareness building workshops and other out-reach programs to be implemented regularly throughout the project period.

Output 3.3 Effective Monitoring and Evaluation Implemented

148. Project monitoring and evaluation will provide the basis to guide adaptive management, and promote the uptake of knowledge, including gender mainstreaming. Project activity will provide the basis to guide adaptive management, and promote the uptake of knowledge, good practices and successful approaches, including gender mainstreaming.

149. These efforts will be specifically designed to monitor the impacts and progress of project implemented success. This will include enhancing capacities to conduct effective climate change vulnerability assessments initially implemented under Component 1 and to track progress towards

and improvement of LUP linked to VGGT efforts. As noted, the project's hand-over strategy will identify needs and make certain that stakeholders are fully capable financially and technically to carry forward and amplify these actions.

150. The project will enhance climate data gathering, monitoring and management, and capacity building. This will focus primarily upon supporting the efforts of state level actors to generate and apply information required to inform decision-making. This will include working to capture and disseminate best practices. The project will work with and build upon FAO's on-going efforts designed to strengthen Sudan's hydrometeorological services.

151. The project will build knowledge and skills of HCENR and associated agencies to actively monitor natural resources, agriculture and rangeland production, and climate change to better inform decision-making and planning. This will be linked directly to activities implemented under both Component 1 and Component 2. A major emphasis of this output will be setting in place the skills and equipment required to monitor agricultural and rangeland resources relevant to climate change in order to strategically address resource and climate change induced conflict. Part of this effort will be to equip private agricultural and livestock producers to have a better understanding of potential climate impacts and to strategically align their activities to reduce climate induced conflicts. This will include improving the capacity of State level institutions to demarcate and monitor livestock migration and dry season grazing areas.

152. This will be achieved in part through the project's Monitoring and Evaluation efforts. The project will develop and implement a detailed M&E framework inclusive of the Mid-Term Review (MTR) and Terminal Evaluation (TE) to support an adaptive, results-based management approach to improve the efficiency and effectiveness of project implementation and delivery of project results and impacts. The project M&E framework will be consistent with the overall M&E framework and learning program.

153. Based on the gender analysis and action plans developed during the PPG, the project will ensure that decisions made, and interventions proposed for implementation, consider the potential impacts and outcomes for different groups within society, with particular focus on the roles played by men, women and youth. In line with the principles of integrated natural resource management, the project will promote a participatory approach to monitoring, evaluation and learning, involving all relevant stakeholders, including local communities. The focus will include project level monitoring, to feed into FAO's global monitoring of its GEF and LDCF portfolio, and to contribute to GEF/LDCF's global monitoring system.

H. Alignment with GEF focal area and/or Impact Program Strategies

154. The proposed project is fully aligned with the goal of the LDCF/SCCF Programming Strategy 2018-2022, through its efforts to strengthen resilience and reduce vulnerability of agro-

pastoralist communities and ecosystems to adverse impacts of climate change. In response to the enhanced emphasis on private sector engagement in the LDCF strategy, the project is promoting an ecosystem-based and market-driven approach to build resilience in key ecosystems and to strengthen the adaptive capacities of local smallholders and private actors and MSMEs. The project's alignment with the first two objectives of the LDCF strategy and consequent adaptation benefits are outlined below.

155. The project will contribute to LDCF Impact Indicator 1: Number of direct beneficiaries (gender disaggregated) who successfully demonstrate, deploy, and transfer relevant technology in targeted areas. This will include technologies and innovative solutions piloted and deployed to reduce climate-related risks and enhancement of resilience.

156. The project will contribute to LDCF Impact Indicator 2: Number of policies developed, improved, and strengthened to integrate adaptation and resilience measures. This will include strengthening cross-sectoral mechanisms to mainstream climate adaptation and resilience.

Objective One: Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation

157. LDCF resources will be used in a catalytic and complementary manner to enhance the resilience of the agriculture, forestry and fisheries sectors that contribute to the livelihoods of the targeted communities, in particular women in a holistic manner. This will be achieved by introducing, testing and adapting selected appropriate technologies and innovative practices as well as associated knowledge and skills to increase the efficiency and profitability of the agriculture sector while decreasing pressure and degradation of the landscape and vital ecosystem services that communities depend upon. These innovative approaches will create incentives for agro-pastoralists and MSMEs to engage in climate-resilient practices and in terms of technology transfer, the project will promote a greater uptake of climate technologies which improve climate resilience across food supply systems.

Objective Two: Mainstream Climate Change Adaptation and Resilience for Systemic Impact

158. The project will lead to the mainstreaming of climate resilience and adaptation into sectoral planning and programming in the targeted regions. This will directly lead to capacities being built to lower land degradation by both agriculture and rangeland management practices that currently contribute and exacerbates climate change adaptation challenges.

159. At national level, the project will strengthen the capacity of national institutions to integrate climate change adaptation into their programming. Lessons learned from the project will be disseminated via communications material, encouraging uptake of successful practices in other projects. Furthermore, the project will seek to improve a number of enabling conditions for climate change adaptation, including nature-based solutions, and national and sub-national

capacities in weather forecasting, agro-met services and early warning systems, as well as through diversification strategies.

Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTE, LDCF, SCCF, and co-financing

160. The Sudan is among the least developed countries in the world. Subsistence agriculture and pastoralism remain critical to the economy and the main source of livelihood for the majority of the population living in rural areas. However, production practices have resulted in land degradation and ecological imbalance. Climate change has considerably added to natural resource degradation and has increased uncertainty and risk. Vulnerable communities in the Project intervention areas now face a series of challenges. The complex nature of the environment and the socio-eco-political situation means it is not possible to clearly separate out the climate change challenges from the other challenges. This demands cross-cutting and innovative approaches. The LDCF funds are to contribute to a mosaic of peace, resilience and development efforts in North Darfur.

161. In support of the achievement of results under component 1, cofinancing resources will be secured through the interventions planned by the HCENR in North Darfur over the 2022-2025 period, to the benefit of component 1 from this project, with an estimated amount of USD700,000.

162. The GCF funded GUMS project will support livestock mobility and rangeland restoration in neighboring Kordofan States (North Darfur has shared borders with North and West Kordofan States). Relevant interventions that are tightly linked to Component 2 of the LDCF project include the establishment of livestock corridors, restoration of rangelands, improvement of the enabling policy and institutional environment. From its large fund, an approximate USD 3,900,900 has been valued as mobilized investment in support of component 2 of the LDCF project.

163. Similarly, the Netherlands-funded Food and Nutrition Security Resilience Programme (FN-REPRO) Project, will support food security, nutrition and resilience in Darfur. Relevant interventions include improving access to natural resources, improving livelihoods, and increasing incomes and diversification of opportunities through selected value chains especially for Gum Arabic. From its large funding, an approximate USD 4,600,000 has been valued as mobilized investment in support of component 2 of the LDCF project.

164. The same applies to the EULGP CI Programme, which aims to promoting land tenure rights. Relevant interventions include the use of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT) in the Greater Darfur region of the Sudan to promote food security for conflict-displaced communities, including small-scale rural farmers, pastoralists, and Internally Displaced Persons (IDPs). An approximate USD

1,500,000 has been valued as mobilized investment in support of component 3 of the LDCF project.

165. Coordination with these 3 projects will ensure a wider geographic scope of project interventions and a broader diversification of livelihoods, and therefore enhanced climate change resilience of rural communities.

166. The main executing partner of this project, the Higher Council of Environment and Natural Resources (HCENR), will be providing in-kind support to the general management of the LDCF project, for an estimated amount of US\$ 300,000. The same applies to the State Ministry of Agriculture and Animal Resources (MoAAR) and FAO through technical and logistical backstopping provided during project implementation, with an estimated cofinancing of respectively USD 100,000 and USD 200,000.

167. LDCF funds at roughly USD 2.4 million are 18% of the entire budget estimated at USD 13.7 million. LDCF funds will build upon and complement the baseline by providing the additional costs required to ensure that climate variability and climate resilience is mainstreamed into development processes.

168. Co-financing detailed below.

Co-Financing Source	Component 1	Component 2	Component 3	PMC	Total Co-Financing
HCENR (recurrent expenditure over 2022-2025 dedicated to interventions in North Darfur, as well as technical and logistical backstopping costs)	700,000	0	0	300,000	1,000,000
MoAAR (technical and logistical backstopping)	0	0	0	100,000	100,000

FAO (GCF funded GUMS project, Netherlands-funded (FN-REPRO) Project, EULGP CI Programme, as well as Technical and logistical backstopping)	0	8,500,900	1,500,000	200,000	10,200,900.00
Totals	700,000	8,500,900	1,500,000	600,000	11,300,900

J. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

169. Direct beneficiaries of this project will be including approximately 10,000 households in 20 villages. These households or approximately 50,000 people are currently some of the most vulnerable in Sudan. As noted, they rely upon agriculture and livestock production for all aspects of their well-being. Currently, these persons ? male and female ? reside in an area where resources are becoming increasingly scarce and competition for these resources is becoming increasingly fierce. With the additionality provided by LDCF investment, vulnerabilities will be alleviated through more structured resource management and increased capacity to identify and invest in production methods that are better aligned to deliver climate change adaptation and resiliency benefits. The project will have outsized impacts in that these target communities are representative of only a small percentage of the total population facing similar challenges. If this project is successfully implemented, lessons learned and models established will be easily replicable across a much larger geographic area in order to benefit a much larger segment of at-risk or vulnerable society. This will be achieved and enhanced through the project?s consolidated efforts to make certain lesson-learned are systematically captured for upscale and capacities are strongly built within relevant government and community institutions to carry forward best practices.

K. Innovativeness, sustainability, potential for scaling up and capacity development ?

170. **Innovation:** This project represents a first attempt to establish innovative programming designed specifically to address the unique conflict and adaptation challenges faced in the North Darfur, particularly conflicts between private livestock and agriculture production sectors as they struggle to address challenges associated with increased competition for resources altered and diminished as a result of climate change. Although the project will build upon well-proven models such as VGGT and agro-pastoral farmer fields schools, these models will be adapted to the unique cultural and environmental situation of the North Darfur. Importantly, these approaches work and they are supported by the Government and local stakeholders. However, this project will go beyond and enhance the existing approaches better integrating issues related to land degradation and climate change adaptation. This work will integrate and support the realization of sustainable land use management objectives and address climate change vulnerabilities based upon coherent and rigorous assessment, monitoring, and management planning. With the technical support of FAO, the project will draw upon global and regional best practices and principles. Ideas and innovations will be adapted to the specific needs of stakeholders at each target region. The project will be on the vanguard in terms of identifying appropriate interventions best suited to assist vulnerable communities to address climate change related issues within the livestock and farming sectors, such as short-maturing and draught-resilient crop varieties, climate-resilient and early maturing seeds, community seeds multiplication system, seed-banks, grain stores, soil retention and fertility, tree nurseries and tree belts to shelter food gardens from dust storms, identification and costing requirements to adopt improved crop varieties linked to value-chains, water yards, subsurface dams and impoundments, smart irrigation systems with solar pumps and micro-finance schemes. This will be done through a strategic identification of issues followed by the design and implementation of innovative approaches that are uniquely tailored for the North Darfur.

171. **Sustainability:** The project will ensure programmatic, social and environmental sustainability. Programmatic sustainability will be established in part through capacity building and mainstreaming of best practices within government offices, community institutions, and the private sector. This includes the completion of spatial plans which will be legally binding. Financial sustainability will be guaranteed in part by mainstreaming integrating project emplaced success within the Government of Sudan framework. This will include the generation of an end of project 'hand over strategy' to make certain financial, human and equipment resources are in place so that the Government and other stakeholders are prepared to seamlessly carry forward successful practices resulting from GEF's incremental financing. This will go beyond simply assisting with making certain information is capture and disseminated. The sustainability plan will make certain that capacity and financial resources exist to carry forward project emplaced practices. The sustainability plan will also clearly identify and make certain that government and institutional policies and plans fully integrate project results. This will include budgeting and recommendations for regular awareness building and stakeholder engagement workshops and seminars to make certain government actors and decision-makers are consistently made aware of project challenges and advances. The NAP Technical Committee will be instrumental in this effort. The project will further ensure financial sustainability by providing private stakeholders with the tools, markets, and business

experience. This is fundamentally important to project success. Environmental and social sustainability are both baked into the project's design and componentry.

172. **Up-Scaling:** In line with GEF STAP recommended guidance on scaling out, up and deep[35]³⁵, the project is designed to generate models combined with system-wide capacity development that can be upscaled and amplified to increase impact. The project will make strenuous efforts to make certain best practices are upscaled locally, regionally, nationally and globally. Elements of the Project will be relevant to other places, both in Sudan and elsewhere in north and northeast Africa. Project success will be positioned for upscale in operations funded by multilateral donors. Through the NAP, and with support from and HCENR, and also through the ARC, ARRC and NCR networks, these successes can be replicated. FAO is particularly well positioned to assist with this effort. FAO has field offices in North Darfur. In addition, FAO has global practices that will help to not only inform project effort and implementation but will also work to promote best practices and lessons learned for global upscale through a number of FAO's visibility and marketing tools.

173. **Competencies and Lessons Applied:** FAO has significant experience that will be applied to strengthen this Project. Over the past decade ? in partnership with government agencies and institutions and civil society organizations ? FAO has implemented a series of national, regional and global humanitarian relief, livelihood protection/recovery and agricultural development programmes and projects. This project will draw from the above best practices to determine and pilot approaches to peace and development in North Darfur, and this can be used as a model for other, larger development programmes. The following lessons learnt or best practices have been documented in the Country Programming Framework for Sudan ? Plan of Action (2015-2019): Resilient Livelihoods for Sustainable Agriculture, Food Security and Nutrition will be applied.

L. Summary of changes in alignment with the project design with the original PIF

Summary of Alternation	Justification
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Project Framework	The project framework was adjusted to be more practical and refined. The basic framework was not altered with similar components and outcomes. This was done to focus effort upon identified barriers, facilitate successful implementation and help make certain desired impact targets are achieved.
Indicators	The indicators were refined and improved based upon findings and the recommendations of STAP/GEF.
Co-Financing	During the PPG, additional sources of co-financing were identified and reflected.
Risks	The risks were reviewed and enhanced. This includes more emphasis upon environmental risks such as climate change. The project's risk mitigation now integrates Covid-19 concerns.

[1] FAO Aquastat reports. Sudan Country Profile 2015 <http://www.fao.org/3/i9808en/i9808EN.pdf>

[2] <http://www.worldbank.org/en/country/sudan>

[3] HDR, 2019 http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SDN.pdf

[4] <https://www.afdb.org/en/countries/east-africa/sudan/sudan-economic-outlook>

[5] Fews Net 2020 <https://reliefweb.int/report/sudan/sudan-food-security-outlook-update-october-2020-may-2021>

[6] IPC, 2020
https://reliefweb.int/sites/reliefweb.int/files/resources/IPC_Sudan_AcuteFoodInsecurity_2020JuneDec_Snapshot.pdf

[7] OCHA, 2020 bis

[8] Fews Net 2020 <https://reliefweb.int/report/sudan/sudan-food-security-outlook-update-october-2020-may-2021>

[9] HDR, 2019 http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SDN.pdf

[10] Fews Net 2020 <https://reliefweb.int/report/sudan/sudan-food-security-outlook-update-october-2020-may-2021>

[11] <https://www.worldbank.org/en/news/press-release/2016/05/16/the-world-bank-group-and-sudans-ministry-of-agriculture-launch-the-2016-enabling-the-business-of-agriculture-report>

- [12] <https://openknowledge.worldbank.org/bitstream/handle/10986/31804/9781464813870.pdf>
- [13] Behnke, Roy, 2012. The Economics of Pastoral Livestock Production and Its Contribution to the Wider Economy of Sudan
- [14] FAO Statistics, 2014
- [15] Socio-economic and demographic indicators, Central Bureau of Statistics, 2011
- [16] Promoting the Provision of Legitimate Land Tenure Rights Using the Voluntary Guidelines on the Responsible Governance, FAO and MRC 2018.
- [17] Promoting the Provision of Legitimate Land Tenure Rights Using the Voluntary Guidelines on the Responsible Governance, FAO and MRC 2018.
- [18] The Darfur Conflict ? Geography or Institutions? Osman Suliman, 2011.
- [19] Darfur Land Administration Assessment: Analysis and Recommendations. UN Human Settlements Programme, UN-Habitat, 2020
- [20] Range Resources Survey and Assessment Program, 2015 ? 2019
- [21] Draft North Darfur State Adaptation Plan, 2015.
- [22] IFAD, 2013. Sudan - Environmental and Climate Change Assessment
- [23] Fews Net 2020 <https://reliefweb.int/report/sudan/sudan-food-security-outlook-update-october-2020-may-2021>
- [24] Review of the Darfur Development Strategy (2013 ? 2019) Submitted to the DDS Review Steering Committee 7 October 2019 by Trias Consult
- [25] Darfur Land Administration Assessment: Analysis and Recommendations. UN Human Settlements Programme, UN-Habitat, 2020
- [26] Land Rights under Stress in Darfur: A Volatile Dynamic of the Conflict. Abdul-Jalil M and Unruh J (2013) Vol 32, No. 2 pp 156-181
- [27] Darfur Land Administration Assessment: Analysis and Recommendations. UN Human Settlements Programme, UN-Habitat, 2020
- [28] <https://www.un.org/zh/focus/southernsudan/pdf/dpa.pdf>

[29] <https://unamid.unmissions.org/doha-document-peace-darfur>

[30] RoS and FAO 2015. National Action Plan for the Implementation of the GGW for the Sahel and Sahara initiative. MENR, Khartoum

[31] Review of the Darfur Development Strategy (2013 ? 2019) Submitted to the DDS Review Steering Committee 7 October 2019 by Trias Consult

[32] This concept has been developed and tested by Care international but is adopted by EU-FAO and DFID-FAO projects (Pro-ACT 1 and 2) in Burundi. This approach is used in a number of countries (Uganda(since 2008); Central African Republic, Liberia, Malawi, Chad et Mali (depuis 2014); Guatemala et Honduras (since 2013).

[33] The concept of 'Caisse de r'silience' underpins an approach centered on agro-pastoralists including women and men integrating social, financial and productive activities (FAO,2016)..

[34] <http://www.fao.org/dimitra/about-dimitra/en/>

[35] See https://mcconnellfoundation.ca/wp-content/uploads/2017/08/ScalingOut_Nov27A_AV_BrandedBleed.pdf

1b. Project Map and Coordinates

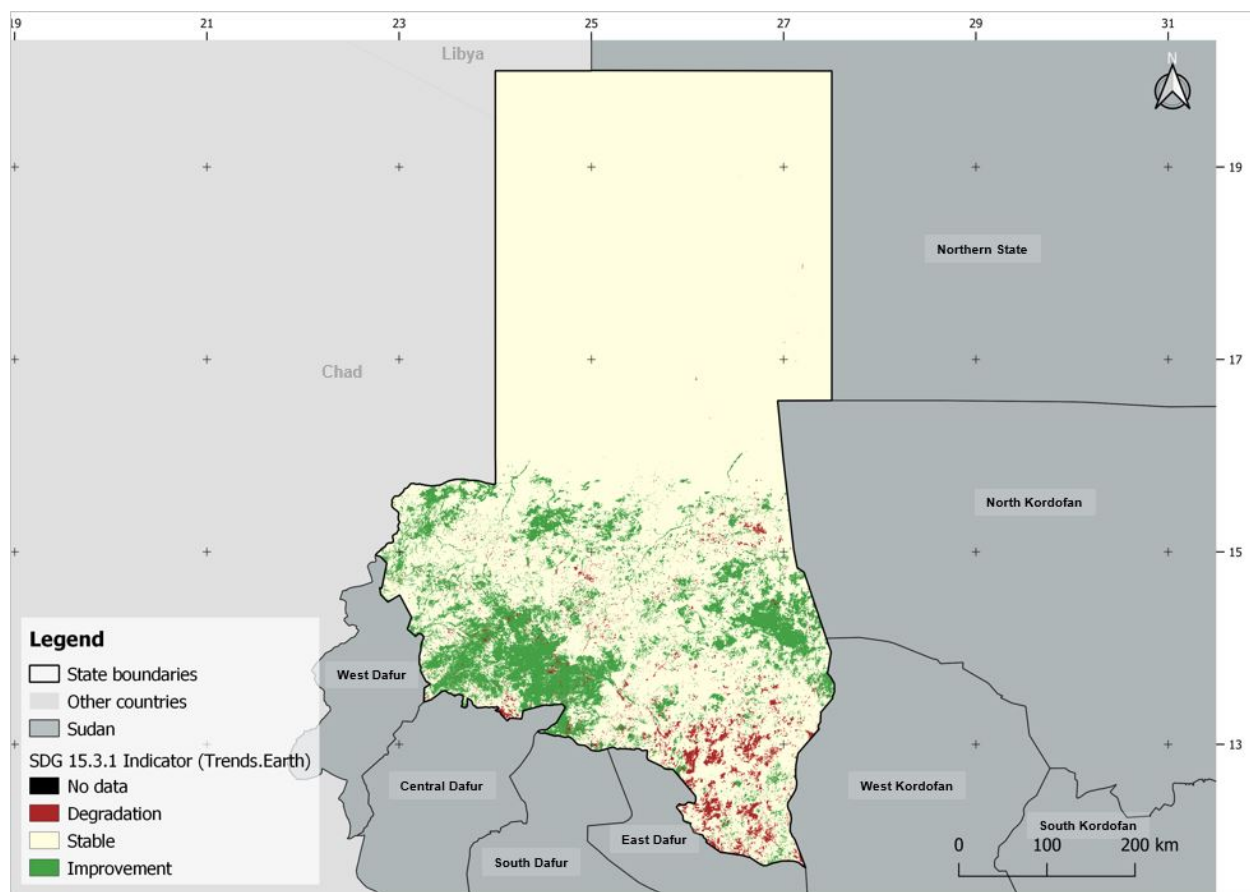
Please provide geo-referenced information and map where the project interventions will take place.

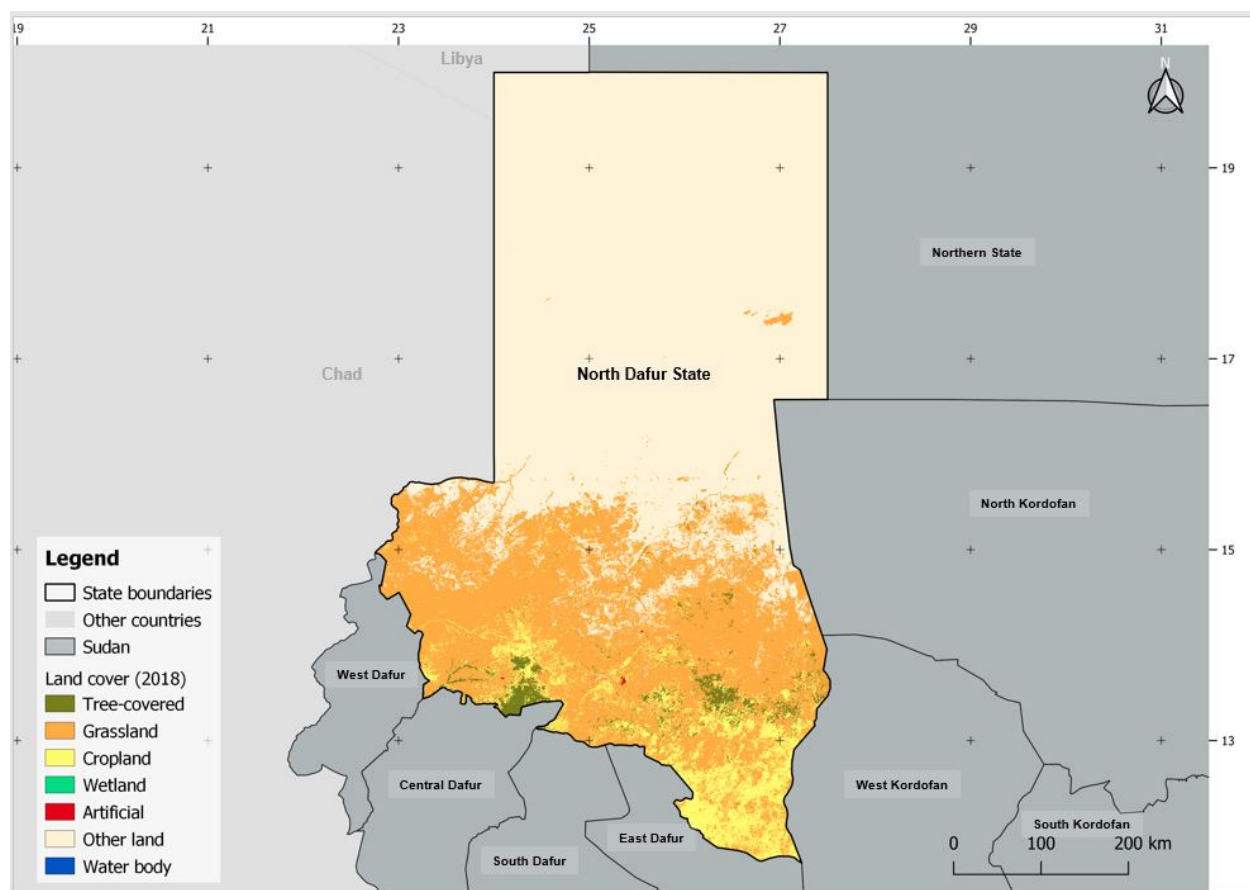
1.b Project Map and Geo-Coordinates.

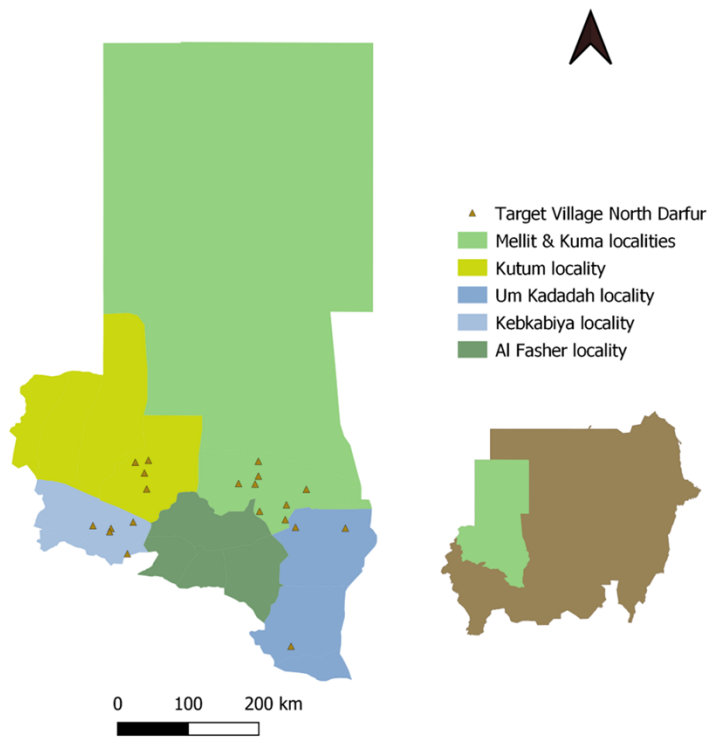
1. As noted, the project will cover the areas that lie to the north and north western parts of North Darfur state, mainly Mellit, Sayah, Kutum, Kebkabyia, Kuma and Umkaddada.

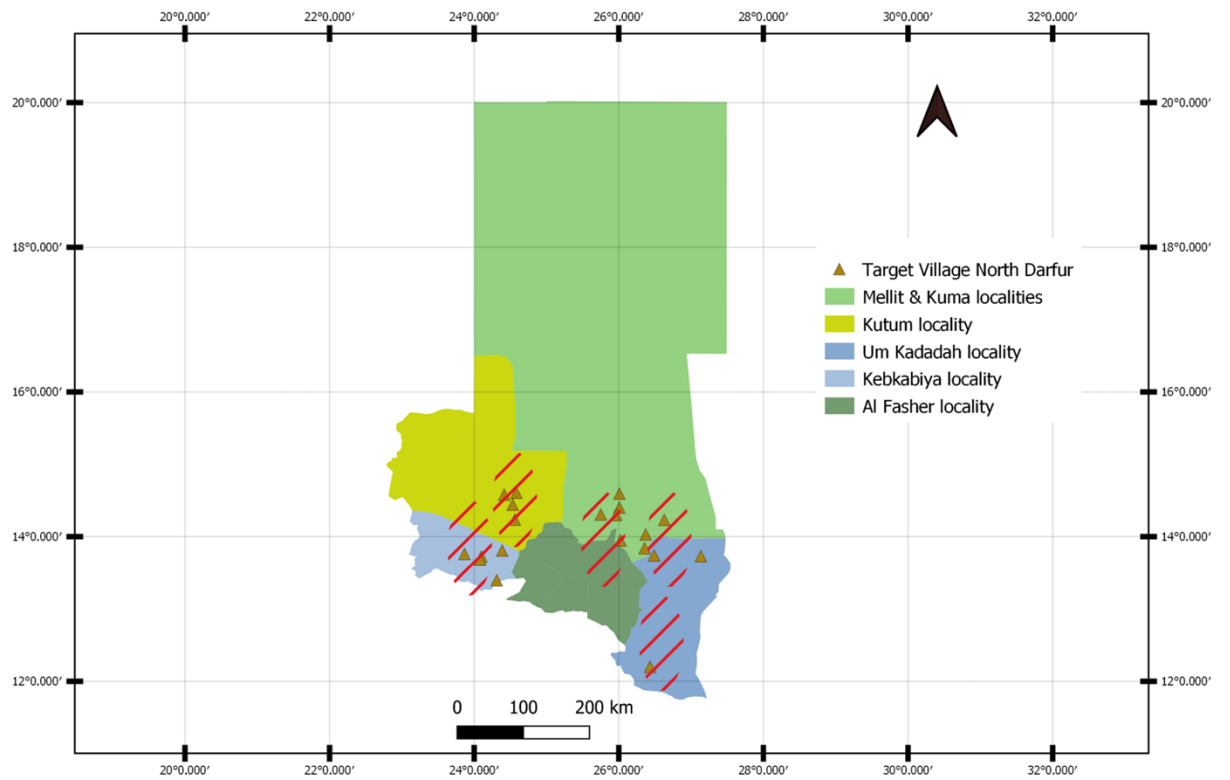
Livestock Routes	Targeted Villages	Latitude	Longitude
Kutum ? From Damrat El Sheikh up to Deissa around 180 kms	Damrat El Sheikh	14.2364	24.5631
	Aldoor	14.5820	24.4157
	Abd Elshakoor	14.4428	24.5336
	Deissa	14.6069	24.5853

Kebkabyia - From Abu Dongo up to Birgu is 40 kms.	Abu Dongo	13.6833	24.0833
	Daday	13.7253	24.1014
	Aramba	13.3976	24.3130
	Gurra	13.7614	23.8668
	Birgu	13.8077	24.3883
Mellit ? From Sayah > Wad Toto 55 kms. Wad Toto > Kosskokori 60 km. KOsskori > Medo 25 kms	Sayh	14.3072	25.7527
	Wad Toto	14.3000	25.9669
	Kosskori	14.4025	26.0089
	Medo	14.5947	26.0297
Kuma ? From Kuma > Um Hegailege 60 kms. Hegailege > Um Elhussein 40 kms. Um Elhussein > Kuma 45 kms.	Um Hegailege	14.2315	26.6299
	Um Elhussein	13.8398	26.3574
	El Kuma	13.9478	26.0252
Umm Keddada ? From Abu Hemaira to Um Sidra 95 kms. Abu Hemaira > Al Abiad > Al Arais 80 kms	Abu Hemaira	12.2008	26.4320
	Um Sidra	13.7300	27.1353
	Al Abiad	13.7401	26.4899
	Al Arais	14.0314	26.3724









1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

2. Stakeholders

Stakeholder Engagement During the PPG

1. Stakeholder consultations were carried out through workshops, individual interviews and focus group interviews to solicit views on capacity to manage the proposed project activities to achieve land degradation neutrality.

2. Two stakeholder consultations were conducted during the development of this PIF, one at State level (in North Darfur) and one at national level. A summary of the State level meeting is presented in Annex. Initial consultations during the PIF development stage involved a broad range of Sudanese agencies, governmental, non-governmental and technical, as well as representatives of development partners.

3. During the preparation of this PIF, a consultation workshop with stakeholder communities in the targeted areas identified a complex set of inter-related threats. Stakeholders clearly and easily identified challenges attributable to climate change impacts. This included rainfall inconsistencies and resulting lack of water resources and pastures. They noted that climate changes and environmental degradation combine to reduce animal fitness and increase the prevalence of animal diseases. Stakeholders detailed resource insecurities and associated societal stresses. They spoke of deteriorating vegetation cover and the advancement of desertification. The stakeholders agreed that resource competition was leading to increasing

levels of conflicts. The stakeholders noted that many of these issues stem from restricted pastoralist mobility. The findings from the PIF consultation workshop are fully in line with recent assessments led by multi-sectoral science-based assessment teams[1].

4. During the PPG phase, the project engaged these stakeholders in various ways since January 2020. Fieldwork investigations were conducted despite COVID-19 and security related limitations. The PPG team made huge efforts to visit the targeted localities and villages along the livestock corridors in North Darfur, and proceed with series of meetings, focus group discussions and site visits. Additional data was collected at Locality-level and Village-level through field investigations within communities of farmers, pastoralists, and agro-pastoralists living in areas targeted by the project along the livestock routes.

5. An initial field mission was conducted in El Fasher in North Darfur, between 25 October-01 November, 2020. It paved the way to consultations with key relevant stakeholders at state level from: Directorate of Animal Resources; National Forestry Corporation; Agricultural Research Station; Drought Recovery and Food Security Project, North Darfur; FAO VGGT Project; SOS Sahel Sudan; Food and Nutrition Security Resilience Programme (FN-REPRO); Wadi El Ku Catchment Management Project; State Ministry of Agriculture and Animal Wealth; Central Bureau of Statistics; WFP and; Producers? Organizations, North Darfur State.

6. Between December 26th, 2020, and January 11th, 2021, an extensive field mission was conducted in North Darfur by a team of 4 including 3 PPG consultants and 1 HCENR representative, as well as locally sourced enumerators. It paved the way to consultations with a wide range of stakeholders at state and locality levels, including with local communities. Data was collected using Focus group discussions and group meetings at both Locality-level and Village-level with communities of farmers, pastoralists, and agro-pastoralists living in areas targeted by the project along the livestock routes in North Darfur.

7. A coordination workshop was held on March 3rd, 2021 in Khartoum which familiarized over 25 stakeholders with the project and captured various inputs and guidance to inform its design. Due to COVID-19 restrictions remote participants who could not travel were offered the possibility to connect virtually.

8. A validation workshop took place on April 1st, 2021. The concerns and issues discussed with stakeholders during project design were taken into consideration and reflected in project interventions presented for validation by national and local stakeholders.

9. A household survey was conducted between December 26th, 2020, and January 11th, 2021 using the Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP+) tool. The assessment covered a comprehensive overview of the livelihoods of 64 rural-based households, with women making 39% of the total respondents in 3 targeted localities namely Kuma, Mellit, and Umm Kadada. It examined the prevailing socio-

economic characteristics, status, and conditions of the resources farmers and pastoralists have access to, climate hazards and impacts, agronomic practices in place, among others.

Representatives from the two other targeted localities namely Kutum and Kebkabya, which could not be covered by the household survey due to security and CV-19 related restrictions, were invited to El Fasher to attend focus group discussions and capture their inputs during the same period.

10. The assessment methodology is based on Cabell and Oelofse's [2] 13 agroecosystem indicators of resilience, from which SHARP provides a set of scientific questions for participants in the survey. The series of questions cover aspects on how agricultural-based households manage their production systems, as well as the natural resources, it approached how farmers interact and linked with their communities, in what way they cope with, adapt to and transform when confronting external and internal shocks and stressors, among others. The questionnaire also comprises self-assessment components in which respondents state which aspects are deemed inadequate and important for them to improve their resilience performance.

11. SHARP is operationalized through a tablet-based application to allow for a faster and more accurate data collection and entry processes. The context-suited standardised qualitative and quantitative answers are transformed into numerical score reflecting the resilience of rural-based households as well as those priority areas as considered by farmers. Monitoring changes in the SHARP scores at different points in time indicates whether household climate resilience status is declining or improving.

12. In collaboration with the project team in Sudan, the SHARP survey was adapted to fit the context and objectives of the project. As such, the core set of 18 question-modules that composes the standard survey with 13 additional modules were used to capture relevant elements aligned to the project objectives.

13. In addition, extensive consultations were held at the three engagement levels with stakeholders at the national in Khartoum where several meetings were held with key line ministries and relevant counterparts, at the State-level in North Darfur with state authorities and relevant government entities, and also at the level of each of the 20 villages targeted by the project.

Stakeholder Table

Stakeholder	Mandate	Project Role
Federal Government		

Higher Council for Environment and Natural Resources (HCENR)	<p>The HCENR is the technical arm of the Council of Ministers of the Government of Sudan, under the Chairmanship of the Prime Minister, in charge of formulating environmental policies, legislation and strategic planning for the conservation and sustainable management of Sudan's environmental and natural resources. As an inter-ministerial government agency, it coordinates environmental affairs and sustainable management of natural resources across all socio-economic sectors at federal and state levels.</p> <p>Its mandate also includes oversight and facilitation of the implementation and enforcement of environmental policies and legislation in coordination with respective executive bodies of the federal and state governments. It also aims to promote international cooperation, coordinate participation in global environmental conventions and protocols and utilize associated multilateral financing instruments and technology transfer mechanisms.</p>	<p>Project Executing Entity</p> <p>Lead for cross sectoral coordination among all relevant Government entities at federal and state levels</p> <p>The HCENR (at national level) will Co-lead the implementation of project outcomes and outputs together with the MoAAR (at State and local levels)</p>
National Commission of farmers and pastoralists	<p>Currently being established as a result of the recent peace agreement signed in Oct 2020, between Sudan's Transitional Government and Revolutionary Movements. It is expected to play a key role at the institutional level to support establishing the needed equilibrium between customary and statutory laws, to lay the foundation for sustainable community governance of land and natural resources</p>	<p>Support project interventions related to land tenure, NRM and CCA (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>

Ministry of Agriculture and Forests (MoAF)	<p>Since its inception in 1953, its name changed according to its specializations and tasks, it is currently called the Ministry of Agriculture since 2015.</p> <p>In charge of policy formulation, planning and monitoring of developments, research and extension services for agriculture and overall natural resources protection, conservation and development. Has a number of associated research centres at federal and state levels</p> <p>Its tasks and specializations include: 1) Select and adopt appropriate technology in the field of agriculture; 2) Develop programs and methods of agricultural extension; 3) Supervising and investing natural resources; 4) Rationalize the use of agricultural lands to stop environmental degradation and combating drought and desertification in cooperation and coordination with the relevant authorities; 5) Train human resources in the fields of agriculture and natural resources; 6) Develop and maintain pastures in coordination with the relevant authorities; 7) Monitoring and combating national pests in coordination with the concerned authorities; 8) Follow up on the implementation of laws that encourage and protect forests; 9) Supervise federal investment in the field of agriculture; 10) Supervise agricultural statistics and publish them at the national level; 11) Supervise international and regional cooperation projects and investments in the field of agriculture; 12) Promote cooperation in the fields of agriculture and natural resources</p>	Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
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Ministry of Animal Resources	<p>Since its inception in 1902, its name changed according to its specializations and tasks, it is currently called the Ministry of Animal Resources since 1996</p> <p>In charge of policy formulation, planning and monitoring of developments, research and extension services for livestock and rangelands. Has a number of associated research centres at federal and state levels</p> <p>Its tasks and specializations include: 1/Ensure livestock health to boost food security and exports of livestock and fish; 2/Develop and maintain slaughterhouses in line with international standards; 3/Develop and maintain veterinary services in the states; 4/Valorise Sudanese species and increase their productivity; 5/Improve breeds for intensive meat production systems to increase their competitiveness; 6/Prepare standard specifications for Sudanese animal products in conformity with international standards; 7/Facilitate the introduction of modern technologies to improve performance; 8/Encourage investment in of livestock and fisheries to achieve food security and support exports; 9/Provide market information on internal and external markets for animal and fish products; 10/Developing and qualifying veterinary extension and supporting pastoralist development programs; 11/Contribute to programs to combat poverty and increase family incomes; 12/Provide veterinary medicines, vaccines and monitor their uses; 13/Supervise the import and registration of medicines; 14/Upgrade the level of drug control; 15/Provide local poultry and fish production inputs, focusing on the optimal utilization of local resources; 16/Work to introduce livestock in the southern states into the national economy; 17/Develop and maintain infrastructure in war-affected areas; 18/Establish model productive farms; 19/Develop federal and state legislation to support production, marketing, quality control, consumer protection and environmental protection; 20/Follow-up programs to employ veterinary, animal production and natural resources graduates in appropriate fields in the public and private sectors.</p>	<p>Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>
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<p>Forest National Corporation (FNC)</p>	<p>The FNC is a Parastatal service-oriented and autonomous corporate body, it is the federal institution mandated to manage all federal forests in the country and is in charge of: 1) Technical supervision for forests, range and natural resources all over the Sudan; 2) Training and qualifying the technical staff in the field of forest and natural resources; 3) Dissemination of awareness amongst the officials and citizen in matters relating to forests and natural resources; 4) Conducting studies and researches in order to lay out the necessary plans for assessing forests and natural resources all over the Sudan and developing them; 5) Increasing the forests, range and natural resources areas by reserving more areas and by increasing the required areas at a ratio not less than 25% of the total area of the country; 6) Coordinating efforts with the competent authorities in matters relating to general policies of forests, range and natural resources together with the preparation and implementation of anti-desertification projects; 7) Coordinating efforts with the competent authorities in matters relating to land use and land investment for the purpose of establishing new forests and range, developing them and encouraging agricultural afforestation; 8) Cooperating with the competent authorities in forest related fields such as: range, natural resources and encouraging applied research; 9) Encouraging investment in forests, range and natural resources in collaboration with the competent authorities in the country; 10) Employing a qualified staff in order to enable the corporation to carry out its responsibilities; 11) After obtaining the competent Minister's approval the corporation shall proceed to owning, buying and selling of lands, real state and constructing buildings on them as well as maintaining such buildings and constructing different facilities thereon in order to realize the corporation's objectives; and 12) Imposing tariffs or fees or increasing royalties on forests crops and gum Arabic, range and natural resources in accordance with the regulations.</p>	<p>Support project interventions related to CCA & Forest extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)</p>
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Agricultural Research Corporation (ARC)	<p>ARC is Sudan's principal research arm on agriculture, it ambitions to become a Centre of Excellence for agricultural research by developing skilled manpower, conducting quality research, and transferring technologies to ensure sustainable crop production. It aims to achieve food security, alleviate poverty, generate income, promote agricultural exports and conserve natural resources.</p> <p>ARC has about 24 national research programs, structured into 4 thematic areas namely: 1) Sustainable crop production; 2) Natural Resources management; 3) Agricultural socioeconomics and policy analysis; and 4) Knowledge management and Up scaling</p> <p>It runs 14 research centres (including the Forestry Research Centres), 27 research stations (including in Khartoum area, Dongula, Marwe, and Wad Medani) and employs about 610 staff, out of which more than 300 hold a PhD.</p>	Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
Animal Resources Research Corporation (ARRC)	Established in 1995, the Animal Resources Research Corporation is a Government entity affiliated to the Ministry of Animal Resources, it has several research centres working on different thematic of livestock-related research.	Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
General Administration for National Energy Affairs	<p>Formerly the National Energy Administration which was affiliated to the Ministry of Energy and Mining since 1980. In 1995, it became part of the Sudanese Petroleum Corporation, under the name of the General Administration of Energy Affairs.</p> <p>The GANEA is an applied research department for renewable energy technologies. It is structured into 2 departments namely: 1) The Alternative Energy Department, working on solar, wind and hydroelectricity; and 2) The Department of Biomass working on Biogas, Composting of agricultural waste and Biofuels.</p>	Support project interventions related to CCA & clean energy alternatives (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)

Ministry of Irrigation and Water Resources	<p>Established in 2012, under the name of Ministry of Water Resources and Electricity, is in charge of maintaining the national water infrastructures, developing and efficiently using water resources using cost effective best practices in irrigation, drinking water & electricity to satisfy demands in line with the Standards, while taking into consideration environmental conservation.</p> <p>It has a Training and Capacity Development Unit in charge of planning and coordinating specialized training programs in all areas related to water resources, including the preparation of a concept and curriculum for training courses.</p> <p>It also has a Regional Water Harvesting Centre in charge of carrying out specialized training programs, capacity development activities, and raising awareness and knowledge in the field of water harvesting through training courses for participants at the national and regional levels.</p>	Support project interventions related to the integrated management of water resources (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
Ministry of Finance and Economic Planning (MoFEP)	As the main body responsible for managing Sudan's economy, the Ministry aims to invest internal resources and attract external resources towards a sustainable economic pathway in line Sudan's strategic economic and social goals.	Has a key role in mainstreaming CCA and rural livelihoods into budgeting and planning processes
General Directorate of Women and Family Affairs	Part of the Gender Machinery in Sudan in charge of strengthening the capacity of federal and state institutions to deliver specific functions and responsibilities that accounts for gender equality and human rights of women	Will facilitate gender mainstreaming in line with the GAP and the upscaling of gender inclusive practices across productive landscapes in Sudan
Ministry of Higher Education and Scientific Research (MOHE)	<p>The Ministry aims to provide higher education according to quality and competence standards, to provide students with appropriate knowledge and skills for the job market.</p> <p>It also works to build human resource capacities in various scientific disciplines, develop and disseminate knowledge through scientific research and promote local technology.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to manage and disseminate the knowledge generated from the project
Ministry of Planning and Infrastructure	In charge of land-related processes such as: surveying, planning, land-use management, building, monitoring and controlling of housing development settlements	Will support CCA-related interventions in North Darfur (Under the co-lead of the HCENR, MoAAR and in cooperation with other federal and state entities)

National Land Commission	In charge of assessing land tenure issues and work at federal and state levels with government agencies responsible for land use and natural resources.	Will facilitate the implementation of project interventions related to land tenure in close coordination with the HCENR, MoAAR and other federal and state entities
State and Local Government		
State Ministry of Agriculture and Animal Resources (MoAAR)	<p>The State Governments exercise authority in their respective States and provide proximity public services. The State Ministry of Agriculture and Animal Wealth in North Darfur, support the formulation of State land use maps, provide trainings, support the necessary infrastructure and equipment such as roads, irrigation canals, water pumps, improved seeds, veterinary services, valorization and marketing of agricultural products.</p> <p>It has a number of Directorates, namely: Directorate of Agricultural Sector, Directorate of Animal Resources, Directorate of Rangelands and Pasture, Directorate of Extension and Technology Transfer and, Directorate of Agricultural Engineering.</p>	Will Co-lead the implementation of project interventions at State level in close coordination with the HCENR and other federal and state entities
North Darfur State Commission of nomads and pastoralists	It is currently being established as a result of the recent peace agreement signed in Oct 2020, between Sudan's Transitional Government and Revolutionary Movements. It is expected to play a key role at State level to support establishing the needed equilibrium between customary and statutory laws, to lay the foundation for sustainable community governance of land and natural resources	Support project interventions related to land tenure, NRM and CCA (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)
State Water Corporation	Part of the Ministry of Irrigation and Water Resources, in charge of water-related issues at State level such as issuing permissions for the installation of new water yards.	Will facilitate the implementation of project interventions related to water at State level in close coordination with the HCENR, MoAAR and other federal and state entities
Darfur Land Commission	In charge of assessing land issues and work at state level with government agencies responsible for land use and natural resources.	Will facilitate the implementation of project interventions related to land tenure at State level in close coordination with the HCENR, MoAAR and other federal and state entities

State Planning Committees	These are in charge of preparing planning and housing policies and procedures for land allocation and land use at State level	Will facilitate the implementation of project interventions related to land tenure at State level in close coordination with the HCENR, MoAAR and other federal and state entities
Rural Councils and Localities of Um Kedada, Mellit, Kuma, Kebkabya, and Kutum	Local governments are a subset of State governments. the Rural Councils were established following the People's Local Government Act of 1971, intended to have a wide range of responsibilities independent of the central government and to derive their authority from regular local elections	Will facilitate the implementation of project interventions at local level in close coordination with the HCENR, MoAAR and other federal and state entities
Native Administrations	<p>Each tribe has its own dar and each clan has its own territory. The Native Administration uses a strongly hierarchical approach for management, including of land, with three levels, the sultan/Nasir at the top, the omda and the sheikh at the bottom. Some tribes do not use the term sultan or omda but use other local terms, however the function is the same. Sheikh is commonly used, based on an Arabic word meaning wise and prudent man and the role of a sheikh is most closely linked to local communities. The Native Administration rules both the people and the land and, in most of the tribes, these are not split between different functionaries. However, in a few tribes there is a sheikh for the people and another sheikh for the land.</p> <p>Historically, people in Darfur relied on Judiyya to settle their disputes. The Judiyya Council consists of elders respected by the community and the parties in conflict, and it is a community-based dispute-resolution system for mediation, remission and compensation. It depends on concessions by the different parties and reconciliation, and is based on the Islamic principle, local traditions and community norms that encourage people to settle their disputes peacefully, which is considered the best settlement. It is believed that anyone who forgives and sets things right will receive his or her reward from God. Opponents of the Judiyya judgments are subject to community and tribal sanction and exclusion. Judiyya is particularly important for family, tribal, land and natural resource disputes. [1]</p>	Will facilitate the implementation of project interventions at local level in close coordination with the HCENR, MoAAR and other federal and state entities
International Organization		

FAO	Led detailed project design, FAO representatives participated to the inception and validation workshops, as well as the technical meetings Series during the PPG phase. FAO did also ensure that economies of scale are achieved with the LDCF project in North Darfur during project design and implementation.	GEF Implementing Agency. Will support implementation and technical back-stopping.
UNDP	UNDP has implemented/is implementing several projects in Sudan including "Darfur Livelihoods Recovery Project", "Promoting the Use of Electric Water Pumps for Irrigation in Sudan", "Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors", "Darfur Community Peace and Stability Fund", and "Youth Volunteers Rebuilding Darfur Project (YVRDP)"	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
World Bank	Provided loans and grants through various projects in Sudan with a portfolio of approximately \$130 million. The bank implemented/is currently implementing several projects such as the GEF-funded Sudan Sustainable Natural Resources Management / SSNRMP, the Sustainable Natural Resources Management Project -AF, and the Sustainable Livelihoods for Displaced and Vulnerable Communities in Eastern Sudan.	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
IFAD	Implemented various projects in Sudan, currently the GEF implementation Agency for the Sustainable Natural Resource and Livelihood Adaptive Programme (SNRLAP)	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
UNEP	Implementing a number of projects in Sudan, including Sudan's First State of Environment and Outlook Report 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
AfDB	Provided loans and grants to implement several projects in Sudan including the \$14.96 million "Accelerating Women's Entrepreneurship and Access to Finance (AWEAF) project approved in 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices
Academia		

University of El Fasher (UofEF)	<p>Established in 1975, its structure includes a College of Environmental Sciences and Natural Resources, a Youth Training Center as well as research centers and experimental farms.</p> <p>It aims among other objectives to 1) Conducting applied scientific research related to the needs of the local and national community in order to serve and advance it, 2) Innovating technology and employing it to serve the Sudanese community in cooperation with universities and other higher education institutions in the country; 3) Conserving the Sudanese environment in general and the environment of North Darfur State in particular; 4) Interacting with citizen in the countryside by understanding their problems, recognizing their knowledge and experience; 5) Strengthening scientific, cultural and technical work and cooperation.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to empower youth, and disseminate knowledge generated from the project
Sudan University of Science & Technology, College of Forestry & Range Sciences (SUST)	<p>The university includes 25 colleges, including the College of Forestry & Range Sciences, offering programs at postgraduate levels (doctorate, masters and higher diplomas) and other degrees at the bachelor's and technical diploma levels, as well as training and continuing studies programs</p> <p>The university offers its programs through traditional methods, by affiliation and via e-learning. Relevant programs include agriculture, veterinary, and forests,</p> <p>It has a number of Institutes and research centres including the Institute for Women and Community Development.</p>	Cooperation to design and deliver the FFS curricula and training, as well as to mainstream gender into project interventions, and disseminate knowledge generated from the project
National Centre for Research (NCR)	<p>Established in 1991, is affiliated to the Ministry of Higher Education and Scientific Research, and has a similar status to Sudanese universities. Its conducts scientific and applied research for the purpose of economic and social development in Sudan. The NCR has research relations with several national and international institutes.</p> <p>The Centre includes various Research Institutes including on Environment and Natural Resources, as well as an information and documentation centre, and a publication department. Research is carried out by 180 researchers, with facilities available for foreign scientists interested in working in Sudan.</p>	Cooperation to design and deliver the FFS curricula and training and the design/implementation of CCA-related demonstration practices

University of Khartoum, faculty of Forestry (UofK)	Its faculty of Forestry has 4 departments specialized in Forest Management, Forest Products and Industries, Forest Protection and Conservation and well as Forest Silviculture. It also several institutes including the Institute of Environmental Studies and Peace Research the Institute.	Cooperation to design and deliver the FFFS curricula and training and the design/implementation of CCA-related demonstration practices
CSOs		
Farmers Associations and Unions	Such as the Producers? Organizations in North Darfur State, associations and unions empower and defend the interests of their members	Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices in North Darfur
Gum Arabic Producers Association	Civil society organization that encourages its members to increase production and protect the gum trees	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
SOS Sahel Sudan	Operating in Sudan since 1985, and as an independent Sudanese NGO since 2010. Working to tackle poverty, with experience in natural resource management, capacity building, women's empowerment, local conflict resolution, livelihoods and food security.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Local associations, (Ewaa Azaayna, Alargoona, Azaytona Societies)	Various local CSOs exist within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Herders? Unions in localities	Similar to farmers, livestock producers are structured into associations and unions within the target landscapes, working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices

Women and youth groups	Various women and youth led groups are structured in local CSOs exit within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.	Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices
Private Sector		
Agricultural Cooperatives (agriculture, livestock)	Similar to CSOs, farmers and livestock herders, are also structured into private for-profit entities such as cooperatives, they provide their members with different services and defend their interests.	Consultations and cooperation to support FFS trainings and CCA-related experimentation practices
Private Service providers	These are involved in the procurement and distribution of different goods and services to farmers, livestock herders and fishermen in the landscape, including agricultural inputs and equipment, as well as veterinary products and services.	Consultations and cooperation to support FFS trainings and CCA-related experimentation practices
Private Entrepreneurs	Sudanese women & men are increasingly doing business through digital mediation (using computers and smartphones) through social media platforms, linked to digital communities, to sell typical female consumer goods, such as cosmetics and perfumes.	Consultations and cooperation to support women-led and youth-led start-ups and entrepreneurship along NTFPs value chains at local and national levels
Operators of NTFPs value chains	A number of private producers and small companies are operating along local value chains processing biodiversity-derived products such as NWFPs, extracts from aromatic and medicinal plants.	Consultations and cooperation to valorise NTFPs, structure local value chains and empower women and youth to generate alternative income
Banks and micro-finance institutions (e.g. Agricultural Bank of Sudan)	Such as the Agricultural Bank of Sudan, through its rural finance programs such as the microfinance Initiative (ABSuMI) providing small loans not exceeding SDG 2,000 and oriented towards of entrepreneurs, farmers, pastoralists, herdsman, and craftsmen from small rural families.	Cooperation to close the last-mile in rural micro-finance to establish micro-financing schemes for incomes generating activities through the valorization of NTFPs, and the introduction of clean energy alternatives to fuelwood

Sudatel	A telecommunications and Internet service provider in the Sudan. It reportedly contributed to development projects including the construction of water plants, networks, reservoirs and water pumps in rural areas.	Cooperation to mobilize private cofinancing for interventions related to ICT solutions and providing water-services to people, agriculture and livestock along the migratory corridors in North Darfur
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[1] Darfur Land Administration Assessment: Analysis and Recommendations. UN Human Settlements Programme, UN-Habitat, 2020

[1] See ?Addressing natural resources issues in Darfur through a Participatory and Negotiated Territorial Development approach - preliminary results? (FAO, 2012), and; ?Programme for Agricultural Recovery, Reconstruction and Development in the Darfur Region? (FAO, 2013) and; ?Standing Wealth - Pastoralist Livestock Production and Local Livelihoods in Sudan? (UNEP, 2013) and; the (draft) State Adaptation Plan for North Darfur.

[2] Cabell, J.F. & Oelofse, M. 2012. An Indicator Framework for Assessing Agroecosystem Resilience. Ecology and Society. 17(1): 18.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Please see a detailed Stakeholder Engagement Plan attached.

STAKEHOLDER ENGAGEMENT MATRIX

Stakeholder	Type	Key function within mandate/activity related to the project	Consultation methodology & date of consultations (PPG)	Expected role in project implementation (Implementation)	Comments
Federal Government					

<p>Higher Council for Environment and Natural Resources (HCENR)</p> <p>General Directorate of Policies, Planning and Environmental Awareness (GDPPEA)</p> <p>General Directorate of Environmental Control (GDEC)</p> <p>General Directorate of Sustainable Resource Use and Ecological Balance (GDSRUEB)</p> <p>General Directorate of Climatic Changes, Natural Disasters and Waste Management (GDCCNDWM)</p>	Key	<p>The HCENR is the technical arm of the Council of Ministers of the Government of Sudan, under the Chairmanship of the Prime Minister, in charge of formulating environmental policies, legislation and strategic planning for the conservation and sustainable management of Sudan's environmental and natural resources.</p> <p>GDPPEA supports interventions related to policies and planning, research and information, environmental education and awareness raising</p> <p>GDEC is in charge of environmental inspection, environmental and social impact assessments, as well as biosafety related matters</p> <p>GDSRUEB support interventions related to biodiversity conservation, desertification and land degradation control, and marine environmental protection</p> <p>GDCCNDWM is in charge of matters related to climate change adaptation and mitigation, crisis and natural disasters, waste treatment and pollution control</p>	Regular meetings during PPG phase, including PPG coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	<p>Project Executing Entity</p> <p>Lead entity for cross sectoral coordination among all relevant Government entities at federal and state levels</p>	NA
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Ministry of Agriculture and Forestry (MoAF)	Key	In charge of policy formulation, planning and monitoring of developments, research and extension services for agriculture and overall natural resources protection, conservation and development.	Regular meetings during PPG phase, including PPG coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA
Ministry of Animal Resources (MoAR)	Key	In charge of policy formulation, planning and monitoring of developments, research and extension services for livestock and rangelands. Has a number of associated research centres at federal and state levels	Meetings with key federal and state representatives during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January	Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA

Forest National Corporation (FNC)	Key	Manages all federal forests in the country and is in charge of technical supervision for forests, range and natural resources all over the Sudan; training and qualifying the technical staff in the field of forest and natural resources; dissemination of awareness amongst the officials and citizen in matters relating to forests and natural resources; conducting studies and researches in order to lay out the necessary plans for assessing forests and natural resources all over the Sudan and developing them.	11th, 2021) as well as during coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	Support project interventions related to CCA & Forest extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA
Agricultural Research Corporation (ARC)	Primary	It aims to achieve food security, alleviate poverty, generate income, promote agricultural exports and conserve natural resources. It runs 14 research centres (including the Forestry Research Centres), 27 research stations and employs about 610 staff, out of which more than 300 hold a PhD.		Support project interventions related to CCA & Agricultural extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA

Animal Resources Research Corporation (ARRC)	Primary	It has several research centres working on different thematic of livestock-related research.	Support project interventions related to CCA & livestock extension (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA
General Administration for National Energy Affairs (GANEA)	Key	Working on alternative energies such as solar, wind and hydroelectricity, Biogas, Composting of agricultural waste and Biofuels.	Support project interventions related to CCA & clean energy alternatives (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA
Ministry of Irrigation and Water Resources (MoIWR)	Key	in charge of maintaining the national water infrastructures, developing and efficiently using water resources using cost effective best practices in irrigation, It has a Training and Capacity Development Unit in charge of planning and coordinating specialized training programs in all areas related to water resources, including the preparation of a concept and curriculum for training courses.	Support project interventions related to the integrated management of water resources (Under the Co-lead of the HCENR, the MoAAR and in cooperation with other federal and state entities)	NA

Central Bureau of Statistics (CBS)	Primary	aims to develop a unified and comprehensive up-to-date statistical system, to unite standards and concepts, definitions and statistical terminology into a comprehensive information system which serves as a tool for planning and development in all spheres of life in Sudan.		Will contribute to generate and disseminate useful data related to CCA and livelihoods in North Darfur (Under the co-lead of the HCENR, MoAAR and in cooperation with other federal and state entities)	NA
Ministry of Finance and Economic Planning (MoFEP)	Key	body responsible for managing Sudan's economy, the Ministry aims to invest internal resources and attract external resources towards a sustainable economic pathway in line Sudan's strategic economic and social goals.		Has a key role in mainstreaming CCA and rural livelihoods into budgeting and planning processes	NA
General Directorate of Women and Family Affairs (GDWFA)	Key	in charge of strengthening the capacity of federal and state institutions to deliver specific functions and responsibilities that accounts for gender equality and human rights of women		Will facilitate gender mainstreaming in line with the GAP and the upscaling of gender inclusive practices across productive landscapes in Sudan	NA

Ministry of Higher Education and Scientific Research (MOHE)	Secondary	Aims to provide higher education according to quality and competence standards, to provide students with appropriate knowledge and skills for the job market. It also works to build human resource capacities in various scientific disciplines, develop and disseminate knowledge through scientific research and promote local technology.		Cooperation to design and deliver the FFS curricula and training, as well as to manage and disseminate the knowledge generated from the project	NA
State and Local Government					
State Ministry of Agriculture and Animal Resources (MoAAR) Directorate of Agricultural Sector Directorate of Animal Resources Directorate of Rangelands and Pasture Directorate of Extension and Technology Transfer Directorate of Agricultural Engineering	Key	support the formulation of State land use maps, provide trainings, support the necessary infrastructure and equipment such as roads, irrigation canals, water pumps, improved seeds, veterinary services, valorization and marketing of agricultural products	Meetings during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021)	Will Co-lead the implementation of project interventions at State level in close coordination with the HCENR and other federal and state entities	NA

State Water Councils	Key	Part of the Ministry of Irrigation and Water Resources, in charge of water-related issues at State level such as issuing permissions for the installation of new water yards.	Meetings during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021)	Will facilitate the implementation of project interventions at State level in close coordination with the HCENR, MoAAR and other federal and state entities	NA
Rural Councils and Localities of Um Kedada, Mellit, Kuma, Kebkabya, and Kutum	Key	intended to have a wide range of responsibilities independent of the central government and to derive their authority from regular local elections	Meetings during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021)	Will facilitate the implementation of project interventions at local level in close coordination with the HCENR, MoAAR and other federal and state entities	
International Organization					
FAO	Key	Led detailed project design, FAO representatives participated to the inception and validation workshops, as well as the technical meetings Series during the PPG phase. FAO did also ensure that economies of scale are achieved with the LDCF project in North Darfur during project design and implementation.	GEF Implementing Agency	GEF Implementing Agency. Will support implementation and technical back-stopping.	NA

UNDP	Primary	UNDP has implemented/is implementing several projects in Sudan including ?Darfur Livelihoods Recovery Project?, ?Promoting the Use of Electric Water Pumps for Irrigation in Sudan?, ?Implementing NAPA Priority Interventions to Build Resilience in the Agriculture and Water Sectors?, ?Darfur Community Peace and Stability Fund?, and ?Youth Volunteers Rebuilding Darfur Project (YVRDP)?	Meetings in Khartoum/El-Fasher during exploratory meetings conducted by PPG Team and FAO Sudan	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices	NA
World Bank	Primary	Provided loans and grants through various projects in Sudan with a portfolio of approximately \$130 million. The bank implemented/is currently implementing several projects such as the GEF-funded Sudan Sustainable Natural Resources Management / SSNRMP, the Sustainable Natural Resources Management Project -AF, and the Sustainable Livelihoods for Displaced and Vulnerable Communities in Eastern Sudan.	Meetings in Khartoum/El-Fasher during exploratory meetings conducted by PPG Team and FAO Sudan	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices	NA

IFAD	Primary	Implemented various projects in Sudan, currently the GEF implementation Agency for the Sustainable Natural Resource and Livelihood Adaptive Programme (SNRLAP)	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices	NA
UNEP	Primary	Implementing a number of projects in Sudan, including Sudan's First State of Environment and Outlook Report 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices	NA
AfDB	Primary	Provided loans and grants to implement several projects in Sudan including the \$14.96 million ?Accelerating Women?s Entrepreneurship and Access to Finance (AWEAF) project approved in 2020	Exchange of knowledge and lessons learned to maximize synergies and capitalize on good practices	NA
Academia				

University of El Fasher (UofEF)	Primary	<p>Established in 1975, its structure includes a College of Environmental Sciences and Natural Resources, a Youth Training Center as well as research centers and experimental farms.</p> <p>It aims among other objectives to 1) Conducting applied scientific research related to the needs of the local and national community in order to serve and advance it, 2) Innovating technology and employing it to serve the Sudanese community in cooperation with universities and other higher education institutions in</p>	Meetings with key federal and state representatives during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021) as well as during coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	Cooperation to design and deliver the FFS curricula and training, as well as to empower youth, and disseminate knowledge generated from the project	NA
Sudan University of Science & Technology, College of Forestry & Range Sciences	Secondary	College of Forestry & Range Sciences offering programs at postgraduate levels (doctorate, masters and higher diplomas) and other degrees at the bachelor's and technical diploma levels, as well as training and continuing studies programs. It has a number of Institutes and research centres including the Institute for Women and Community Development.		Cooperation to design and deliver the FFS curricula and training, as well as to mainstream gender into project interventions, and disseminate knowledge generated from the project	NA

National Centre for Research (NCR)	Secondary	<p>Its conducts scientific and applied research for the purpose of economic and social development in Sudan. The NCR has research relations with several national and international institutes.</p> <p>The Centre includes various Research Institutes including on Environment and Natural Resources, as well as an information and documentation centre, and a publication department. Research is carried out by 180 researchers, with facilities available for foreign scientists interested in working in Sudan.</p>	Cooperation to design and deliver the FFS curricula and training and the design/implementation of CCA-related demonstration practices	NA
University of Khartoum, faculty of Forestry	Secondary	<p>Its faculty of Forestry has 4 departments specialized in Forest Management, Forest Products and Industries, Forest Protection and Conservation and well as Forest Silviculture. It also several institutes including the Institute of Environmental Studies and Peace Research the Institute.</p>	Cooperation to design and deliver the FFS curricula and training and the design/implementation of CCA-related demonstration practices	NA

CSOs					
Farmers Associations and Unions	Primary	Such as the Producers? Organizations in North Darfur State, associations and unions empower and defend the interests of their members	Meetings with key federal and state representatives during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021) as well as during coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices in North Darfur	NA
Gum Arabic Producers Association	Secondary	Civil society organization that encourages its members to increase production and protect the gum trees		Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices	NA
SOS Sahel Sudan	Primary	Operating in Sudan since 1985, and as an independent Sudanese NGO since 2010. Working to tackle poverty, with experience in natural resource management, capacity building, women's empowerment, local conflict resolution, livelihoods and food security.		Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices	NA
Local associations, (Ewaa Azaayna, Alargoan, Azaytona Societies)	Primary	Various local CSO's exist within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.		Consultations and cooperation to develop community-inclusive land management plans, deliver FFS training and CCA-related demonstration practices	NA

Herders? Unions in localities	Primary	Similar to farmers, livestock producers are structured into associations and unions within the target landscapes, working on a wide array of community-related thematics.		Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices	NA
Women and youth groups	Primary	Various women and youth led groups are structured in local CSO's exit within the target landscapes, these are structured into local associations working on a wide array of community-related thematics.		Consultations and cooperation to develop community-inclusive land management plans, deliver FFFS training and CCA-related demonstration practices	NA
Private Sector					
Agricultural Cooperatives (agriculture, livestock)	Primary	Similar to CSOs, farmers and livestock herders, are also structured into private for-profit entities such as cooperatives, they provide their members with different services and defend their interests.	Meetings with key federal and state representatives during field missions conducted in North Darfur (25 October-01 November, 2020, December 26th, 2020, and January 11th, 2021) as well as during coordination and validation workshops respectively on March 3rd, 2021 and April 1st, 2021	Consultations and cooperation to support FFS trainings and CCA-related experimentation practices	NA
Private Service providers	Primary	These are involved in the procurement and distribution of different goods and services to farmers, livestock herders and fishermen in the landscape, including agricultural inputs and equipment, as well as veterinary products and services.		Consultations and cooperation to support FFS trainings and CCA-related experimentation practices	NA

Private Entrepreneurs	Primary	Sudanese women & men are increasingly doing business through digital mediation (using computers and smartphones) through social media platforms, linked to digital communities, to sell typical female consumer goods, such as cosmetics and perfumes.		Consultations and cooperation to support women-led and youth-led start-ups and entrepreneurship along NTFPs value chains at local and national levels	NA
Operators of NTFPs value chains	Secondary	A number of private producers and small companies are operating along local value chains processing biodiversity-derived products such as NWFPs, extracts from aromatic and medicinal plants.		Consultations and cooperation to valorise NTFPs, structure local value chains and empower women and youth to generate alternative income	NA
Banks and micro-finance institutions (e.g. Agricultural Bank of Sudan)	Secondary	Such as the Agricultural Bank of Sudan, through its rural finance programs such as the microfinance Initiative (ABSuMI) providing small loans not exceeding SDG 2,000 and oriented towards of entrepreneurs, farmers, pastoralists, herdsmen, and craftsmen from small rural families.		Cooperation to close the last-mile in rural micro-finance to establish micro-financing schemes for incomes generating activities through the valorization of NTFPs, and the introduction of clean energy alternatives to fuelwood	NA

Sudatel	Primary	A telecommunications and Internet service provider in the Sudan. It reportedly contributed to development projects including the construction of water plants, networks, reservoirs and water pumps in rural areas.		Cooperation to mobilize private cofinancing for interventions related to ICT solutions and providing water-services to people, agriculture and livestock along the migratory corridors in North Darfur	NA
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In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Stakeholder engagement during project Implementation^[1]

1. To build on the participatory approach and the engagement process initiated during project design, different engagement interventions are fully embedded in each of the project components. A mapping of key stakeholder groups was conducted based on the analysis of stakeholders who have interest in the projects, those expected to be directly or indirectly affected by project interventions, and those having the potential to influence project outcomes.

Engagement Methods

3. The project will be organizing over 100 consultations across the 20 villages covered by the project in the 5 target localities in North Darfur, these are structured into focus groups, participatory planning meetings, as well as women and youth empowerment workshops. Methods that will be used to engage and/or consult with each of the stakeholder groups identified include Interviews with stakeholder representatives and key informants; Surveys, polls and questionnaires; Public meetings and/or focus groups with specific groups; Participatory methods; as well as other traditional mechanisms for consultation and decision making.

4. Methods that will be used to communicate with each of the stakeholder groups identified include Newspapers, posters, radio, television; Information counters and exhibitions, or other visual display; Brochures, leaflets, posters, non-technical summary documents and reports. Also, giving CV-19 limitations, logistical and security related challenges, the project will be using ICTs to receive feedback and to ensure ongoing communications with stakeholders outside of formal consultation meetings.

Monitoring and Reporting

M&E and reporting milestones	How stakeholders will be involved
PPR	The PPR will be prepared by the PMU, under the lead of the NPC, and the overall oversight of the GPC, by June 30 th and December 31 st of each implementation year. The PPR will be shared with key relevant stakeholders for their inputs and their comments duly addressed in the final version of the PPRs.
PIR	The PIR will be conducted following an inclusive and participatory approach. At the beginning of each PIR exercise, a participatory workshop will be organized to navigate the requirements and deadlines. Inputs from key relevant stakeholders will be collected by the PMU, in coordination with the GPC/HCENR, PMU/MoAAW and GEF OFP/HCENR.
MTR	During the MTR exercise, extensive consultations will be facilitated by the PMU to enable the external evaluators assess the progress achieved by the project towards meeting its mid-term targets, identify bottleneck and propose potential corrective measures and management responses to put the project on-track.
TE	Similar to the MTR, during the TE exercise, extensive consultations will be facilitated by the PMU to enable the external evaluators assess the progress achieved by the project towards meeting its end-targets, identify potential successes and failures, codify lessons learned, and recommend management responses to sustain project achievements and results.

[1] Please include identification and consultations of disadvantage and vulnerable groups/individuals in line with the [GEF policy on Stakeholder Engagement](#) and [GEF Environmental and Social Safeguard](#).

[2] Darfur Land Administration Assessment: Analysis and Recommendations. UN Human Settlements Programme, UN-Habitat, 2020

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Summary of Gender Analysis and Action Plan

2. The gender analysis and action plan developed during the PPG phase aim to enable women, men, youth, elderly, vulnerable populations sub-categories, and other social groups within the intervention's sites in North Darfur, to equally benefit from its interventions. To do so, gender-disaggregated data was extracted from the available literature and complemented by field surveys conducted between December 2020 and January 2021 using the Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP+) tool. The assessment covered a comprehensive overview of the livelihoods of 64 rural-based households, with women making 39% of the total respondents in 3 targeted localities namely Kuma, Mellit, and Umm Kadada. It examined the prevailing socio-economic characteristics, status, and conditions of the resources farmers and pastoralists have access to, climate hazards and impacts, agronomic practices in place, among others. Representatives from the two other targeted localities namely Kutum and Kebkabya, which could not be covered by the household survey due to security and CV-19 related restrictions, were invited to El Fasher to attend focus group discussions and capture their inputs during the same period.

3. A clinic approach was used to gather expert views and triangulate the findings from the desk review, the SHARP survey, and inputs from experts and resource persons to draft the Gender Analysis, Gender Action Plan, and mainstream gender aspects into project design and implementation.

4. Women's empowerment and issues of gender equality are fully integrated within the project design. Women are critical stakeholders and target beneficiaries. Women are highly engaged in rural economic practices. The project will have specific avenues for women participation and benefits. This includes provisions reflect in Component 1 (planning), Component 2 (practice) and Component 3 (knowledge). The project, for instance, will establish FFS that specifically target women and issues of empowerment. This includes FFS designed for women cohorts. The project will also work with the Government of Sudan to increase the presence and role of women in extension services. This will greatly facilitate empowerment and engagement. The project will follow gender related guidelines of both GEF and FAO. The project's results framework has indicators that are designed to track positive impacts in terms of benefits and empowerment with indicators and associated monitoring disaggregated by gender.

5. The project is designed to be consistent with the GEF Policy on Gender Mainstreaming which was adopted in 2017 highlighting an enhanced ambition to investing in gender equality and women's empowerment to deliver the results expected from GEF-funded projects and achieve global environmental benefits. The policy paves the way for GEF projects to go beyond a gender-sensitive 'do-no-harm' approach towards a gender-responsive 'do-good' approach which can ultimately create the enabling environment for gender-transformational change and achieve impact at a larger scale by bringing both men and women as part of the GEF-funded solutions.

6. The project is also in line with FAO's revised gender Policy on Gender Equality 2020-2030, which recognizes the persisting inequalities between women and men which limit women's economic potential as economic agents and act as key obstacles to building sustainable and inclusive food systems and peaceful societies. The policy aims to address the root causes of gendered inequalities in agriculture and food systems to unleash the true potential of rural women and girls as part of the solution to eliminate hunger and poverty in the next decade.

7. While considering the limitations of this work giving data gaps and the limited number of households covered through field investigations, the general picture arising from the analysis of sex and gender-disaggregated data available during the PPG portrays significant gender inequalities and severe disparities between rural and urban Sudan which need to be effectively addressed during project implementation. In line with its gender mainstreaming strategy, the project will contribute to challenging the existing gender norms and overtime uproot the drivers of gender inequality. To do so, women living in pastoral and agropastoral communities in northern Darfur will be empowered to be part of the solution to build more sustainable foundations for climate adaptation and enhance resilience to achieve SDG5 and put Sudan on a pathway towards green recovery in the aftermath of the Covid-19 crisis.

8. There are prevailing gender disparities in the economy due to the gendered roles assigned to women and men. These are more pronounced, in rural Sudan where women hugely contribute to generating income and producing food for the household. Women make 78% of the economically active population working in Agriculture in Sudan. They mostly produce subsistence-based products meant for household consumption. Even when women can generate a relatively good income from agricultural labor it is spent on maintaining the household.

9. Cultural traditions in Sudan can greatly influence men's and women's behaviors, this is again more pronounced in rural areas, where women may not be able for instance to use bicycles and wheelbarrows as means of transportation. Furthermore, the prevailing social norms and stereotypes are hindering women's control over productive assets such as land, and access to productive inputs, equipment, information, and financial services. Even though women are granted ownership rights over land and the right to inheritance, such rights could be disregarded or challenged by the existing social norms. Even when women own land, they may not be the ones controlling the way it is being used, or making decisions about how the revenues derived from land-use should be allocated. Men's resistance to change not to lose the old privileges and

cumbersome administrative processes may also discourage women from playing effective roles, especially in the rural economy.

10. Women's limited access to markets considering that products marketing is mostly carried out by men, combined with constraints facing women's education to acquire the skills needed to perform qualified jobs, in addition to the triple burden of domestic work, caregiving, and women being mostly involved in production and community activities as unpaid family workers, are some of the major obstacles impeding the graduation of women in pastoral and agropastoral communities into the mainstream livelihood economy. For example, women tend to sell their products in weekly villages while men have relatively better access to markets. From the household surveys, it was noted that 84% of women bear the responsibility of domestic work, childcare and care of the elderly. Likewise, women seem to have lower capacity, in terms of knowledge, skills and resources, to handle and transform their agricultural production to add value and/or reduce loss, compared to men. Simple hand grinders for grains can save time and decrease the manual work burden affecting women and children. These are serious barriers hindering women from improving their productivity and income.

11. Across the 5 localities and 20 villages targeted by this project, communities' women and men are mainly involved in agriculture, livestock, or a combination of both. Farmers in the localities of Kabakabiya and Kutum are mainly producing millet, watermelon, beans such as faba bean, and vegetables such as onions, tomato, and other leafy products cultivated in wet flooded land known as neily along water streams called wadies. Communities in the localities of Umkadada, Kuma, and Mellit are mainly cultivating millet, with some ground nuts and sesame especially during the last three years with relatively favorable rainfall. In nomadic pastoral communities, livestock is mainly composed of sheep, goats, camels, and cows.

12. Tasks related to milking and cleaning animal sheds, feed collection, and transportation, sales of milk and dairy products are generally attributed to both genders with women and men performing such tasks depending on contexts. For example, in the nomadic Baggara pastoralist communities in Darfur, women milk the cows and decide how much milk will be given to children, used to make butter and ghee for household consumption, left for men and guests, or processed for sale. While in the agropastoral communities such as the Beja people in eastern Sudan, cows are mostly milked by men and boys who allocate the milk for different uses.

13. In the face of droughts, women tend to be disproportionately affected. During the 1984 drought in the Butana plains, men migrated to urban centers for job opportunities, and women from the Shukriya clan were left to take care of heavy household duties, and face water scarcity during the summer season[1].

14. Across the localities targeted by the project in North, Darfur women were found to play key roles in the agricultural and pastoral economy. Women are farmers who do participate in all agricultural activities such as planting and harvesting. Women are also nomads who build

seasonal shelters, feed and milk small animals, and process livestock products to increase the income of the pastoral family.

15. Women's adaptive capacity was showcased along years of conflicts driving women to expand their roles despite the traditional norms. In Darfur, women became heads of their households, they make about 80-90% of the workforce in agriculture and have joined the workforce building towns in Nyala and El Fasher. In Darfur's IDP camps, women became housebuilders, learned new jobs, and became involved in the petty trading of food items such as vegetables to provide for their families.

16. Sudanese women do also play a crucial role as the custodians of traditional knowledge related to natural resources and agriculture, in preventing land degradation, adapting to climate change, and ensuring food security. In rural Sudan, women are farmers and livestock herders, if empowered they could play a more proactive role as champions of resilience at local, state, and national levels. Empowering women to be part of the solution, is an additional step to make in the right direction.

17. In most villages consulted during the PPG phase, the villagers agreed that women and men are both contributing to agricultural and pastoral activities. In the village of Umhimaira in the locality of Um Kadada, women leaders in the village committee received micro-financing to introduce 20 gas cylinders used in the household for cooking, heating, and lightening. This investment was hugely needed by community women to ease the household burden on them giving their considerable workload working in farming activities. Not only were the women leaders capable of collecting the payments from the beneficiaries but they also reinvested then to introduce another 130 gas cylinders to have a gas cylinder for each household in the community. While some men in the village confessed that projects implemented by women 'only lead to success', some women still faced major difficulties including a lack of cooperation from their husbands.

18. Women do also play a major role in ensuring food security in North Darfur localities by farming plots of land called 'Jubra'. Women growing agricultural products such as fruits and vegetables can fulfil the crucial nutritional needs of households in terms of plant and animal-based proteins, especially in times of scarcity and delayed harvests.

19. The key challenges and constraints facing women in the targeted landscapes include the lack of technical skills and access to inputs, finance, information and productive assets. These include phytosanitary and veterinary products, credit and funding, weather forecasts and early warning systems, as well as the appropriate set of skills to increase crop yields and livestock productivity, in addition to engaging in alternative income-generating activities.

20. By empowering women living in farming and pastoral communities in North Darfur to generate income by locally adding value to nature-based products, strengthening their skills and

facilitating their access to markets, the project is expected to directly contribute to the 3rd objective of FAO's gender policy 'Women and men have equal rights and access to services, markets, and decent work and equal control over the resulting income and benefits'. It will also indirectly contribute to objectives 1, 2, and 4 by enhancing women's participation in decision making through community-level participatory management plans of natural resources, and by challenging overtime the social norms hindering women's access and control over productive assets, as well as by reducing the triple burden shouldered by rural women in the intervention sites.

21. A recent study completed by UN Environment in North Darfur[2] found that gender-based disparities in Sudan are substantial with differences particularly prevalent in natural resource management. This includes challenges related to access to and control over resources, ownership and marketing. The recent conflicts have had a particular damaging impact on women in Darfur[3]. One notable impact has been the creation of a large number of women-headed households in vulnerable communities, as the men have migrated in search of work or to protect their land. Women in the mobile pastoralist communities (one of the two target communities of this Project) are traditionally very reserved. The project looks forward to addressing this highly complex challenge.

22. This Project will acknowledge gender differences, it will assess and comprehensively understand them, and it will then design and implement activities that promote women's empowerment and gender equality. The Project will seek to lessen the impact of climate change on women and other particularly vulnerable groups and contribute to women's empowerment and gender equality.

23. The project will adopt a participatory approach for maximum impact through the inclusion of all relevant social groups, including marginalized people (e.g. unemployed youth), with attention to the participation and inclusion of women whilst respecting the norms, values and customs of targeted communities. A project specific gender mainstreaming plan will be developed during the project design with actions to be taken under each component and necessary budgetary provision as appropriate. The assessment will be used to monitor at the household and State levels: the number of female resource users; the number of women headed households; the differentiated impacts of climate change and drought on women; the different knowledge base of men and women; strategies for mainstreaming gender into natural resource management; strategies for optimizing the participation of women in natural resource management and optimizing their economic benefit.

24. The results framework ensures inclusion and participation of women and girls both in site-based project activities (such as the development of alternative income generating activities, conservation actions, and activities aimed at capacity enhancement), as well as ensuring that opportunities are created for women to take up positions of leadership within the management hierarchy of the project governance structures. The initial gender target is that at least 50% of those directly benefitting from the project will be women.

25. The key recommendations to mainstream gender into project interventions towards a gender transformative impact can be summarized as follow:

<i>Proposed interventions</i>	How women will benefit?
<i>Establishing tree nurseries of Acacia tree species and other nonwoody plants in dedicated woodlots in the targeted villages along the livestock corridors</i>	<p>? By training women on tree plantation techniques to learn new skills and earn some income (from working in agroforestry and selling tree seeds from non-woody plants).</p> <p>1.</p> <p>? Maintaining woodlots around villages to provide firewood and tree cover will reduce the burden on women foraging for scarce firewood while mitigating exposure to security risks or sexual violence among women trekking to remote areas.</p>
<i>Provisioning of water sources such as dams, hafirs, and wells, as well as capacity building on water management practices</i>	<p>? This will reduce the burden on women fetching water for household needs as well as for livestock consumption which in return decreases the time women and men can spend on income-generating activities.</p> <p>? Access to water and education will enable women to improve the yields in their gardens, given that women's access to wetland waters from temporary riverbeds or ?wadis? is restricted due to conflicts</p> <p>? Improved use of water management practices, such as water harvesting, mulching and small-scale irrigation, will enhance women's access to water and adaptive capacity to changes in climate, reflected in erratic rainfall, droughts and floods</p>
<i>Introduce cleaner energy sources for cooking, heating, and lightening such as solar cookstoves including through the use of micro-finance</i>	<p>? To reduce exposure to indoor air pollution (from firewood and charcoal) and associated health risks especially among women and children while also decrease the cost of cooking, heating, and lightening for poor households</p>
<i>Demarcation of livestock corridors</i>	<p>? To reduce conflicts between pastoralists and farmers which resulted in tribal wars that in return increased the number of widowed women and female-headed households</p>
<i>Support women livelihoods through gender transformative and income-generating investments</i>	<p>? Providing agricultural inputs/material (seeds, plows?) and livestock services (vaccination, veterinary care?) to women-headed HH</p> <p>? Facilitating women's access to financial services such as capital and microfinance to invest in dairy livestock and cash crops, make handicrafts, farm fruit and vegetable gardens to fulfill the nutritional needs of their households, as well as to process products such as onions, okra, or tomato drying.</p> <p>? Providing CC tolerant seed varieties of crops such as Millet, Dura, groundnuts, sesame, and watermelon</p> <p>? Providing feedstuff for goats and sheep usually looked after by women</p> <p>? Facilitate women's access to markets to sell their products</p> <p>? Strengthen women's capacity to handle their agricultural production (e.g., hygienic treatment, transformation, drying) to increase the value of their produce and reduce post-harvest losses</p>

<i>Introduce early warning systems (text messages or mobile apps)</i>	? To reduce the huge losses reported following flash floods in vegetable and fruit gardens run by women and men (mostly women)
<i>Capacity Building</i>	? To enable women to gain critical technical and managerial skills along the value chain of agricultural and livestock products in North Darfur

[1] <http://www.fao.org/3/CA3455EN/ca3455en.pdf>

[2] UNEP, 2014. Gender Mainstreaming in the Wadi El Ku Catchment Management Project.

[3] It is noted that, prior to the conflicts, gender equality and women's empowerment were greater in Darfur than in other regions of Sudan.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

Private Sector Engagement

1. As detailed in the project framework, the main beneficiaries and project stakeholders are private sector producers (i.e. agro-pastoralists, pastoralists and farmers). These private sector actors will be actively engaged in project activities, including implementation.

2. ?Smallholders and Private producers? are farmers and pastoralists who produce commodities. These farms and pastoral businesses focus upon the production and sale of

agriculture and livestock goods and services. They are often motivated by both profit and household subsistence. Smallholders and Private producers in the Sudanese context cover three general categories: pastoralists, agropastoralists, and sedentary farmers.

3. ?Private enterprise? incorporates the broader private sector associated with livestock and agricultural production. Private enterprise may be inclusive of private producers and private merchants. Merchants supply private ranchers and farmers with goods and services. This may include production inputs such as feed, fertilizer, and equipment and/or the sale and marketing of farm and ranch commodities.

4. Assisting private producers to identify and implement improved practices is the primary project objective. However, private producers along with private merchants, government extension officers and government regulators determine pricing, marketing and other value chains issues. This combination of actors ultimately determines and incentives the adoption of improved practices.

5. Successful engagement with the private sector is critical to the project achieving desired SLM, SFM and LDN impacts. The project targets private sector agriculture and livestock producers. The project also targets forest product users. The project will integrate a variety of private sector players across value chains. This includes suppliers of inputs, purchasers of commodities, and end users. The project will work with private tourism operations, particularly in the Chobe region. The project will engage these private sector actors through a variety of actions. The private sector will be consulted with and expected to provide insights and directions to the development and implementation of Component 1 land use planning. The private sector will be the target beneficiary of Component 2 practice improvements. The private sector will also be a target beneficiary of Component 3's knowledge management platforms. This includes making certain knowledge management tools are designed and operated so that the private sector accesses these tools, provides inputs to these tools and gains knowledge from this tools that results directly in the uptake of sustainable management practices that result in positive SFM, SLM, and LDN impacts along with increased profitability, food security, and climate change resilience. Engagement will be facilitated through existing coordination bodies, including organizations representing agriculture and livestock producers and tourism interests as detailed in the stakeholder analysis.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Section A: Risks to the Project

1. The risks to the project have been identified and analysed during the project preparation phase and mitigation measures have been incorporated into the project design (see Table below). With the support and oversight of FAO, the Project's National Steering Committee (NSC) will be responsible for managing these risks as well as the effective implementation of mitigation measures. The Monitoring and Evaluation (M&E) system will serve to monitor outcome and output indicators, risks to the project and mitigation measures. The National Project Steering Committee will also be responsible for monitoring the effectiveness of mitigation measures and adjusting mitigation strategies accordingly, as well as identifying and managing any new risks that have not been identified during Project preparation, in collaboration with Project partners.

2. The six-monthly Project Progress Reports (PPR) are the main tool for risk monitoring and management. The PPRs include a section covering the systematic monitoring of risks and mitigation actions that were identified in the previous PPRs. The PPRs also include a section for the identification of possible new risks or risks that still need to be addressed, risk rating and mitigation actions, as well as those responsible for monitoring such actions and estimated timeframes. FAO will closely monitor project risk management and will support the adjustment and implementation of mitigation strategies. The preparation of risk monitoring reports and their rating will also be part of the Annual Project Implementation Review Report (PIR) prepared by FAO and submitted to the GEF Secretariat.

Risk	Impact/Probability Rating (Low: 1 to High: 5)	Management Strategy
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<p>Security challenges mean the Project cannot implement activities at chosen sites. Very high levels of insecurity in previous years made implementation of development activities in many parts of Darfur impossible.</p>	<p>Impact: 4 Probability: 3</p>	<p>The security situation in North Darfur is currently better than in recent years.</p> <p>Recent political changes in Sudan will likely generate some adjustments in terms of governance. However, the fundamental concern of the government and represented stakeholders regarding the importance of addressing the barriers and challenges covered by this project will likely remain high with strong support consistent.</p> <p>This may represent an opportunity for the project to have a pro-active role in supporting any revisions to institutional and policy frameworks.</p> <p>The Project will invest in developing and maintaining strong working relations with all stakeholder groups (this has already started), thereby increasing its acceptance by all groups and its accessibility to all sites.</p> <p>Insecurity tends to flare-up and be localized and be of a short duration. As the Project will work in many sites, during insecure periods at one site, the Project will continue implementation at other sites, meaning such insecurity leads to delays rather than stopping the Project.</p>
<p>Outside forces pull the stakeholder groups apart, making conflict resolution and community agreements impossible.</p> <p>The conflicts in Darfur are complex and multi-faceted; even if communities are happy to cooperate at one site, external forces may pull them apart.</p>	<p>Impact: 3 Probability: 3</p>	<p>Progress is being made on the overall Darfur peace process, with broad support from the international community, and it is to be hoped that this will continue.</p> <p>Whereas outside forces may lead to temporary challenges at some sites, it is very unlikely that these challenges will be sustained or widespread ? hence this challenge should lead to delays rather than stopping the Project.</p>

Weak vertical and horizontal coordination undermines the Project efficiency. Capacity is low in government agencies in Darfur, and there are many Projects implemented, by local, national and international agencies, through different modalities. There is a danger of duplication and confusion.	Impact: 3 Probability: 2	<p>Given the recent history in Darfur, there will of course be some inefficiencies in the implementation of all projects, but this will not be a major factor.</p> <p>The role of the North Darfur NAP Technical Committee in supporting coordination will be key, and the Project will build their capacity in this respect. The project will also benefit from a strong management unit.</p>
Conflicts amongst the resources users at Project sites are insurmountable.	Impact: 3 Probability: 2	One of the criteria for selecting sites is the possibility of success; sites with very high level conflicts have and will continue to be avoided.
<p>Animal disease epidemic.</p> <p>Should the Project target areas experience a disease epidemic, it will make it very difficult to test and develop new technologies and practices. It may also make the communities more risk averse, and less willing to participate in the Project.</p>	Impact: 4 Probability: 2	<p>Animal diseases are a common factor and high scale epidemics are unlikely.</p> <p>The Project management will monitor the situation closely and take remedial action if necessary.</p>

<p>Natural resource constraints ? including climate change, drought, and food security - impact project ability to achieve intended results.</p>	<p>Impact: 3 Probability: 3</p>	<p>The project is designed to address and alleviate the current exposure of rural Sudanese to natural resource risks, including those related to climate change, drought and food insecurity. Each of the project activities is directed to take an integrated approach to these issues, shifting current unsustainable management/production regimes to sustainable management/production. This will directly alleviate impacts related to climate change and, particularly, water scarcity. Likewise, similar approaches will be applied to fisheries and livestock sectors. The project will assist producers to approach these sectors using practices designed to improve landscape management and production to enhance CC resilience, reduce drought exposure, and improve long-term food security. In addition, the project's final results framework integrates these specific natural resource risks. This includes monitoring progress against improvements to CC resilience/adaptation, exposure to drought risks, and improvements to food security and nutrition.</p>
<p>The on-going global pandemic may impact project implementation.</p>	<p>Impact: 4 Probability: 3</p>	<p>Sudan is struggling with Covid-19 despite on-going monitoring and management efforts. Management approaches including border and travel restrictions may hamper implementation. The project will continue to monitor the situation as implementation approaches. The project is anticipated to be fully operational after the initial inception period by approximately March 2022. Hopefully by this point, the global pandemic will have subsided and some restrictions will be lifted. Regardless, the project will adapt as necessary. FAO has adopted a draft response for their portfolio of projects. This includes mitigation options such as modified working arrangements that allow for continued implementation while reducing exposure risks.</p>

COVID-19

3. The COVID-19 situation is on-going and fluid. COVID will likely impact program implementation. However, the extent of this impact is unknown and will depend in part upon global events (e.g., progress with treatment, testing, and inoculation) and decisions made by the Government of Sudan during late 2021 prior to project inception and implementation.

4. Between 3 January 2020 to 24 March 2021, Sudan had approximately 31,282 confirmed cases of Covid-19 with 2,003 related deaths. As of 15 March 2021, a total of 270 vaccine doses have been administered[1]. As part of the response to Covid-19, a federal emergency operating center, a refugee consultation forum, and an IDP camp coordination task force was established.

5. Covid-19 is exacerbating Sudan's vulnerable humanitarian situations by worsening the economic crisis, pushing the health system to its limits and threatening food security as a result of lockdown measures. Containment measures disrupted road and air transportation, limited access to goods and services, disrupted livelihoods and education activities, and increased Gender Based Violence. It negatively affected essential health coverage and efforts to provide medication, immunization and surveillance related to a number of diseases such as polio, Acute Flaccid Paralysis, cholera, measles. Between June and September 2020, 9.6 million people were estimated to be in high acute food insecurity[2], an increase of 65% compared to the same period of 2019[3]. The number of children facing extreme hunger doubled from 521,000 to 1.1 million in the aftermath of the Covid-19 pandemic[4].

6. FAO and Government partners are constantly monitoring the situation and will determine the best approaches to mitigate potential issues as things move forward. The PPG phase has allowed us to consider potential Covid-19 restrictions within the design phase. This includes front-loading the project's components with activities that can more easily be accomplished through remote technical support and/or by locally placed government staff able to move freely within identified zones. These partners are following the guidance and input of GEF as it evolves. As noted, the use of remote support has been quite effective to date linking international, regional, and national technical staff together.

7. The project will continue to follow the established programming direction and strategies. The project's inception phase will likely be in late 2021. At this time, much more clarity will be in place regarding the Covid-19 situation and associated restrictions. The project at inception will integrate COVID-19 considerations within the implementation strategy and action framework. This will include prioritizing implementation activities and adjusting the timing of these activities to address existing and potential COVID-19 considerations and concerns. This will include an elucidation of such concerns and a well-reasoned strategic response. The approach will integrate these concerns within associated risk analysis, taking into consideration issues such as availability

of technical expertise, impacts to stakeholder engagement, effects upon enabling environments, and financing issues.

8. At the same time, the project will consider opportunities for this GEF investment to 'make a difference'. This may include opportunities to lower environmental impacts and associated health risk exposures to limit the potential impacts of COVID-19. This is particularly pertinent to this project since it is designed to focus upon improving sustainable agriculture across productive landscapes with a direct linkage to improving environmental and human health. The project will also consider and integrate methodologies to monitor and evaluate COVID-19 related impacts to project design and implementation. In this way, the program will contribute to overall GEF capacity to innovate pro-active and effective responses to COVID-19 issues within existing and future programming.

Climate risks summary

9. As noted in the 'context' section, issues related to climate change have been systematically considered and analyzed. An analysis of climate risks was conducted during the PPG with findings integrated within the final project design and will be carried forward during implementation. Please see the annex for the complete analysis with key findings summarized here.

10. Sudan is located in the eastern edge of the Saharan desert along the Red Sea and divided north to south by the Nile River Basin. Along the border with Egypt, average annual rainfall is less than 25 mm, the northern regions are extremely arid, while the country's climate becomes increasingly moist towards the south, with areas receiving just over 800 mm in the extreme south (RoS, 2014). Characteristic of the region, the onset of the single rainy season is driven by the northward movements of the Inter-Tropical Convergence Zone (ITCZ) drawing moisture laden air into the arid interior. Annual mean temperatures are high, ranging from 26 °C to 32 °C, with annual average maximal temperatures rising to 33°C to 39°C (World Bank, 2020; SMA, 2018).

11. The Darfur region is characterized by high temperatures, low and variable rainfall, making the threat of future changes to the climate, in terms of potential impacts on agricultural productivity and human welfare, very high in the region. Water is the principal limiting factor for all agricultural and socio-economic activities in Darfur due to high evapotranspiration rates, scarce rainfall and high rainfall variability. Darfur's climate is principally arid and semi-arid with annual rainfall ranging from under 100 mm in the very North to possibly 500 mm in the very South. Darfur's rainfall is highly variable in both geographical and temporal terms. For El Fashr, there is a great inter-annual variability in both total annual rainfall and number of rainy days during the period 1917-1986.^[5] Available data suggests that average rainfall has declined over the past century. For example, the 200mm isohyet moved South across most of North Darfur between 1940-70 and 1977-86.

12. Historical trends in maximum and minimum temperature both show a marked increase in North Darfur over the period 1989 – 2020 from The European Centre for Medium-Range Weather Forecasts ECMWF, with a more significant increase in minimum temperature when compared to maximum. These trends show that the combined mean temperature increase in North Darfur over the period has been nearly twice as fast as the global average – 1.95 °C vs 0.89 °C (NOAA, 2020). This rate of temperature increase translates into a 12.8 percent rise in potential evapotranspiration for North Darfur, capable of removing an additional 97 mm of soil moisture annually.[6]

13. The ND-GAIN vulnerability index[7], which measures overall vulnerability by considering food, water, health, ecosystem service, human habitat, and infrastructure, currently ranks Sudan the 6th most vulnerable country in the world (175th of 181 countries – the 181st is most vulnerable). The ND-GAIN index uses the framework of the IPCC's 4th assessment report (IPCC, 2007) in assessing vulnerability, where: Vulnerability = (exposure x sensitivity) – adaptive capacity. Sudan ranks among the most exposed (177th of 192 countries – the 192nd is most exposed), most sensitive countries (167th of 171 countries – the 171st is most sensitive) and lowest in adaptive capacity (164th of 180 countries – the 180th has the least adaptive capacity).

14. In terms of food security, national averages of caloric supply and protein have shown a slight improvement since 2011, while the percentage of individuals undernourished has declined from 23.5 percent in 2011-2013 to 20 percent in 2016-2018 (FAOSTAT). At the household level, food security and household income are closely linked, with 60 percent to 75 percent of rural households' annual net food buyers (WFP, 2018). The higher poverty rates in the rural areas, 58 percent versus 27 percent in urban areas, combine with the extreme variability in rainfed agricultural production in defining the food insecurity experienced by the majority of households. Poorer households, female-headed household and those with highest levels of food insecurity, are all more dependent on agricultural activities than the wealthier and more food secure households (ibid). Darfur states have the highest dependence on crop agriculture and livestock, poverty and food insecurity (ibid).

15. A number of studies have examined the climate change impacts on agriculture in Sudan. Similar to the findings of FAO's own analysis carried out in preparing this proposal, the World Food Programme and the UK Met Office showed in their nationwide vulnerability assessment that the potential, slight increase in future precipitation is likely to be dwarfed by the impact of higher temperatures on evaporation, exacerbated by increased surface run-off due to land degradation from inappropriate farming practices and overgrazing (WFP, 2016). Sudan's National Adaptation Plan of Action has forecast that the humid agro-climatic zones are likely to continue shifting southward, rendering areas of the north increasingly unsuitable for agriculture, which in turn will contribute to increasing resource scarcity (RoS, 2007). Sudan's Second Communication under the UNFCCC found that the areas suitable for agriculture are expected to decrease in size with negative impacts for both local incomes and food security (RoS, 2013a). The adverse impacts of climate change may impact some areas indirectly as agriculture in the drier parts of Sudan become less productive, leading to an exodus of inhabitants, elevating the risk of conflict over resources further south (RoS, 2016). As part of the growing body of evidence on the relationship between climate change and

social tensions and violence, studies carried out elsewhere in the Sahel have found that resource scarcity and migration of ethnic groups have in some cases triggered latent conflicts and lead to the emergence of new outbursts of violence over natural resources (Benjaminsen et al., 2012; Homer-Dixon, 1994; 1999).

16. The population in Darfur is increasing with a rising number of households concentrated in smaller areas creating a more competitive landscape for limited resource access. Pastoralists arrive earlier in the rainy season and increasingly encroach on crop land. Sedentary farmers increasingly adopt livestock as a risk management mechanism and extend their cropping areas. The agro-pastoralists hold higher numbers of livestock, requiring more resources while they continue to extend their cropping areas to feed their growing households.

17. Historically, the migration routes extended throughout the entire Darfur region and many continued into Chad and South Sudan. To some extent the conflicts in the late 20th century were fuelled by disputes over access to land and water. Traditionally, the herder communities spend the short rainy season in these areas in North Darfur. Historically, customary management arrangements ensured that the level of inter-community conflicts was low and any conflicts were highly localised therefore agro-pastoralist and pastoralist communities co-existed.

18. The end of the 20th Century witnessed great instability and costly civil conflict in Darfur. According to many experts, although this conflict had some roots dating back several centuries, it was aggravated by several factors including: increasing population pressure, a changing climate, a degraded natural resource base and limited capacities. Apart from the very high cost in human lives, the conflict led to very high numbers of internally displaced persons (IDPs) and it devastated the social structure and economy in Darfur. It has also contributed to the further degradation of the natural resource base, which is also increasingly threatened by climate change.

19. Pastoralist communities in Sudan, with highly variable and risk-prone ecologies, natural feed and water are uncertain and changing. The ability to constantly move animals to where feed and water can be found, while avoiding areas of conflict, disease, pests and degradation, is fundamental. This is also recognized in the new (draft) national Livestock policy, which counts protection and rehabilitation of stock routes, and dispute resolution to reduce conflict between mobile pastoralists and sedentary farmers, among its priorities.[\[8\]](#)

20. The assessment made the following recommendations each of which are reflected within the final project design and will be integrated and reflected within the vulnerability assessments, LUPs, extension services and supported innovative practices, and on-going monitoring, assessment and informed decision-making support tools.

Proposed Intervention	Description of Adaptation and Mitigation benefits
Protection and rehabilitation of stock routes, and dispute resolution to reduce conflict between mobile pastoralists and sedentary farmers	Livestock mobility network analysis is required during the months when scarce rainfall impedes the regeneration of pastures and animals are constantly moved looking for better grassland areas. Protection and conflict resolution to reduce vulnerability of pastoralists is a priority in Sudan's draft national livestock policy.
Renegotiating livestock corridors with other land users	Mapping and renegotiation of livestock corridors will reduce potential conflict between pastoralists and farmers as well as ensure sustainable management and use of land and water resources
Early warning systems for pastoralists	At a national level, Sudan is developing climate-extreme early warnings and early action systems as well as livestock/pastoralist tailored information for early action. Investments should be made in bringing this information to communities in North Darfur and also further tailoring the information to local contexts.
Rotational grazing	Rotational grazing reduces overgrazing, improves soil fertility, increases vegetation cover, and allows a higher number of animals to be fed on the same surface.
Cut and carry fodder systems	Cut and carry fodder systems reduces grazing pressure, and limits conflicts associated with livestock movement as local communities harvest grass within the ex-closure and carry back the fodder to their homestead areas where the livestock is kept. This may be coupled with mechanical harvesting and baling of natural fodder and construction of stores to preserve fodder specially against termites.
Develop climate-resilient training material for agro-pastoralist field schools	While extensive research and best practices exist in terms of climate resilient and climate smart pastoral and agricultural practices, training material and pilot programmes developed should incorporate specific contextual information and local knowledge to ensure sustainability and relevance of practices for participants.

Heat/drought tolerant crops	Promotion of crops with a high temperature tolerance at key phenological phases. For instance, millet and sorghum can withstand better heat-stress conditions than maize and rice. Cultivars with a short cycle should be prioritized to reduce the exposure to heat-stress conditions a dry-spells occurring during the wet season. FAO has recently promoted crops in Mauritania with a high resistance to abiotic stress, e.g. quinoa, showing low water input requirements (300-400mm) and high temperature tolerance at flowering (36-38°C) along the Sahel region. The quinoa cultivars showing a higher performance in the Sahelian region include cv. Titicaca and Puno. Additionally, the International Centre for Agricultural Research in Dry Areas has started testing heat-tolerant varieties of wheat (35-40°C). These varieties are now being tested along the Senegal river basin.
Introduction of irrigation	Irrigation is an artificial application of water to the soil. It is usually used to assist in growing crops in dry areas and during periods of inadequate rainfall. Although only 8% of the crop land in USA is irrigated, it produces about 25% of the total value of farm crops.
Training material tailored to local practices and climate-challenges identified	Develop training material for agro-pastoralist field schools using best practices and climate smart curriculum, informed by local context and traditional knowledge of farming practices and climate impacts
Optimizing crop calendars	Optimal crop calendars based on historical climate data and seasonal forecast will support decision-making, avoiding heat-stress conditions at sensitive phenological phases while increasing yields.
Agroforestry	The mitigation and adaptation benefits of combining crops and fruit trees are multiple, including (i) offset of greenhouse gas emissions, (ii) stabilization of ground soil and reduction of soil erosion, (iii) enhancement of soil health and increase in soil organic matter and nutrient availability, (iv) canopy cover of trees reduces soil evaporation and decreases air and soil surface temperature. Fodder trees can also be grown as substitute or supplement to a basal diet including crop residues. In addition, trees provide shade that protect farm animals from excessive heat and air temperature.
Mulching	This practice has multiple benefits as it increases the soil moisture by reducing losses from direct evaporation, reduces weed growth by keeping light from reaching the soil surface, moderates soil temperatures by keeping the soil warmer during the cold nights and cooler in hot days, and reduces water requirements by reducing losses from direct evaporation.

Agronomic practices (e.g. weeding, harrowing, grafting, and mulching)	All of these practices are of interest for this project as it can reduce soil water losses from plant transpiration. For instance, cover crops (preferably with leguminous crops that fix nitrogen in the soil) can reduce soil erosion by increasing soil organic matter, water/nutrient availability for the plant. Another possible practice is to support the covering of the soil with crop residues in combination with no-tillage can reduce the exposure of crops to heat-stress conditions. The latter practices allows to increase soil moisture by reducing direct soil evaporation.
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[1] <https://covid19.who.int/region/emro/country/sd>

[2] IPC, 2020
https://reliefweb.int/sites/reliefweb.int/files/resources/IPC_Sudan_AcuteFoodInsecurity_2020JuneDec_Snapshot.pdf

[3] OCHA, 2020 bis

[4] <https://www.savethechildren.net/news/number-sudanese-children-facing-extreme-hunger-doubles-11-million-due-impact-covid-19>

[5] Draft North Darfur State Adaptation Plan, 2015.

[6] Calculations of the potential evapotranspiration were performed using Thornthwaite's equation; commonly used when meteorological parameters other than temperature and latitude are unknown. The equation is known to under-estimate the actual rate of evapotranspiration.

[7] <https://gain.nd.edu/our-work/country-index/rankings/> (accessed 07/02/2020)

[8] See pp. 36-39 in RoS 2018a Livestock policies in Sudan. Ministry of Animal Resources, Khartoum.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

6. Institutional Arrangements and Coordination.

6.a Institutional arrangements for project implementation.

Executing Agency

1. The HCENR will have the overall executing and technical responsibility for the project, with FAO providing oversight as GEF Agency as described below. HCENR will act as the lead executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership Agreement signed with FAO. As Executing Agency of the project, HCENR is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements.

Coordination

2. The project will actively coordinate with relevant Government Ministries, Departments and Agencies, UN Agencies, and other development partners as well as NGOs, private enterprises and research institutions to facilitate synergies and avoid duplication of efforts. Coordination will take place through established mechanisms including Project Steering Committee, sharing of reports and ad hoc meetings. This will be supported by a technically strong management unit.

3. At the national level, HCENR will be responsible for coordination. The Project takes place within the framework of the National Adaptation Plan (NAP) which has established a national coordination mechanism, supported by HCENR. The HCENR, will ensure coordination with all related activities, including activities of MOAR, MOAF, ARC and FNC. FAO, as GEF Agency, will be responsible for ensuring coordination with other internationally supported initiatives, including those financed by GEF.

4. At the State level, the Project takes place with the framework of the DDS and the North Darfur Adaptation Plan, both of which have established coordination mechanisms. Notably the inter-sectoral North Darfur NAP Technical Committee will take the lead for coordination at the State level. Coordination will also be advanced by the North Darfur State Ministry of Agriculture and Livestock. Supported by a technically strong management unit, the North Darfur State Ministry will therefore be the main executing partner of the project.

Component/Outputs	Lead Responsible Agency	Supporting Entities
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Component 1: Participatory sustainable land and resource use planning strategically addresses climate change adaptation and mitigates resource-based conflicts

<p>Output 1.1</p> <p>Participatory climate response conflict resolution and decision-making structures in place.</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
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<p>Output 1.2:</p> <p>Strategic sustainable land use management framework operational to support private sector adaptation and resilience.</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
<p>Component 2: Pastoralists and farmers adopt sustainable, climate resilient practices and livelihoods</p>		

<p>Output 2.1:</p> <p>Concrete investments identified and implemented to strengthen the resilience of private producers (i.e. individual entrepreneurs, which are generally family farmers, pastoralists and agro-pastoralists, and MSMEs).</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
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<p>Output 2.2:</p> <p>Agro-pastoral Field Schools support application of climate resilient production practices</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
<p>Output 3.1: Lessons learnt captured, mainstreamed and upscaled</p>		

<p>Output 3.1:</p> <p>Results strengthen national level resilience and adaptation policies</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
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Output 3.2 Project lessons captured and disseminated.	HCENR	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
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<p>Output 3.3:</p> <p>Effective Monitoring and Evaluation Implemented</p>	<p>HCENR</p>	<p>North Darfur State Ministry of Agriculture and Livestock</p> <p>National Commission of farmers and pastoralists</p> <p>North Darfur State Commission of nomads and pastoralists</p> <p>Ministry of Agriculture and Forestry</p> <p>Ministry of Animal Resources</p> <p>Ministry of Irrigation and Water Resources</p> <p>State Water Corporation</p> <p>Agricultural Research Corporation</p> <p>Animal Resources Research Corporation</p> <p>Forestry Research Centre</p> <p>General Administration for National Energy Affairs</p> <p>General Directorate of Women and Family Affairs</p> <p>Rural Councils</p> <p>University of El Fasher (UofEF)</p> <p>Farmers/Herders Associations and Unions</p> <p>Women and youth groups</p> <p>NGOs, CSOs, CBOs</p> <p>Private sector actors</p>
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Government Project Coordinator

5. The government will designate a Government Project Coordinator (GPC). Located in HCENR offices in Khartoum, the GPC will be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. S/he will also be responsible for supervising and guiding the Project Coordinator (see below) on the government policies and priorities.

Project Steering Committee

6. The GPC will chair the Project Steering Committee which will be the main governing body of the project. The PSC will approve Annual Work Plans and Budgets on a yearly basis and will provide strategic guidance to the Project Management Team and to all executing partners. The members of the PSC will each assume the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each key institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; and (iv) facilitate the provision of co-financing to the project.

7. The National Project Coordinator (see below) will be the Secretary to the PSC. The PSC will meet at least twice per year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the project and other ongoing projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of government partner work under this project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget; vii) Making by consensus, management decisions when guidance is required by the National Project Coordinator of the PMU.

Proposed Steering Committee Membership	
Organization Represented	Position within Organization
HCENR	SG
HCENR	GPC
State Ministry of Agriculture and Animal Resources	DG
Ministry of Agriculture and Forestry	Under secretary
Ministry of Animal Resources	Under secretary
Ministry of Irrigation and Water Resources	Under secretary
General Administration for National Energy Affairs	DG

State Water Corporation	DG
Darfur Land Commission	DG
FNC	DG
ARC	DG
ARRC	DG
Representative of Partner Universities	Dean
Representative of Partner CSOs	To be selected at project inception
FAO	Assistant FAOR (Programme)

National Project Coordinator

8. The National Project Coordinator (NPC) will be in charge of daily implementation, management, administration and technical supervision of the project, on behalf of HCENR and within the framework delineated by the PSC.

9. The NPC will be generally be responsible for:

- coordinating the project with relevant baseline initiatives;
- ensuring a high level of collaboration among participating institutions and organizations at the national and local levels;
- ensuring compliance with all OPA provisions during the implementation, including on timely reporting and financial management;
- coordinating and monitoring closely the implementation of project activities;
- tracking the project's progress and ensuring timely delivery of inputs and outputs;
- providing technical support and assessing the outputs of the project national consultants hired with GEF funds, as well as the products generated in the implementation of the project;
- approve and manage requests for provision of financial resources using provided format in OPA annexes;

- monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;
- ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;
- maintaining documentation and evidence that describes the proper and prudent use of project resources as per OPA provisions, including making available this supporting documentation to FAO and designated auditors when requested;
- implementing and managing the project's monitoring and communications plans;
- organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;
- submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO;
- preparing the first draft of the Project Implementation Review (PIR);
- supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED);
- submitting the OP six-monthly technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;
- inform the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

Project Management Unit

10. A Project Management Unit (PMU) will be co-funded by the GEF and established within Executing Agency's central office. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will be composed of a National Project Coordinator (NPC) who will work full-time for the project lifetime.

Project PMU

Position	Qualifications & Experience	Responsibilities
National Project Coordinator	<p>Minimum of 10 years of technical and managerial experience dealing with agro-pastoralism and CCA issues in Sudan</p> <p>Minimum of MSc in Environmental or Biological Sciences (Natural Resources Management, community-based management of natural resources, agro-pastoralism, CCA)</p>	Daily implementation, management, administration and technical supervision of the project, on behalf of HCENR and within the framework delineated by the PSC
State Project Coordinator	<p>Minimum of 5 years of technical and managerial experience dealing with agro-pastoralism and CCA issues in Sudan in general and in North Darfur in particular</p> <p>Minimum of MSc in Environmental or Biological Sciences (Natural Resources Management, community-based management of natural resources, agro-pastoralism, CCA)</p>	Support NPC with daily implementation, management, administration and technical supervision of the project at State level in North Darfur
M&E Specialist	<p>Minimum of 5 years work experience in project monitoring and evaluation.</p> <p>Minimum of Masters-Degree in Project Management, results-based management, development evaluation, or other relevant disciplines.</p>	<p>Design monitoring and reporting tools, support implementation of project's M&E system and ensuring that project are monitored and reported.</p> <p>Will support Knowledge Management, Stakeholder Engagement, and system-wide capacity development.</p>

Admin. & Finance Specialist	<p>Minimum of 10 years in Administrative & Financial Management in Sudan.</p> <p>Minimum of Degree in Finance & Accounting or any other related field.</p>	Responsible for the budget planning, and supports the project management unit by offering insights and financial advice that will allow them to avoid over expenditure.
Gender Specialist	<p>Part-time shared between the Riverine and the LDCF projects.</p> <p>Minimum of 5 years work experience in gender mainstreaming, women empowerment, and other related areas.</p> <p>Minimum of Masters-Degree in gender studies, social sciences, and other relevant disciplines</p>	<p>In charge of mainstreaming gender considerations as stated in the Gender Action Plan into project interventions, and report on progress achieved to the M&E Specialist</p> <p>Will support Knowledge Management, Stakeholder Engagement, and system-wide capacity development.</p>

Implementing Agency: FAO

11. The Food and Agriculture Organization (FAO) will be the GEF Implementing Agency (IA) for the Project, providing project cycle management and support services as established in the GEF Policy. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. In the IA role, FAO will utilise the GEF fees to deploy three different actors within the organization to support the project (see Annex J for details):

Position	Description	Contact Information
Budget Holder	Usually the most decentralized FAO office, will provide oversight of day-to-day project execution.	FAO Representative in Sudan Mr. Babagana Ahmadu

Lead Technical Officer	Drawn from across FAO will provide oversight/support to the projects technical work in coordination with government representatives participating in the Project Steering Committee.	Osman, AbdalMonium (OER)
Funding Liaison Officer(s)	Within FAO will monitor and support the project cycle to ensure that the project is being carried out and reporting done in accordance with agreed standards and requirements.	VeyretPicot, Maude (OCB) Bergigui, Mohamed (OCBD) Dottori, Arianna (OCBD)

12. As the GEF agency FAO responsibilities will generally include:

- Administrate funds from GEF in accordance with the rules and procedures of FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s) and other rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;
- Conduct at least one supervision mission per year;
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation and the Project Closure Report on project progress; and
- Ensure financial reporting to the GEF Trustee.

Financial Flow
Institutional Modality
Close Cooperation

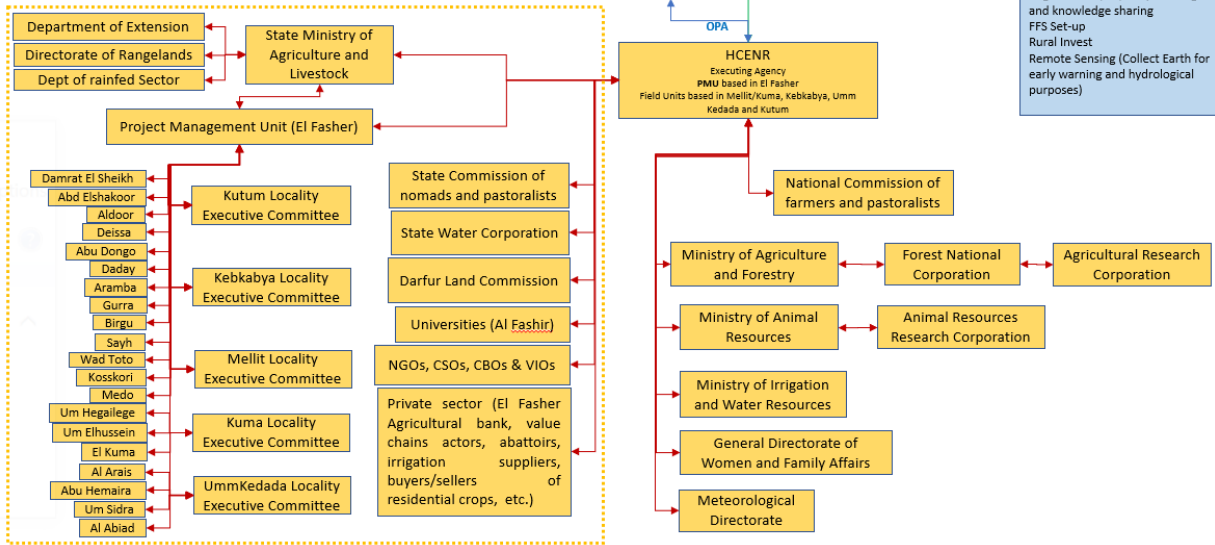
National Project Steering Committee
HCENR, MoA, MoAR, MoWRI, State Ministry of Agriculture and Livestock, National Commission of farmers and pastoralists, State Commission of nomads and pastoralists, Darfur Land Commission, FNC, ARC, ARRC and FAO

GEF

FAO

OPA

FAO Technical advisory Support
Regional Hub, capacity building
and knowledge sharing
FFS Set-up
Rural Invest
Remote Sensing (Collect Earth for
early warning and hydrological
purposes)



Coordination with other relevant GEF-financed projects and other initiatives.

13. As explained above, the project will also establish appropriate coordination, knowledge management and innovation mainstreaming mechanisms to enable cross-learning and mutual supportiveness, while promoting south-south and triangular cooperation with other similar projects in the Sahel region, more specifically with the ?Agriculture and Livestock Producer Resilience in South-East Mauritania? project which will be implemented by FAO in Mauritania during the same period (2022-2025).
14. Relevant GEF Programming: As tabulated under the baseline analysis, there are a number of on-going and recently completed GEF investments that are relevant to this proposed project. The lessons learned from these projects are integrated and reflected in this project?s design.
15. FAO is supporting the design and implementation of a second GEF- 7 BD project: Landscape Approach to Riverine Forest Restoration, Biodiversity Conservation and Livelihood Improvement. During the implementation phase of both projects, opportunities to generate synergy and cost-sharing between these projects will be explored. This will include working to make certain that any lessons learned that could potentially be used to inform and strengthen both projects will be carefully aligned.
16. Quarterly GEF Portfolio Manager Meetings: To make certain that the proposed project is well-aligned with recently completed and on-going GEF investments, FAO will propose that quarterly meetings take place that involve the project managers and coordinators for each of the relevant GEF projects. This will serve as an opportunity for these parties to exchange information and updates and to build additional synergies across the GEF platform.
17. Project Engagement: In addition, the FAO/GEF project will invite representatives from each of the relevant GEF projects to engage as appropriate in workshops, meetings, and other activities associated with the on-going FAO/GEF project. The FAO/GEF project will also add relevant stakeholders associated with the on-going GEF portfolio to mailing lists (e.g., monthly reports) and provide access to knowledge management and communications platforms. This will include encouraging other projects within the GEF project portfolio to actively contribute to relevant knowledge management and communications tools. This will help to ensure alignment, reduced duplication of efforts, efficient use of GEF resources, and build amplification of responses to degradation across higher levels.
18. Coordination will make certain that other GEF projects are engaged through invitation to participate in appropriate capacity building efforts and the provision of outputs and knowledge products. Coordination will also include regular meetings and discussions to be facilitated by this proposed project between executing agencies responsible for implementation of the various GEF

financed initiatives. The specific coordination mechanisms is reflected in the final project document's management description and reflected in the stakeholder engagement strategy.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

7. Consistency with National Priorities

1. The project is consistent with the following national strategies and plans, and reports to relevant international conventions. The proposed project is consistent with relevant national and Darfur specific priorities as indicated by several strategies and plans. The Project takes place within the framework of the UNFCCC and National Adaptation Plan (NAP) which established a national coordination mechanism supported by HCENR.

2. Sudan's Initial National Communication (INC) was submitted to the UNFCCC in 2003. It recorded that climate change, including decreasing annual rainfall, increasing rainfall variability and increasing average annual temperatures, was causing challenges such as a reduction in ecosystem integrity, a decrease in biodiversity, a decline in crop yields and an increase in disease outbreaks and insect infestations. It identified agriculture, water and health as the highest priority sectors and provided an assessment of the likely impacts of climate change on these sectors. It highlighted the importance of adaptation measures for rain-fed farming and pastoral systems. Similarly, Sudan's Second National Communication (2013) included projections demonstrating that climate change will impact pastoralist and agro-pastoralist livelihoods, notably by affecting water resources. It records that climate change related 'drought threatens' traditional farms, as well as the livelihoods of many pastoral and nomadic groups.

3. The National Adaptation Plan of Action (NAPA) process aimed to determine urgent and priority interventions to adapt to climate change. A major focus was on food security by building the adaptive capacities of the rural population, particularly of rainfed farming and pastoral communities. The NAPA process identified 5 distinct ecological zones with high levels of vulnerability^[1], one of which covers most of Darfur. The NAPA identified States for initial pilot adaptation activities, and South Darfur was selected for the initial pilot activities, reflecting the improved knowledge base and high interest of the local authorities at that time.

4. National Adaptation Plan (NAP) has not yet been approved by parliament. Following from the NAPA process, the NAP process has been a more thorough and strategic process to identify

mid- and long-term adaptation needs, covering all States in Sudan. It focuses upon the agriculture, water and health. The assessments identified clear priorities, actions, and directions for further investment and implementation modalities. The NAP process was highly consultative and science-based. It included significant capacity development at the State level, including the establishment of State level NAP Focal Points, inter-agency NAP Technical Committees and State Adaptation Plans. The proposed Project builds on these institutions in North Darfur. The NAP identifies the following localities in North Darfur as being vulnerable in terms of agriculture, rangelands and water: El Fasher, Komoi, Almalha, Mileet, Umkadada, Um Baro, Karnoy and Alteena. It recommends a list of adaptation measures for natural resources, including: projects to improve natural pastures and livestock production, and improvement of rangeland and livestock production and water harvesting for the purposes of agriculture.

5. The Nationally Determined Contribution (NDC) states that Sudan's land use, land-use change and forestry (LULUCF) account for a large proportion of the country's greenhouse gas emissions. Sudan's INDC explicitly links the Government's LULUCF mitigation effort with the national climate change adaptation agenda, as articulated in both its NDC and National Adaptation Plan (NAP). The proposed project will thus contribute to the following goals specified in Sudan's NDC: "Management of the grazing areas and rangelands in a sustainable manner. Enhancement of enabling environment in order to empower vulnerable communities including through: Improving marketing/markets, supplementary feeding, increased awareness and access to information by vulnerable groups/communities, etc. Improving animal productivity and animal breeds to increase resilience to climate change. Replanting and rehabilitating of vulnerable areas with palatable range species and management of animal routes. Diversification of income generating activities in order to increase adaptive capacity of vulnerable farmers' communities in order to achieve food security/reduce poverty"

6. In 2011, the main conflicting parties committed to the Doha Document for Peace in Darfur (DDPD). The DDPD sets out a framework for a comprehensive peace process in Darfur. Subsequently, with support from the international community, a broad and consultative process determined a peace and development vision and strategy for Darfur. The *Developing Darfur: A Reconstruction and Recovery Strategy* (DDS) is the principal planning and strategy document for peace and development in Darfur. Its stated aim is "realising short-term and medium-term objectives in the fields of rehabilitation, reconstruction, construction and development taking into consideration urgent needs and the need to work out the basis for long-term development" giving special attention to programmes and projects which will enable Darfur to speed up the transition from relief to development. The DDS consists of a series of foundational and start-up activities, and then three pillars for medium and long-term development. This proposed LDCF Project contributes to the third pillar, i.e. Economic Recovery. Notably it contributes to the *Programme for Agricultural Recovery, Reconstruction and Development in the Darfur Region* (FAO, 2013) under the DDS.

7. The Interim Poverty Reduction Strategy Papers I and II (2011-2016) give importance to development of the livestock sector as a contributor to the overall economy, to exports, and to support small scale and mobile producers.
8. The Inter-governmental Authority on African Development (IGAD)[2] and its Initiative to End Drought Emergencies in the Horn of Africa are based upon a detailed assessment of the agriculture sector. The resulting Sudan Country Programming Paper (2014) aims to 'improve livelihoods and increase resilience capacities of the different economic sectors of the drought-prone communities in the rainfed and irrigated areas of the country.' The documents recommend 21 outcomes/components with 72 priority interventions in livelihood resilience and economic recovery prioritizing drylands and drought-prone areas and linked to the National Drought Resilience Initiative (NDRI).
9. The Developing Darfur: A Reconstruction and Recovery Strategy? (DDS) constitutes the main vehicle for coordinating and mobilising investment, including to pastoralism and agro-pastoralist activities.
10. UNDAF 2018 - 2021 Outcome 2, i.e.: 'By 2021, people's resilience to consequences of climate change, environmental stresses and natural hazards is enhanced through strengthened institutions, policies, plans and programmes'.
11. FAO's Country Programming Framework (2017-2020) Priority 3 on Disaster Risk Management and Resilience Building, Output 3.1 'Enhanced Disaster Risk Management (DRM) and Climate Change mitigation and adaptation initiatives focusing on livelihoods and food security' and Output 3.3 'Increased resilience of livelihoods to shocks that impact agriculture, food, nutrition, and economic sustainability'.
12. FAO Strategic Objective (SO) 5 and SO2, i.e. 'Increase the resilience of livelihoods from disaster' and 'Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner'

[1] Following secession, one of the five lies in what is now South Sudan.

[2] IGAD is an eight country trade bloc of nations in the Horn of Africa and Nile Basin. It was originally developed in response to drought and desertification.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

8. Knowledge Management

Knowledge Management Approach

1. Knowledge management will be an integral part of the project, enabling institutional memory, promoting learning and continuous improvement, generating documents for up-scaling of lessons and best practices. Specific knowledge management activities are incorporated within the project's components and will be conducted in support of capacity building and training actions under the different components. The broader dissemination of experience and lessons learnt generated by the project will be also pursued through engaging national and regional technical and educational institutions, and regionally and internationally through South-South cooperation mechanisms.
2. Building on the indicators developed during PPG and in coordination with the global IP Program, the project will establish systems for M&E, knowledge management and knowledge sharing including a methodology to capture good practices and lessons learned contributing to national, regional and global IP implementation. the project will develop a knowledge management and communications strategy to support implementation, replication and scaling of project activities. Under Component 1, the land use planning process will generate information and provide a platform for monitoring and adaptive management that will contribute to knowledge management improvements relatives to the achievement of objectives. Much of Component 2 is designed around the AFFS approach. Knowledge generation, distribution and management are each fundamental to AFFS. Component 3 is nearly entirely dedicated to knowledge management. This includes conduits for information flow at and between all partners.
3. Part of this knowledge management approach includes working to integrate lessons learned from past and on-going projects. As detailed in the baseline, the project design took a very inclusive and broad look at on-going investments and programs by the Government, donors, and other stakeholders. This was done to not only make certain the proposed project is aligned with this on-going baseline and will provide incremental improvements, but also to make certain lessons learned are reflected and pathways are in place to bring new knowledge and lessons within this proposed project's actions and innovations to build synergy and scale.
4. FAO will also take a lead in disseminating knowledge projects regionally and globally. For example, across the near east and North Africa, the FAO regional programme is helping countries to achieve sustainable food security and helping vulnerable communities to cope with shocks and crises. It is notably doing this through several targeted initiatives on water scarcity, building resilience and nutrition. The proposed Project lessons learnt will feed into these initiatives (as well as benefitting from them). Finally, FAO will ensure that knowledge is circulated at the global level.

5. Climate change adaptation remains a relatively new sector and much knowledge needs to be acquired, assessed, stored and shared. This needs to happen at the State, national and international levels. Hence this project has activities to contribute to this process. The knowledge management activities are to be planned from the onset and will feed into existing systems for knowledge management. Component 3 includes activities to capture knowledge through the Project activities, including the generation of best practices document and other media supports. The following section explains how that knowledge will then be stored and disseminated at appropriate levels.

6. At the State level, the Project will build technical capacity of the NAP Technical Committee. The TC is to be mandated with promoting adaptation into the future. It consists of many technical agencies, including the ARC and FNC. Hence, by building the TC capacity, and working with TC members, the Project directly contributes to knowledge management at the State level.

7. At the national level, the Project is implemented with the NAP framework. All concerned national natural resource ministers are to be involved in following the Project. Notably the knowledge generated by the Project will be disseminated through the HCENR. Moreover, FAO, as an active member of many national committees and network[1], will ensure that all knowledge is appropriately disseminated at the national level.

Communication Strategy

The project under Component 3 will design a full communications strategy. As described in the Component, this strategy will integrate innovative tools, including web-based and smartphone based technologies designed to engage and inform stakeholders at many levels. The communications strategy will incorporate within it specific monitoring tools to make certain that target audiences are reached, that target audiences are engaged and contributing, and that communications are actually resulting in improved practices and positive impacts. Progress on this communication strategy and the aligned knowledge management approach will be monitored and reported upon throughout the project period. As with all project investments, the project will make certain through the handover strategy that advances made in terms of knowledge management and communication are sustained and enduring. The project strives to assist Sudan to build the initial framework required and to then provide this framework in a form and function so that it can be perpetually maintained and improved to drive forward on-going improvements.

[1] For example, FAO was recently requested by IGAD to be on the National Committee for Drought Resilience.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

9. Monitoring and Evaluation.

1. Project supervision will be carried out by the Project Steering Committee (PSC) and FAO.
2. Supervision will ensure that: (a) project products are produced in accordance with the project results framework and lead to the achievement of project results; (b) the results of the project lead to the achievement of the project objective; (c) the risks are continuously identified and monitored, and appropriate mitigation strategies are applied; and (d) the agreed global environmental benefits of the project are being delivered.
3. FAO will monitor the activities, products and results financed by the GEF to a large extent through annual project implementation reports (PIR), and periodic support and supervision missions.
4. The daily monitoring of the project will be carried out by the Project Management Unit (PMU) and the person responsible for the FAO budget.
5. Project performance will be monitored using the project results matrix, including indicators (baseline and goals), and annual work plans and budgets. At the beginning, the results matrix will be reviewed to finalize the identification of: i) products ii) indicators; and iii) lack of baseline information and goals.
6. A Monitoring and Evaluation (M&E) specialist will develop a detailed M&E plan, which is based on the results matrix and defines the specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.).
7. The project will design a strategic implementation strategy detailing steps and benchmarks for deliverables covering the entire project period. This implementation strategy will be completed prior to the inception workshop and will be used to guide and monitor implementation progress in parallel with project impact monitoring and evaluation. The implementation strategy will prioritize and detail implementation actions. This will include firm timelines for the professional completion of deliverables required to realize the intended project objective and associated GEBs.
8. The GEF evaluation policy foresees that all medium and large size projects require a separate terminal evaluation. Such evaluation provides: i) accountability on results, processes, and performance; ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.
9. The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized

independent terminal evaluation of this project under the guidance and support of OED and will be responsible for quality assurance. Independent external evaluators will conduct the terminal evaluation of the project taking into account the "GEF Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects." FAO Office of Evaluation (OED) will provide technical assistance throughout the evaluation process, via the OED Decentralized Evaluation Support team ? in particular, it will also give quality assurance feedback on: selection of the external evaluators, Terms of Reference of the evaluation, draft and final report. OED will be responsible for the quality assessment of the terminal evaluation report, including the GEF ratings.

10. After the completion of the terminal evaluation, the BH will be responsible to prepare the management response to the evaluation within 4 weeks and share it with national partners, GEF OFP, OED and the FAO-GEF CU.

Budgeted M&E Plan

M&E activities	Responsible	Time frame	Budget, USD
Initial Workshop	NPC with NFP support FAO Representation in Sudan	Within three (3) months after the signature of the project document by the country	2,500
Initial Workshop report	NPC with NFP support	Within two (2) weeks following the Initial Workshop	NPC and NFP
Annual Work Plan and Budget (AWP/B)	Prepares NPC with support from the LTO, and the BH with support from the National Budget and Operations Officer PMU and Interinstitutional Technical Team contributions PSC approval	Annual; at the beginning of the project and subsequently, every calendar year	National counterpart, NPC and Agency Fee
Support and supervision visits	LTO, PMU	At least once a year	PMU, Agency Fee and specific activities
	M&E Expert	Targeted M&E support during 2 weeks / year over 3 years	6,000

M&E activities	Responsible	Time frame	Budget, USD
Impact monitoring and reporting: Implementation of monitoring framework to support informed decision-making across components	M&E Expert, PMU, LTO	Throughout project implementation	\$51,984
Project Progress Report (PPR)	NPC, LTO, BH	Every six (6) months (June and December)	NPC y Agency Fee
Project Implementation Report (PIR)	Prepares NPC with PMU inputs LTO and BH supervision Approval and submission to the GEF by PSC	Annual	National counterpart, NPC and Agency Fee
Co-financing Report	PMU	Annual (with the PIR)	PMU
Mid-Term Review	External consultants PMU and Interinstitutional Technical Team	At the Project Mid-Term	25,000
Final Evaluation	The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED.	At least three (6) months before project closure	33,000
Final Project Report	Consultant with PMU support LTO and BH supervision Approval and submission to the GEF by PSC	Within two months after project closure	3,000
Specific project budget for M&E activities			\$121,484

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

10. Benefits

1. The project will directly benefit approximately 50,000 rural producers. The livelihoods of these producers are currently challenged due in large part to the inability to address degradation challenges. The project will reverse this trend by providing producers with the opportunities to access knowledge, information, capacity and experience to adopt improved practices. These practices will result in GEBs, but also increased the standards of living, food security, and climate change resiliency of these at-risk rural dwellers. This will include providing residents to access to greater profitability through sustained production methods and ability to better realize gains from existing and new markets.
2. Employment is an on-going challenge. By improving these practices, increased livelihoods, and income the project is expected to have knock-on impacts in terms of economic development and associated increases in employment opportunity.
3. At the governance level, national benefits will accrue to a variety of agencies. This will include the ability to more efficiently and effectively address degradation issues. The results of more strategic and collaborative approaches to degradation will also increase the cost-effectiveness of current divergent investments. These investments and associated human resources will be harmonized to directly address degradation and increase synergistic responses. This will include capacity building, limited supply of better equipment, and access to knowledge and capacity based upon best international and regional principles and practices.
4. As noted, the project will pay special attention to these issues with regards to women empowerment and gender equity.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF

CEO
Endorsement/Approval
I

MTR

TE

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Section B: Environmental and Social risks from the project ? ESM Plan

Risk identified	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action
Introduction of new crops and varieties	Moderate	Potential project interventions may include the introduction of short-maturing and draught-resilient crop varieties. Phytosanitary protocols in line with IPPC will be observed.	% of new crop varieties introduced in line with Phytosanitary /IPPC protocols	NA
Transfer of seeds and/or planting materials for cultivation	Moderate	Seeds and/or planting materials provided as part of the investments under components 2, will be from endemic and locally adapted crops and varieties that are accepted by farmers and consumers and it will be ensured that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC	% of endemic and locally adapted seeds and planting materials used in agro-sylvo-pastoral demonstration practices in the target landscapes along the livestock corridors in North Darfur	NA

Reforestation intervention in the target demonstration sites	Moderate	Potential project interventions may include the establishment of tree nurseries and tree belts to shelter food gardens from dust storms. All the recommendations under moderate risk will be followed to mitigate risk.. To do so, the project will adhere to existing national forest policies, forest programmes or equivalent strategies, the project will also observe principles 9, 10, 11 and 12 of the Voluntary Guidelines on Planted Forests.	% of agro-sylvo-pastoral interventions in line with principles 9, 10, 11 and 12 of the Voluntary Guidelines on Planted Forests	NA
Participation of women and youth to value chains interventions	Moderate	The project will undertake specific measures as highlighted in the Gender Action Plan, to empower women, youth and the most vulnerable social sub-groups to generate alternative source of income through the sustainable valorization of agro-sylvo-pastoral products along local value chains.	Percentage of women and youth benefiting for value chain investments and interventions	NA
Community participation into drafting of plans, policies and regulations	Low	The project will take the necessary measures to enable a wider participation of all stakeholders, including women and youth groups as per the Gender Action Plan, in community planning and conflict management processes	Percentage of policy documents and regulations developed with the participation of local communities, including women and youth groups	NA

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ESS Tables SUD919LDF (Darfur) June 15	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Annex A1: Project Results Framework[\[1\]](#)

Result Chain	Indicators	Baseline	Mid-Term Milestone	Targets	Means of Verification	Assumptions
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Project objective: To reduce the vulnerability of pastoral and farming communities to climate change along the migratory routes in North Darfur and improve their social protection, food security and nutritional status.	Number of vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation	0 women and 0 men Vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation	10,000 women and 10,000 men Vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation	25,000 women and 25,000 men Vulnerable agro-pastoralists with increased resilience through innovation for climate change adaptation	Semi-annual reports from project emplaced monitoring SHARP analysis Project reports Farmers interviews Field observations MTR and Final Reports EX-ACT assessment results	Capacity built by project to adequately monitor results Strong government and stakeholder engagement Improved practices adopted.
Component 1: Participatory sustainable land and resource use planning strategically addresses climate change adaptation and mitigates resource-based conflicts						
Result Chain	Indicators	Baseline	Mid-term Milestone	Targets	Means of Verification	Assumptions

Outcome 1: Private sector agriculture and livestock producers cooperatively and effectively managing shared resources to address climate change impacts and build system resilience.	Number of villages that adopt and implement cooperative resource management framework without conflict	0 villages adopt and implement cooperative resource management framework without conflict	10 villages adopt and implement cooperative resource management framework without conflict	20 villages adopt and implement cooperative resource management framework without conflict	Copies of formally adopted land use plans for both project sites	Capacity built efficiently and effectively by project Strong government and stakeholder engagement Improved practices adopted.
	Number of hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.	0 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.	100,000 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.	200,000 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.	Budget reports from Government Semi-annual reports from project implemented monitoring SHARP analysis	
	Number of annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.	0 annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.	1 annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.	3 annual land use planning implementation monitoring reports completed and presented to stakeholders at village level mtgs.	Project reports Field observations MTR and Final	

	Number of livestock annual migration corridors identified and included within a climate resilient land use management planning framework.	0 livestock annual migration corridors identified and included within a climate resilient land use management planning framework.	5 livestock annual migration corridors identified and included within a climate resilient land use management planning framework.	10 livestock annual migration corridors identified and included within a climate resilient land use management planning framework.	Reports EX-ACT assessment results GIS mapping that identifies corridors and climate resilient approaches	
<p><i>Output 1.1</i> Participatory climate response conflict resolution and decision-making structures in place.</p> <p><i>Output 1.2</i> Strategic sustainable land use management framework operational to support private sector adaptation and resilience.</p>						
Component 2: Pastoralists and farmers adopt sustainable, climate resilient practices and livelihoods						
Result Chain	Indicators	Baseline	Mid-term Milestones	Targets	Means of Verification	Assumptions

Outcome 2: North Darfur communities adopt and implement climate resilient agriculture and livestock management approaches	Number of extension officers leading APFS programs designed to deliver resilience improvements	0 extension officers leading APFS programs designed to deliver resilience improvements	25 (50% women/50% men) extension officers leading APFS programs designed to deliver resilience improvements	50 (50% women/50% men) extension officers leading APFS programs designed to deliver resilience improvements	Extension activity reports	Capacity built efficiently and effectively by project
			Men: 50% Women: 50%	Men: 50% Women: 50%	Semi-annual reports from project emplaced monitoring	
	Number of private sector farmers and herders enrolled in APFS.	0 private sector farmers and herders enrolled in APFS.	10,000 private sector farmers and herders enrolled in APFS.	50,000 private sector farmers and herders enrolled in APFS.	APFS attendance reports	Strong government and stakeholder engagement
			Men: 50% Women: 50%	Men: 50% Women: 50%	SHARP analysis	
	Number of nomadic livestock producers reporting improved livestock production values and household nutrition levels as a result of project emplaced actions.	0 nomadic livestock producers reporting improved livestock production values and household nutrition levels as a result of project emplaced actions.	2,000 nomadic livestock producers reporting improved livestock production values and household nutrition levels as a result of project emplaced actions.	5,000 nomadic livestock producers reporting improved livestock production values and household nutrition levels as a result of project emplaced actions.	Project reports	Improved practices adopted.
			Men: 50% Women: 50%	Men: 50% Women: 50%	Private producer interviews Field observations MTR and Final Reports	

	Number of agricultural producers reporting positive production values and improved nutrition as a result of adopting innovative climate resilient practices.	0 agricultural producers reporting positive production values and improved nutrition as a result of adopting innovative climate resilient practices.	10,000 agricultural producers reporting positive production values and improved nutrition as a result of adopting innovative climate resilient practices. Men: 50% Women: 50%	45,000 agricultural producers reporting positive production values and improved nutrition as a result of adopting innovative climate resilient practices. Men: 50% Women: 50%		
<i>Output 2.1 Concrete investments identified and implemented to strengthen the resilience of private producers</i> <i>Output 2.2 Agro-pastoral Field Schools support application of climate resilient production practices</i>						
Component 3: Lessons learnt captured, mainstreamed and upscaled						
Result Chain	Indicators	Baseline	Mid-term Milestone	Targets	Means of Verification	Assumptions
Outcome 3: Best climate resilient and adaptive practices are mainstreamed and being applied at local, regional, and national levels.	Number of model village level land use plans generated with project support and uploaded into knowledge management website/portal as part of HCENR Website for monitoring, reporting, and upscale.	0 model village level land use plans generated with project support and uploaded into knowledge management website/portal as part of HCENR Website for monitoring, reporting, and upscale.	10 model village level land use plans generated with project support and uploaded into knowledge management website/portal as part of HCENR Website for monitoring, reporting, and upscale.	20 model village level land use plans generated with project support and uploaded into knowledge management website/portal as part of HCENR Website for monitoring, reporting, and upscale.	Project reports MTR and Final Reports Government reports	Capacity built efficiently and effectively by project Strong government and stakeholder engagement

	Number of monthly users of project emplaced knowledge management website/portal	0 of monthly users of project emplaced knowledge management website/portal	1,500 monthly users of project emplaced knowledge management website/portal Men: 50% Women: 50%	3,000 monthly users of project emplaced knowledge management website/portal Men: 50% Women: 50%	Extension activity reports Knowledge Management portal monitoring and database	nt Improved practices adopted.
	Hectares of agriculture and pasturelands monitored with results uploaded into KM portal showing positive delivery of climate change resilient production management targets.	0 hectares of agriculture and pasturelands monitored and delivering climate change resilient production management targets. Agriculture: 0 ha Pasture: 0 ha	100,000 hectares of agriculture and pasturelands monitored and delivering climate change resilient production management targets. Agriculture: 50,000 ha Pasture: 50,000 ha	200,000 hectares of agriculture and pasturelands monitored and delivering climate change resilient production management targets. Agriculture: 100,000 ha Pasture: 100,000 ha	Field observations MTR and Final Reports	
	Number of persons subscribed to and receiving monthly project updates and electronic newsletters.	0 persons subscribed to and receiving monthly project updates and electronic newsletters.	1,000 persons subscribed to and receiving monthly project updates and electronic newsletters. Men: 50% Women: 50%	1,200 persons subscribed to and receiving monthly project updates and electronic newsletters. Men: 50% Women: 50%		

	Number of government agencies with budget lines approved allocating adequate financing to continue critical interventions post-project including improved planning, resilient production practices, and monitoring/reporting.	0 government agencies with budget lines approved allocating adequate financing to continue critical interventions post-project including improved planning, resilient production practices, and monitoring/reporting.	0 government agencies with budget lines approved allocating adequate financing to continue critical interventions post-project including improved planning, resilient production practices, and monitoring/reporting.	At least 3 government agencies (HCEMR, MOAR, MOAF) with budget lines approved allocating adequate financing to continue critical interventions post-project including improved planning, resilient production practices, and monitoring/reporting.		
<i>Output 3.1</i>	Results strengthen national level resilience and adaptation policies.					
<i>Output 3.2</i>	Project lessons captured and disseminated.					
<i>Output 3.3</i>	Effective Monitoring and Evaluation Implemented.					

[1] Please note that output based indicators are not mandatory as long as the targets for each output are well defined.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Annex B: Response to Project Reviews

STAP assessment

Part I: Project Information		STAP Comments	Agency Response
GEF ID		10159	-----
Project Title		Resilience of Pastoral and Farming Communities to Climate Change in North Darfur	-----
Date of Screening		8-Dec-19	-----
STAP member Screener		Graciela metternicht	-----
STAP secretariat screener		Guadalupe Duron	-----

STAP Overall Assessment	<p>Minor issues to be considered during the project design. STAP welcomes FAO's project in Sudan on 'Resilience of Pastoral and Farming Communities to Climate Change in North Darfur'.</p> <p>The project seeks to reduce the vulnerability of pastoral and farming communities to climate change along the migratory routes in North Darfur, and to improve their social protection, food security and nutritional status.</p> <p>STAP encourages the project developers to search for innovation and technology transfer beyond the ongoing projects. For instance, given the objective is to act as 'incubation of innovation', STAP recommends engaging with start-up companies that are delivering innovative solutions for securing water (e.g. https://www.sciencemag.org/news/2017/04/new-solarpowered-device-can-pull-water-straight-desert-air; https://www.digitaltrends.com/features/h2grow-world-food-programmehydroponics/; https://insight.wfp.org/growing-food-in-the-algerian-desert-28dc89219a9a; https://insight.wfp.org/an-oasis-in-the-dry-plains-ca0a854b7921).</p> <p>STAP also encourages the project proponents to explore climate-smart agricultural solutions for rangelands agriculture, and to describe how climate smart agriculture, as an integrated approach, will contribute to global environmental benefits and adaptation benefits.</p> <p>The project states it will apply two innovative tools: Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) and Agro-pastoral Field Schools (APFS). However, these tools are no longer innovative, as they are being applied in many other projects. Furthermore, it is unclear how these two approaches will address the key objectives of food security and nutritional status. Therefore, STAP recommends for the project proponents to articulate whether, and how, these tools are the best approaches to tackle the problem. STAP also recommends for the project proponents to</p>	<p>These comments are well-received.</p> <p>During project design, reference was made to Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) Framework. This is now embedded within the project and reflected in the design and approach.</p> <p>https://stapgef.org/sites/default/files/2020-02/RAPTA%20Guidelines.pdf</p> <p>The project will support realization of LDCF outcomes by reducing the vulnerability and increasing the resilience of North Darfur residents through innovation and technological transfer for climate change adaptation.</p> <p>Under Component 1, this will include the use of innovative tools such as VGGT linked to land use planning along with improved grazing and agriculture practices designed to facilitate greater climate change resilience across productive sectors.</p> <p>This will include improving capacity to make informed decisions through assessment and monitoring that specifically targets CCA needs. These efforts will be supported across the project components with major emphasis under Component 3 linked to adaptive management planning under Component 1 and improved, innovative practices and technology transfer under Component 2.</p> <p>Specifically with regards to water management, the Government of Sudan</p>
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Part I: Project Information		-----	
B. Indicative Project Description Summary		-----	
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	<p>Yes. There is a good introduction that identifies drivers, pressures and barriers related to the state of the pastoral and farming communities of the North Dafuer.</p> <p>The project objective responds to the identified barriers, and it appears to articulate well with other national scale issues that interlink with this project objectives.</p> <p>STAP recommends the team to access current maps of land</p> <p>use and land cover that are avaialble through the ESA Climate Change Initiative at: MODIS, 300 spatial resolution.</p> <p>https://www.esa-landcover-cci.org/?q=node/197</p>	<p>Well-noted.</p> <p>During project design, experts at FAO/Rome were recruited to assist with review of existing land use and cover maps. The project will further generate capacities for these types of efforts during implementation, particularly through the Component 1 land use planning and vulnerability assessment work.</p>
Project components	<p>A brief description of the planned activities. Do these support</p> <p>the project's objectives?</p>	<p>A description of 'components' and broad descripton of activities is done. It is not clear how the proposed methodology will</p> <p>address key objectives of food security and nutritional status.</p>	<p>The project's components have been expanded with inputs from a host of international and national stakeholders. Specific nutrition indicators have been included in the project's results framework.</p>

Outcomes	<p>A description of the expected short-term and medium-term effects of an intervention.</p>	-----	
	<p>Do the planned outcomes encompass important global environmental benefits/adaptation benefits?</p>	<p>That is not clear in the project. One could argue that attaining the objectives of this project will contribute to reduce land degradation, avoiding soil loss and maintaining or improving ecosystem services. The project outcomes can contribute to the country's advancement of several of the SDG targets related to life on land, and food security. However, this needs to be better articulated in the proposal.</p>	<p>As stated by STAP, project efforts will directly lead to capacities being built to lower land degradation by both agriculture and rangeland management practices that currently contribute and exacerbates climate change adaptation challenges. This has been more fully clarified within the project design and will be integrated within assessment, planning, practice, and monitoring efforts during implementation.</p>

	<p>Are the global environmental benefits/adaptation benefits likely to be generated?</p>	<p>The global adaptation benefits are not clear . A good theory of change needs to be developed, identifying the vision, and then defining the methodology and related activities and relevant stakeholders that are needed to deliver the claimed benefits.</p> <p>VGGT is of importance to this project, but as important is to have in Component 1.1 an appraisal of the current vulnerability to climate change of the different capitals (natural, social, etc); once that is understood, tools like VGGT can be applied in a logical framework of well-designed and 'connected' activities.</p>	<p>A theory of change is included within the finalized project design.</p> <p>Again, these issues are integrated within the described assessment, planning, practice, and monitoring efforts to be completed during implementation with impact indicators designed to track results.</p> <p>Component 1 now clearly articulates how VGGT will be linked to climate change vulnerability assessments, land use assessments, land use planning, and established monitoring programs to facilitate informed decision-making.</p>
Outputs	<p>A description of the products and services which are expected to result from the project.</p> <p>Is the sum of the outputs likely to contribute to the outcomes?</p>	<p>Services and products are described. The sum of those outputs is likely to contribute to the project outcome, though better links between activities/outputs/outcomes is needed particularly for judging if the objectives of food security and nutritional status will be achieved.</p>	<p>This is well-noted. The finalized project design reflects better causal reasoning linking activities/outputs/outcomes with intended results.</p>

Part II: Project justification	<p>A simple narrative explaining the project's logic, i.e. a theory of change.</p>	<p>The alternative scenario (ie. vision) is "With financial support from LDCF to cover additionality, the proposed alternative will address this situation by assisting communities to identify and adopt necessary management improvements.</p> <p>The alternative will set in place two innovative and complementary tools that FAO and its partners have developed extensively in recent years:</p> <p>Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) and Agro-pastoral Field Schools (APFS).</p> <p>Based on past experience in the region, these tools and approaches work to ensure that vulnerabilities are sustainably reduced in rural communities facing issues similar to the North Darfur".</p> <p>For this 'alternative scenario' to realize it is fundamental the team develops a theory of change, in a participatory and inclusive manner, identifying key stakeholders to be involved in different activities, and also 'anticipating' external factors that could affect the delivery of the proposed activities that will conduct to the outputs the team has designed to fulfill the project objective.</p>	<p>The TOC was completed during project design. Despite Covid-19 challenges, this TOC benefitted from the inputs of a host of stakeholders at the field and national level. This included discussions regarding potential external factors that may impact realization of intended impacts. This same inclusive process will be carried forward during implementation.</p>
1. Project description. Briefly describe:	-----	-----	

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)	Is the problem statement well-defined?	yes, it is well defined.	Noted.
	Are the barriers and threats well described, and substantiated by data and references?	yes, the barriers are identified and well described, particularly those that relate historical ongoing conflicts. The project identifies relevant studies on climate change projections for the study area.	Noted.

	<p>For multiple focal area projects: does the problem statement</p> <p>and analysis identify the drivers of environmental degradation</p> <p>which need to be addressed through multiple focal areas; and is</p> <p>the objective well-defined, and can it only be supported by</p> <p>integrating two, or more focal areas objectives or programs?</p>	-----	
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Yes, the project succinctly identifies the baseline.	Noted.
	<p>Does it provide a feasible basis for quantifying the project's</p> <p>benefits?</p>	-----	

	Is the baseline sufficiently robust to support the additional cost reasoning for the project?	Yes, the project description identifies a robust baseline.	Noted.
	For multiple focal area projects:	-----	
	are the multiple baseline analyses presented (supported by data and references), and the multiple benefits specified, including the proposed indicators;	Not applicable.	Noted.
	are the lessons learned from similar or related past GEF and non-GEF interventions described; and	Yes, projects that are relevant to the geographic area are identified, and other projects that do not occur in the area but can provide lessons are included as well. STAP recommends to also liaise and explore lessons learned from the project that FAO also coordinates on strengthening the resilience of pastoral and agro-pastoral communities in South Sudan's cross-border areas with Sudan, Ethiopia, Kenya and Uganda (funded by EU)	During project design STAP suggestion to coordinate with the referenced cross-border efforts was discussed with the Government of Sudan. Lessons learned may be applied.

	how did these lessons inform the design of this project?	It appears the lessons have helped to identify barriers for this project. The project is not specific about how lessons from the projects identified will be used for the design of activities of this project.	The project benefitted from the inputs of Higher Council of Environment and Natural Resources (HCENR) and others. These parties along with FAO made certain that lessons learned are reflected in the final design.
3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	inexistent	A TOC has now been included.

	<p>What is the sequence of events (required or expected) that will lead to the desired outcomes?</p>	<p>1. participatory LUP to address climate change adaptation and mitigation, that includes the use of the VGGT and community profiling.</p> <p>This step FAILS TO INCLUDE assessment of vulnerability to CC. The team could use RAPTA or the Climate Change Vulnerability and Impact Assessment (VIA) developed by UNEP https://www.unenvironment.org/resources/report/vulnerabilityand-climate-change-impact-assessments-adaptation-module. the project claims that rangeland enhancement tools will be identified.</p> <p>STAP suggests checking on the LandPKS tool . 2) . Identify concrete investments to strengthen the resilience of private producers (i.e. individual entrepreneurs, which are generally family farmers, pastoralists and agro-pastoralists, and MSMEs). Again, this can be done well if information is at hand of the vulnerability and impact of CC in the natural, human, etc capitals.</p> <p>3) capture and upstream lessons learned. there is no innovation in this aspect, the team is encouraged to reach out and engage with 'community of practices' beyond the project area to ensure that the lessons and learnings are maximised across the country and Africa.</p>	<p>During the PPG, a comprehensive climate change risk assessment was completed with findings integrated within the project design.</p> <p>The assessment may be viewed in the project annex.</p> <p>Further, reference was made to RAPTA, VIA, and other vulnerability assessment tools.</p> <p>The project under Component 1 now includes specific requirements and guidance regarding the conducting vulnerability assessments as part of the VGGT and LUP process.</p> <p>This will be carried forward into the innovative practices supported through farmer field schools under Component 2 and monitored to garner lessons to inform decision-making and adaptive management under Component 3.</p>
	<p>? What is the set of linked activities, outputs, and outcomes to address the project's objectives?</p>	<p>-----</p>	

	<p>? Are the mechanisms of change plausible, and is there a well-informed identification of the underlying assumptions?</p>	<p>Because a theory of change has not been developed, there is no clear underlying assumptions and not clear mechanisms to enact change. The elements are present throughout the proposal, but the team needs to identify the underlying assumption(s) that will drive needed change, then the mechanism will become clearer.</p>	<p>These issues are now reflected in the TOC as well as the expanded analysis.</p>
	<p>? Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes?</p>	<p>The risks identified and the way to deal with them are in a way a form 'recognition of adaptation that may be required'.</p>	<p>Noted.</p>
<p>5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing</p>	<p>GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?</p>	<p>Not applicable.</p>	<p>Noted.</p>

	<p>LDCF/SCCF : will the proposed incremental activities lead to</p> <p>adaptation which reduces vulnerability, builds adaptive</p> <p>capacity, and increases resilience to climate change?</p>	<p>Yes, provided the project prepares a good theory of change</p>	<p>Noted.</p>
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6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits, and are they measurable?	No. The project has not identified global environmental benefits, neither indicators that could be used to assess whether the benefits are achieved.	<p>The project will mainstream climate change adaptation and resilience for systemic impact. This will directly lead to capacities being built to lower land degradation by both agriculture and rangeland management practices that currently contribute and exacerbates climate change adaptation challenges. This is now reflected in the updated project results framework and indicators and linked to the land use planning and monitoring process.</p> <p>The project's results framework now directly reflect this, including:</p> <p>200,000 hectares of degraded agricultural and grazing lands under sustainable land management in production systems and managed according to climate resilient land use management plan.</p>
	Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?	see above.	As above.
	Are the adaptation benefits explicitly defined?	yes	Noted.

	<p>Are indicators, or methodologies, provided to demonstrate how the adaptation benefits will be measured and monitored during project implementation?</p>	<p>a theory of change and good logic framework needs to be developed to identify the best set of indicators and to monitor project implementation.</p>	<p>As noted above, these issues are now reflected in the TOC as well as the expanded analysis.</p>
	<p>What activities will be implemented to increase the project's resilience to climate change?</p>	<p>Component 2 describe the activities. See earlier comments about the need to strengthen the methodology to design activities that increase resilience to CC (eg. use RAPTA in component 1, consider vulnerability assessment of capitals (human, natural, etc)).</p>	<p>Vulnerability assessments are now fully reflected and integrated within the project design. This work was completed, in part, based upon a reference to STAP's RAPTA Framework.</p>

<p>7) innovative, sustainability and potential for scaling-up</p>	<p>Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?</p>	<p>Innovation is the weakest point of this project. The team is encouraged to look beyond the 'business as usual' tools. There are experiences of successful business models, of new forms of building capacity that need to be considered in this project.</p>	<p>The project's innovations are found on many levels. First, the project under Component 1 links VGGT with land use planning and vulnerability assessments. This process will benefit from the inputs of FAO and other expertise to identify innovative practices to be adopted that directly target vulnerability and link to the promotion of identified LUP objectives.</p> <p>The project under Component 2 will build the capacity of extension officers to both identify and support the implementation of innovations designed to address conflict, nutrition, land degradation, and climate change vulnerabilities.</p> <p>Component 3 represents a "first" for the Northern Darfur where the planning, practice, and impact efforts are formally tied together to generate adaptive management approaches designed to inform decision-making not only during project implementation but beyond, making certain that these capacities exist and that financing is in place to support continuation, including the identification and amplification of innovative approaches.</p>
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	<p>Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors?</p>	<p>Partly, the project identifies linkages with other projects that are being implemented in the study area and there is a good section on KM. A good theory of change would help to strengthen this vision.</p>	<p>The project design now includes a TOC. As noted above, the entire project is predicated upon an approach designed to make certain LDCF investments do the heavy lifting to assist stakeholders to be able to design and implement improved practices. To make certain that progress is sustained and amplified beyond project close, specific tools are reflected in the design. This includes monitoring, KM, and informed management. However, the project design goes beyond this by making that a hand-over strategy is in place to be certain that capacities are built and financing and policy mechanisms are in place to sustain and amplify capacities and intended results.</p>
	<p>Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?</p>	<p>Given the socio-political situation of the country, incremental adaptation is required to achieve long term sustainability.</p>	<p>This comment is very well noted and reflected in the final project design.</p>
<p>1b. Project Map and Coordinates. Please provide georeferenced information and map where the project interventions will take place.</p>		<p>the project area coordinates, geographic names and a map are provided.</p>	<p>Coordinates, names and maps have now been included.</p>

<p>2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase:</p> <p>Indigenous people and local communities; Civil society organizations; Private sector entities.If none of the above, please explain why. In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.</p>	<p>Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?</p>	<p>There is a good listing and description of stakeholders, although more detail needs to be provided on the private enterprises and livestock producers given the project claims they are to be one of the main beneficiaries.</p>	<p>This is now reflected in the project's stakeholder engagement strategy. Again, despite Covid-19 challenges, livestock producers as well as relevant government stakeholders at both the local and national level were engaged in the project design process. As noted by STAP, this is a critical element to project success and will be carried forward and expanded upon during implementation.</p>
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	<p>What are the stakeholders ? roles, and how will their combined</p> <p>roles contribute to robust project design, to achieving global</p> <p>environmental outcomes, and to lessons learned and knowledge?</p>	<p>there is an initial identification of roles and contributions of stakeholders. The preparation of a theory of change would enable more clarity on the 'inputs' (stages of the implementation), and responding to who is to do what and when.</p>	<p>The issue of stakeholder engagement and responsibilities are reflected in the project design, including the TOC, stakeholder engagement strategy, management arrangements, components, and results framework.</p>
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<p>3. Gender Equality and Women's Empowerment. Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd. If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services. Will the project's results framework or logical framework include gender-</p>	<p>Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?</p>	<p>yes they have been differentiated, and the team is encouraged to identify how activities designed will contribute to gender mainstreaming. Particularly given the statement "Women in the mobile pastoralist communities (one of the two target communities of this Project) are traditionally very reserved. The project looks forward to addressing this highly complex challenge".</p> <p>To this end STAP suggests using UN Women publication https://www.unwomen.org/en/digitallibrary/publications/2018/2/towards-a-gender-responsive-implementation-of-the-un-convention-to-combat-desertification</p>	<p>The comments regarding gender are well noted. The PPG engaged specific expertise regarding gender issues. This included reference to the recommended UN women publication. The project design has a comprehensive gender action plan which is reflected across the project's activities.</p>
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	<p>Do gender consideration s hinder full participation of an</p> <p>important stakeholder group (or groups)? If so, how will these</p> <p>obstacles be addressed?</p>	<p>The Project will acknowledge gender differences, it will assess and comprehensively understand them, and it will then design and</p> <p>implement activities that promote women?s empowerment and gender equality. The Project will seek to lessen the impact of</p> <p>climate change on women and other particularly vulnerable groups and contribute to women?s empowerment and gender equality.</p>	Noted and please see above.
<p>5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design</p>	<p>Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project?s control?</p>	<p>Yes. Risks have been identified with preliminary mitigation measures. Risks will be reviewed comprehensively, and mitigation measures will be strengthened during the PPG phase</p>	Noted with the risks better clarified and mitigation measures elucidated.
	<p>Are there social and environmental risks which could affect the project?</p>	<p>the risks identified are mostly political (and rightly so). Environmental risks (animal epidemics) are identified as well. The weakest consideration is given to risks associated to increasing climatic extreme events.</p>	Risks have been modified to reflect STAP concerns.

	For climate risk, and climate resilience measures:	-----	
	<p>? How will the project's objectives or outputs be affected by</p> <p>climate risks over the period 2020 to 2050, and have the impact</p> <p>of these risks been addressed adequately?</p>	<p>the project will support the completion and implementation of a comprehensive sustainable land use management framework focused upon improving private producers and enterprises capacity</p> <p>to address climate change impacts. The framework will consist of comprehensive land use planning and management agreements designed to support financial coping strategies.</p>	Noted.
	<p>? Has the sensitivity to climate change, and its impacts, been assessed?</p>	Partly. This needs improvement (see earlier comments)\	Noted with improvements made to the project design.
	<p>? Have resilience practices and measures to address</p> <p>projected climate risks and impacts been considered? How will</p> <p>these be dealt with?</p>	STAP recommends using RAPTA in component 1 of the project to account for resilient practices and measure to address projected climate risks.	As noted above.

	<p>? What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?</p>	not clear	<p>The technical and institutional capacity constraints were further evaluated during the PPG and are articulated in the project design. The project is directed specifically towards enhancing capacity needs, particularly in terms of vulnerability assessment, identification and implementation of innovative practices.</p>
<p>6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives</p>	<p>Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?</p>	yes	Noted.
	<p>Is there adequate recognition of previous projects and the learning derived from them?</p>	yes	Noted.
	<p>Have specific lessons learned from previous projects been cited?</p>	yes	Noted.

	How have these lessons informed the project's formulation?	that step is explained, and the team is encouraged to consider other projects (see earlier comments).	Noted as above.
	Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?	yes, explained in the PIF. See comments below to improve it.	Noted.

<p>8. Knowledge management. Outline the ?Knowledge Management Approach? for the project, and how it will contribute to the project?s overall impact, including plans to learn from relevant projects, initiatives and evaluations.</p>	<p>What overall approach will be taken, and what knowledge management indicators and metrics will be used?</p>	<p>"FAO will take a lead in disseminating knowledge projects regionally and globally. Knowledge management will be an integral part of the project, enabling institutional memory, promoting learning and continuous improvement, generating documents for upscaling</p> <p>of lessons and best practices. The broader dissemination of experience and lessons learnt generated by the project will be</p> <p>also pursued through engaging national and regional technical and educational institutions, and regionally and internationally</p> <p>through South-South cooperation mechanism".</p> <p>STAP recommends the team reaches out to other KM platforms like the UNCCD</p> <p>Knowledge Hub, and those specific to climate change adaptation and to drylands, and other African platforms for the</p> <p>dissemination of knowledge. It would be good if Higher Education Institutions of Sudan like the University of Khartoum, the</p> <p>Sudan University of Science and Technology, the International University of Africa are engaged in the project, as they can become repositories of knowledge and information that remains in the country and can impact a much larger population than that of the project area.</p>	<p>The comments by STAP are much appreciated. Reference was made to UNCCD KM during the PPG as well as other models, e.g., TerrAfrica, Green Wall, etc. These issues are now better reflected particularly through Component 3 actions.</p>
	<p>What plans are proposed for sharing, disseminating and scaling up results, lessons and experience?</p>	<p>Plans are identified at state, national and global level for disseminating and scaling up. See above STAP recommendations.</p>	<p>Noted above.</p>

STAP advisory response	Brief explanation of advisory response and action proposed	-----	-----
1. Concur	<p>STAP acknowledges that on scientific or technical grounds the</p> <p>concept has merit. The proponent is invited to approach STAP</p> <p>for advice at any time during the development of the project</p> <p>brief prior to submission for CEO endorsement.</p>	-----	-----

	<p>* In cases where the STAP acknowledges the project has merit</p> <p>on scientific and technical grounds, the STAP will recognize this</p> <p>in the screen by stating that "STAP is satisfied with the</p> <p>scientific and technical quality of the proposal and</p> <p>encourages the proponent to develop it with same rigor. At</p> <p>any time during the development of the project, the</p> <p>proponent is invited to approach STAP to consult on the</p> <p>design.?</p>	-----	-----
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<p>2. Minor issues to be considered during project design</p>	<p>STAP has identified specific scientific /technical suggestions or</p> <p>opportunities that should be discussed with the project</p> <p>proponent as early as possible during development of the</p> <p>project brief. The proponent may wish to:</p>	<p>-----</p>	<p>-----</p>
	<p>(i) Open a dialogue with STAP regarding the technical and/or</p> <p>scientific issues raised</p>	<p>-----</p>	<p>-----</p>

	<p>(ii) Set a review point at an early stage during project development , and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review.</p>	-----	-----
	<p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>	-----	-----

<p>3. Major issues to be considered during project design</p>	<p>STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:</p>	<p>The LCDC programme is to reduce vulnerability and increase resilience to CC. As such the component 1 should conduct an assessment of the adaptive capacity, vulnerability to CC and resilience of the current system (formed by social capital, human and natural capitals). VGGT are guidelines, not a methodological approach to assess the current vulnerability of the system and its adaptive capacity. VGGT are highly relevant to the social and governance situation of Dafur, and could be integrated with approaches like the RAPTA.</p> <p>The project needs to develop a theory of change and it needs to identify the global environmental benefits it will deliver, and associate indicators to those foreseen benefits.</p>	<p>Noted.</p> <p>The Government of Sudan is very supportive of this project and particularly the innovative use of VGGT as a tool to be integrated with climate change vulnerability assessments, LUP, improved agriculture and livestock management practices, and enhanced monitoring and informed decision-making capacities.</p>
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	<p>(i) Open a dialogue with STAP regarding the technical and/or</p> <p>scientific issues raised;</p> <p>(ii) Set a review point at an early stage</p> <p>during project development including an independent expert as</p> <p>required. The proponent should provide a report of the action</p> <p>agreed and taken, at the time of submission of the full project</p> <p>brief for CEO endorsement.</p>	-----	-----
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Council Comments

Comments	Agency Response
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Germany Comments

Germany welcomes the proposal which aims to reduce climate vulnerability of pastoral and farming communities along the migratory routes in North Darfur, applying a strong focus on gender. Germany requests that the following requirements are taken into account during the design of the final project proposal:

? Germany welcomes the strong rationale for the project that (i) clearly sets out the interrelation between resource competition, restricted pastoralist mobility, exacerbating effects of degradation and climate change, as well as (ii) clearly identifies barriers that need to be addressed. Germany nevertheless recommends including a more detailed account of the Theory of Change (ToC) that reflects how these barriers are addressed at output and outcome level and to include concrete indicators for all components.

? The project description includes more detailed information but lacks specific linkage to the ToC as well as concrete indicators and measures. For example, Voluntary Guidelines on Responsible Governance of Tenure (VGGT) are highlighted as innovative and participatory tools to increase community resilience; they constitute one of the core elements of the proposal. However, VGGT are not explicitly referred to in the ToC; Therefore, Germany highly recommends including a more detailed account of the theory of change at output and outcome level and directly link these levels with indicators that allow to immediately understand how they reflect the overall objectives.

? Working with communities to reduce conflicts is an important component of the project and critical for success (see outcome indicator 1). Against this backdrop, the proposal would benefit from a detailed description of stakeholder engagement and participation at the current stage, instead of expanding that in the PPG phase.

? While important and innovative aspects are described in the rationale and emphasis is laid on e.g., the importance of social protection, social capital, water resource management, and financial coping strategies, this is so far not all inclusively considered in the project design. In

? Well, noted. The finalized Project Document contains a more detailed TOC addressing these comments.

? As above.

? The stakeholder engagement plan located within the Project Document's annex has been expanded to reflect these concerns. These issues will be further explored and detailed during the project's inception phase.

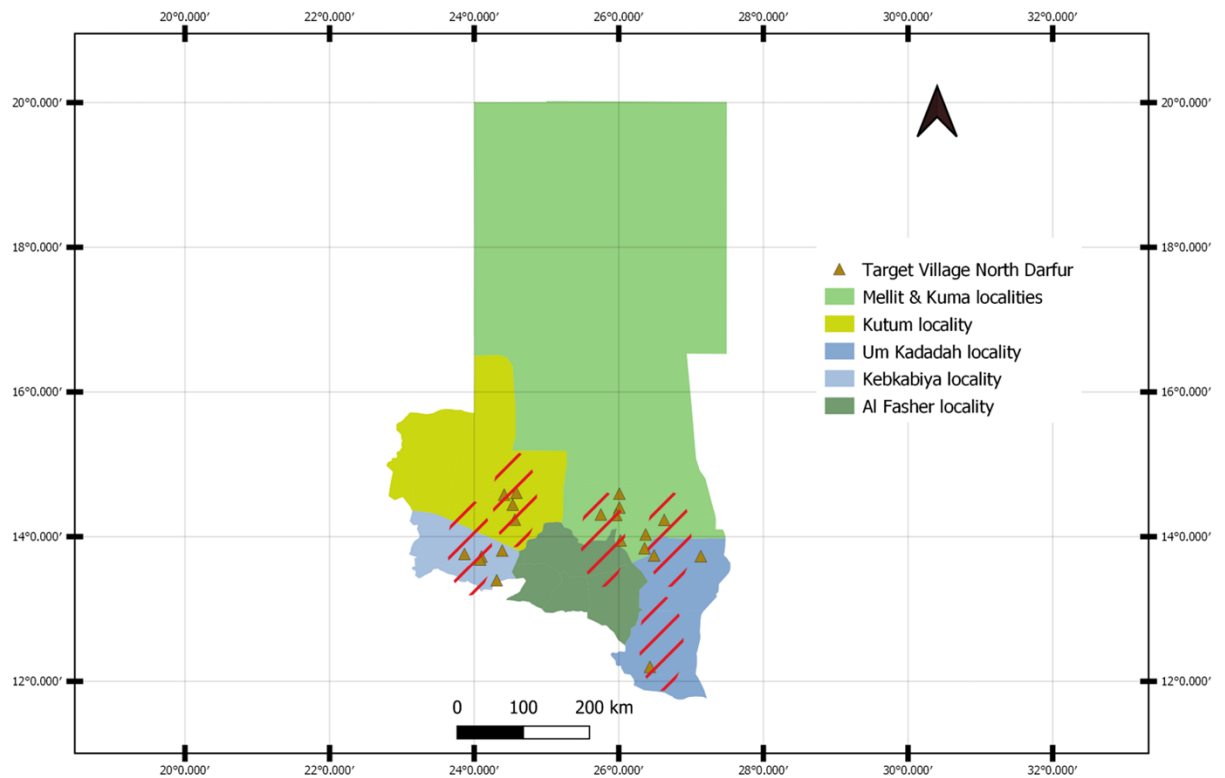
ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:

Annex C: Status of Utilization of Project Preparation Grant (PPG)

PPG Grant Approved at PIF: USD 100,000			
project symbol: GCP /SUD/920/LDF			
ENTITY: 674221			
Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
	Budgeted Amount	Amount Spent to date	Amount Committed
(5011) Salaries Professional	4,800	0	4,800
(5013) Consultants	55,200	40,707	7,233
(5014) Contracts	30,000	19,972	5,530
(5020) Locally contracted Labour	0	1,980	0
(5021) Travel	9,000	11,249	0
(5023) Training	0	176	0
(5024) Expendable Procurement	0	93	0
(5028) General Operating Expenses	1,000	8,260	0
Total	100,000	82,437	17,563

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



ANNEX E: Project Budget Table

Please attach a project budget table.

	FAO Cost Categories	Component 1: Resource Planning	Component 2: Scaling Best Practices	Component 3: Upscale and Informed DM	M&E	PMC
	5013 International Consultants					
1	Cooperative Natural Resource Management Expert: Responsible for Component 1 Activities	\$85,000	\$0	\$0	\$0	\$0
2	Sustainable Practices Expert: Responsible for Component 2 Activities	\$85,000	\$0	\$0	\$0	\$0
3	KM Monitoring Expert: Responsible for Component 3 Activities	\$0	\$0	\$85,000	\$0	\$0
	Sub-total international Consultants	\$170,000	\$0	\$85,000	\$0	\$0
	National consultants					
4	National Project Coordinator	\$0	\$0	\$0	\$0	\$40,250
5	Administrative and Financial Manager	\$0	\$0	\$0	\$0	\$24,750
6	M&E Expert	\$0	\$0	\$0	\$6,000	\$0
7	Cooperative Natural Resource Management Expert: Responsible for Component 1 Activities	\$200,000	\$0	\$0	\$0	\$0
8	Sustainable Practices Expert: Responsible for Component 2 Activities	\$0	\$200,000	\$0	\$0	\$0
9	KM Monitoring Expert: Responsible for Component 3 Activities	\$0	\$0	\$200,000	\$0	\$0
10	Gender Expert	\$9,333	\$9,333	\$9,333	\$0	\$0
11	Technical Field Assistants 5X	\$30,000	\$30,000	\$30,000	\$0	\$0
	Sub-total national Consultants	\$239,333	\$239,333	\$239,333	\$6,000	\$65,000
	5013 Sub-total consultants	\$409,333	\$239,333	\$324,333	\$6,000	\$65,000
	5650 Contracts					

12	Cooperative Natural Resources Management Planning Program Activities: Component 1	\$0	\$125,000	\$0	\$0	\$0
13	Sustainable Practices Program Activities: Component 2	\$0	\$228,016	\$0	\$0	\$0
14	Communications and KM: Implementation of Communications Strategy (Component 3)	\$0	\$0	\$50,000	\$0	\$0
15	Impact monitoring and reporting: Implementation of monitoring framework to support informed decision-making... across components.	\$0	\$0	\$0	\$51,984	\$0
16	Mid-Term Evaluation	\$0	\$0	\$0	\$25,000	\$0
17	Final Evaluation	\$0	\$0	\$0	\$33,000	\$0
18	Spot Checks (4 required 1/year)	\$0	\$0	\$0	\$0	\$22,000
19	Terminal Reports	\$0	\$0	\$0	\$3,000	\$0
20	Audits (4 required 1/year)	\$0	\$0	\$0	\$0	\$22,848
	5650 Sub-total Contracts	\$0	\$353,016	\$50,000	\$112,984	\$44,848
	5021 Travel					
21	International Travel	\$20,000	\$20,000	\$20,000	\$0	\$0
22	National Travel	\$26,667	\$26,667	\$26,667	\$0	\$0
	5021 Sub-total travel	\$46,667	\$46,667	\$46,667	\$0	\$0
	5023 Training and workshops					
23	Project Inception, Mid-term, Hand-Over Technical Design Workshops	\$5,000	\$5,000	\$5,000	\$0	\$0
24	PSC Meetings	\$2,500	\$2,500	\$2,500	\$2,500	\$0
25	Component 1: Cooperative Resource Management Planning Workshops	\$50,000	\$0	\$0	\$0	\$0

26	Component 2: FFS Training Workshops	\$0	\$50,000	\$0	\$0	\$0
27	Component 3: Informed Decision-Making Workshops	\$0	\$0	\$50,000	\$0	\$0
	5023 Sub-total training	\$57,500	\$57,500	\$57,500	\$2,500	\$0
	5024 Expendable procurement					
28	Component 1: Land Use Management Systems - GIS, Remote Sensing, Etc.	\$50,000	\$0	\$0	\$0	\$0
29	Component 2: Practice demonstration and FFS - Items required to implement FFS programming	\$0	\$163,202	\$0	\$0	\$0
30	Component 3: Upscaling and Informed DM - Items required to upscale project results and inform decision making	\$0	\$0	\$50,000	\$0	\$0
31	Communications materials (Other communication equipment and IT expenses required)	\$7,710	\$7,710	\$7,710	\$0	\$0
	5024 Sub-total expendable procurement	\$57,710	\$170,912	\$57,710	\$0	\$0
	6100 Non-expendable procurement					
32	Component 1: Land Use Planning equipment	\$40,000	\$0	\$0	\$0	\$0
33	Component 2: Equipment to support mainstreaming demonstrations	\$0	\$47,649	\$0	\$0	\$0
33	Component 2: Other Equipment to support mainstreaming demonstrations (Vehicles)	\$0	\$90,000	\$0	\$0	\$0
33	Component 2: Equipment to support mainstreaming demonstrations (Motorbikes)	\$0	\$10,000	\$0	\$0	\$0
34	Component 3: Other Equipment for communications (Computers, printers, and other equipment required)	\$0	\$0	\$30,000	\$0	\$0
	6100 Sub-total non-expendable procurement	\$40,000	\$147,649	\$30,000	\$0	\$0
	6300 General Operating Expenses budget					
35	Communication expenses (internet/phone subscriptions)	\$0	\$0	\$0	\$0	\$5,851
	6300 Sub-total GOE budget	\$0	\$0	\$0	\$0	\$5,851
	TOTAL	\$611,210	\$1,015,077	\$566,210	\$121,484	\$115,699

Component 2: Equipment to support mainstreaming demonstrations including 2 vehicles @USD45k/each and 5 motorbikes @2,000/each. Transportation means are needed to implement project interventions mainly demonstrative practices under Component 2, two vehicles are included to cover a wide geographical area spanning the 20 target villages along livestock corridors in North Darfur, and 5 motorbikes were also including to enable the technical project assistants located in each

of the 5 target localities in North Darfur provide technical backstopping and support to project interventions at local level on a daily basis.

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

NA

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

NA