Part I: Project Information

GEF ID
10384

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Land Degradation Neutrality for biodiversity conservation, food security and resilient livelihoods in the Peanut Basin and Eastern Senegal (D?kil Souf)

Countries
Senegal

Agency(ies)
FAO

Other Executing Partner(s)
Minist?re Agriculture et Equipement Rural (MAER): Institut National de P?dologie (INP)

Executing Partner Type
Government

GEF Focal Area
Multi Focal Area

Sector
AFOLU

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Sustainable Agriculture, Integrated and Cross-sectoral approach, Income Generating Activities, Ecosystem Approach, Sustainable Livelihoods, Community-Based Natural Resource Management, Improved Soil and Water Management Techniques, Sustainable Pasture Management, Land Degradation Neutrality, Land Cover and Land cover change, Food Security, Biodiversity, Mainstreaming, Agriculture and agrobiodiversity, Influencing models, Demonstrate innovative approache, Strengthen institutional capacity and decision-making, Stakeholders, Local Communities, Type of Engagement, Partnership, Participation, Private Sector, SMEs, Individuals/Entrepreneurs, Gender Equality, Gender results areas, Participation and leadership, Access and control over natural resources, Capacity Development, Access to benefits and services, Knowledge Generation and Exchange, Awareness Raising, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Beneficiaries, Women groups, Knowledge Exchange, Capacity, Knowledge and Research, Field Visit, Peer-to-Peer, Knowledge Generation, Master Classes, Professional Development

Rio Markers

Climate Change Mitigation

Significant Objective 1

Climate Change Adaptation

Significant Objective 1

Biodiversity

Land Degradation

Submission Date

3/22/2021

Expected Implementation Start

12/1/2022

Expected Completion Date

11/30/2027

Duration

60In Months

Agency Fee($)

549,677.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-1-1	Improve flow of agro-ecosystem services to sustain food production and livelihoods through SLM	GET	4,000,000.00	26,000,000.00
LD-2-5	Create enabling environments to support scaling up and mainstreaming of SLM and LDN	GET	635,413.00	4,000,000.00
BD-1-1	Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors	GET	1,150,660.00	6,000,000.00
		Total Project Cost($)	**5,786,073.00**	**36,000,000.00**

B. Project description summary

Project Objective

Demonstrate the LDN approach in the Peanut Basin and Eastern Senegal for biodiversity conservation and delivery of ecosystem services to achieving food security and livelihood resilience.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1. Enabling environment for large-scale SLM dissemination	Technical Assistance	1.1. Strengthened inclusive land governance for better biodiversity conservation and natural resources access through the application of LDN and VGGT principles Targets: (a) At least 80% of municipalities in target regions operationalize at least one good governance management tool 1.2. Enhanced capacity for the mobilization and sustainable management of financial resources by the municipalities and the coordination of SLM interventions in favor of LDN and biodiversity conservation Targets:	1.1.1. Review of strategic regulatory frameworks and territorial planning instruments to enhance local stakeholder participation and mainstreaming of LDN, biodiversity conservation and land tenure at national and sub-national levels 1.1.2. Land, biodiversity and natural resource governance and planning tools are stengthened in accordance with LDN principles (using FAO Land Resource Planning Toolbox, VGGT, etc.) 1.1.3. Governance of customary and formal natural resources management is strengthened with special focus on vulnerable groups 1.2.1. LDN principles are integrated into municipal investment and action plans 1.2.2. Capacity building program for multi-stakeholder policy dialogue on SLM in accordance with the guidelines of The National Strategic Investment Framework for	GET	1,227,195.00	6,540,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Scaling up SLM and biodiversity conservation using a landscape approach in the Peanut Basin and Eastern Senegal	Investment	2.1. Increased technical and institutional capacities of agro-sylvo-pastoral communities on SLM technologies and approaches Targets: (a) At least 20,000 producers (75% women and youth), have access to SLM practices in line with LDN principles (b) 10 Masters and 3 PhD on SLM / LDN of relevance to the project supported (c) 4 technical guides on SLM/LDN produced and distributed 2.2. Improved ecosystem services, habitat for biodiversity and resilience in target agroecosyste	2.1.1. Capacity building program on SLM technologies and approaches (using Farmer Field Schools approaches, Dimitra Clubs, e-advice, exposure visit, facilitation of farmers? cross learning visits, LADA, WOCAT, Community-Based Ecological Mangrove Restoration-CBEMR etc.) in order to sustainably intensify ecosystem productivity 2.2.1. Participatory integrated land use plans developed in Peanut Basin and Eastern Senegal 2.2.2. Innovative SLM technologies and approaches applied and scaled out on agro-sylvo-pastoral landscapes to reduce land degradation, restore degraded land and contribute to biodiversity conservation (restoration of salinized lands, mangrove restoration and conservation, crop rotation, agroforestry/plantation of high value tree species e.g. Fadherbia albida, etc.) 2.2.3.	GET	2,333,073.00	17,940,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3. Rural employment and livelihoods enhanced to sustain improved management of production land	Investment	3.1. Enhanced incentive mechanism framework for investment in family farms in local agro-sylvo-pastoral value chains for improved livelihoods Targets: (a) A functional framework for promoting sustainable local value chains (suppliers, producers, support-advice, financiers, traders) is operational (b) An innovative and sustainable financial mechanism for producers and their organizations are functional and operational (c) 7,500 producers, (75% youth and women) supported in improved local value	3.1.1. Innovative market-based incentives for financing LDN-oriented and biodiversity-friendly inclusive agriculture value chains are identified and strengthed (e.g. subsidies, tradable permits, Public-Private Partnerships, certification programs, penalties, etc.) 3.1.2. Innovative market-based incentives for financing LDN-oriented and biodiversity-friendly inclusive agriculture value chains are identified and strengthed (e.g. subsidies, tradable permits, Public-Private Partnerships, certification programs, penalties, etc.) 3.1.3. An inclusive financial mechanism and training program are operational to strengthen the capacity of farmers and farmer organizations to engage in SLM 3.1.4. Development and implementation of a sustainable strategy/action plan to improve local value chains (millet, cowpeas,	GET	1,265,750.00	7,240,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4. Learning, knowledge management and communication	Technical Assistance	4.1. Learning and political engagement for scaling up and sustainability of project achievements Targets: (a) Functional M&E systems and GEBs and co-benefits established (b) M&E manual c) communication and dissemination plan	4.1.1. Project monitoring system is operational, providing systematic information on the project progress made and capture of lessons and knowledge 4.1.2. Mid-term and final evaluation conducted, project best practices and lessons learned developed and disseminated	GET	684,528.00	1,940,000.00
				Sub Total ($)	**5,510,546.00**	**33,660,000.00**

Project Management Cost (PMC)

GET	275,527.00	2,340,000.00
Sub Total($)	**275,527.00**	**2,340,000.00**
Total Project Cost($)	**5,786,073.00**	**36,000,000.00**

Please provide justification

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($)
Recipient Country Government	Ministry of Agriculture (PDCVR)	Grant	Investment mobilized	5,000,000.00
Recipient Country Government	Ministry of Agriculture (PCAE)	Grant	Investment mobilized	15,000,000.00
Recipient Country Government	Ministry of Livestock and Animal Resources (PDEPS)	Grant	Investment mobilized	7,000,000.00
Recipient Country Government	Centre de Suivi Ecologique	Grant	Investment mobilized	2,000,000.00
GEF Agency	FAO	Grant	Investment mobilized	7,000,000.00
			Total Co-Financing($)	**36,000,000.00**

Describe how any "Investment Mobilized" was identified

Investments mobilized stem from the interventions of development partners mobilizing new and additional investments to be executed in the same sites, concurrent with project implementation. The mobilized investment includes relevant projects and programmes identified among these and excludes all recurrent spending from national partners. Details on the investments can be found in the Baseline Section as well as the Incremental Cost Reasoning. In sum: ? The Ministry of Agriculture?s co-finance includes the following: Programme de D?veloppement de la Chaine de Valeur Riz (PDCVR); Programme de Comp?titivit? de l?agriculture et de l??levage (PCAE); ? Ministry of Livestock's Projet de D?veloppement Durable des Exploitations Pastorales au Sahel (PDEPS) ? The Centre de Suivi Ecologique (CSE) project Increase the resilience of ecosystems and communities by restoring the productive bases of salt lands contributes US$2M; ? FAO?s mobilised investments comprise a US$5M input from the Resilience and Intensive Reforestation Project for the Safeguarding of Territories and Ecosystems in Senegal (RIPOSTES) project and a US$2M contribution from the Global Transformation of Forests for People and Climate: a focus on West Africa project.

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($)	Fee($)	Total($)
FAO	GET	Senegal	Land Degradation	LD STAR Allocation	4,635,413	440,364	5,075,777.00
FAO	GET	Senegal	Biodiversity	BD STAR Allocation	1,150,660	109,313	1,259,973.00
				Total Grant Resources($)	**5,786,073.00**	**549,677.00**	**6,335,750.00**

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 **true**

PPG Amount ($)

150,000

PPG Agency Fee ($)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Senegal	Land Degradation	LD STAR Allocation	100,000	9,500	**109,500.00**
FAO	GET	Senegal	Biodiversity	BD STAR Allocation	50,000	4,750	**54,750.00**
				Total Project Costs($)	**150,000.00**	**14,250.00**	**164,250.00**

Core Indicators

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
13500.00	12000.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Select	9,000.00	12,000.00		

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,500.00			

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Select	1,500.00			

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
400000.00	400000.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
60,000.00	60,000.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
340,000.00	340,000.00		

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Select				

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	6818889	6818889	0	0
Expected metric tons of CO?e (indirect)	13915692	13915692	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	6,818,889	6,818,889		
Expected metric tons of CO?e (indirect)	13,915,692	13,915,692		
Anticipated start year of accounting	2023	2023		
Duration of accounting	20	20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	65,625	65,625		
Male	21,875	21,875		
Total	87500	87500	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

2.1 Project Background

Senegal, on the Western seaboard of Africa?s Sahel region, spans 196,622km2 with a population of over 17 million (of which 50.4% women) as of 2021. Prior to the COVID-19 pandemic, Senegal?s economy was growing rapidly.[1][1] In fact, between 2014 and 2018, Senegal recorded economic growth exceeding 6 percent per year, according to data from the National Agency for Statistics and Demography (ANSD). Phase I of the Emerging Senegal Plan (PSE) (2014-2018) set a target annual growth rate of over 7 percent, which the country was close to achieving. However, the impacts of the pandemic have had devastating effects, not just on the economy, but multidimensionally, affecting the health, social behaviors of people, and has exacerbated previous environmental challenges and inequities. In particular, women and youth, and those working at subsistence levels, have been further disenfranchised and faced greater challenges in accessing services and maintaining profitable livelihoods.

Senegal places high importance on agriculture as a vehicle of economic growth and food security.[2][2] After achieving its independence in 1960, Senegal?s two decades of steady economic growth, were mostly based on land resources and agricultural productivity. However, after the initial leaps in productivity, the agriculture sector has been in decline since 1980s as characterized by reduced productivity and agricultural revenues. Senegal has a high population growth rate (3%) that will double by 2040, while 39% of the population live below the poverty line, 75% of families suffer from chronic poverty, and the number of severely food insecure people in 2017-19 was higher than recorded before[3][3].

Today, Senegal is aspiring to transform into an emerging economy by 2035. With a strategic coastal location which serves as a gateway for landlocked neighbouring countries, Senegal plays a vital geopolitical and economic role. As articulated in the Emerging Senegal Plan (PSE), Senegal's environmental policy, in its design and implementation, aims, among other things, to integrate the principles of sustainable development into national economic and social development strategies to

reverse the tendency to waste natural resources, biodiversity and the degradation of the living environment of the populations. Environment and agriculture are therefore a cornerstone of the country?s economic and social development.

Agriculture is one of the most important sectors in Senegal. Around 30% of the population works in the sector and it accounted for 15% of Senegal?s GDP in 2020, according to the World Bank. According to 2016 figures, rural women are almost 70 per cent of Senegal?s workforce and produce 80 per cent of the country?s food.[4][4]

Although the soils are naturally low in soil organic carbon[5][5] and rainfall is irregular, Senegal heavily relies on rain-fed agriculture (94-98%[6][6]). Senegalese farmers mainly grow groundnuts, sugarcane, and cotton as primary cash crops. The rest of the production is dominated by subsistence crops, especially cereals: rice, millet, sorghum and maize[7][7].

In terms of nutrition, Senegal has been identified as being ?off course? to meeting global nutrition targets, in particular, Senegal is seen as off course in attaining all targets for maternal, infant and young child nutrition (MIYCN).[8][8] Some progress has been made towards achieving the target of reducing anaemia among women of reproductive age, with 52.7% of women aged 15 to 49 years now affected. There has also been some progress towards achieving the low birth weight target with 18.5% of infants having a low weight at birth. Senegal has also made some progress towards achieving the target for stunting, but 17.9% of children under 5 years of age are still affected, which is lower than the average for the Africa region (30.7%). Senegal has made no progress towards achieving the target for wasting, with 8.1% of children under 5 years of age affected, which is higher than the average for the Africa region (6.0%). The prevalence of overweight children under 5 years of age is 2.3% and Senegal has made no progress on this front.[9][9] Iodine deficiency affects 28% of women and only 47% of the Senegalese population consumes adequately iodized salt.

Remote locations make it difficult for pregnant women and their children to access essential health care services, medicines and other commodities, including vitamins and minerals.[10][10]

Food insecurity and malnutrition stand at 7.2 percent and 8.2 percent respectively, with major regional disparities.[11][11] Senegal is subject to climate hazards, insufficient food production, droughts, land degradation, high food prices and low resilience which have further compounded food insecurity. According to the October 2021 *Cadre Harmonis?*, the analytical framework which is a regional system for food crisis prevention and management that considers various outcome indicators of food and nutrition insecurity and the impact of contributing (key drivers and limiting) factors, 304,107 people were expected to suffer from food insecurity. In the projected period of the lean season (June ? August 2022) 881,276 people fall under the combined critical (crisis, emergency) phases of food and nutrition insecurity. This figure includes 8,855 vulnerable populations who are expected to be in emergency (phase 4).[12][12] In the projected period, only twelve (12) departments should remain in

minimum phase, while four (4) in crisis phase (Figure 2). Consumption deficits are expected to increase with the reduction of stocks from production and the consequent rise in the prices of the main basic foodstuffs and energy products (oil, gas, fuel).

The country currently **cannot meet its food security needs** and thus relies on imports, mostly for rice, wheat, and dairy. Cereal import dependency ratio was on average 52% in 2015-2017, although increased intensive rice production in subsequent years was put in place to increase self-sufficiency. Even with national production and imports, nutritional needs are not met, especially in poorer rural areas. Senegal ranked 67 out of 117 countries in the 2019 Global Hunger Index[13][13]. This dependency is all the more problematic in the context of the COVID-19 pandemic with supply chain and transportation disruptions, the Ukraine crisis, increased prices and inflation and the closing of the borders between Senegal and Mali.

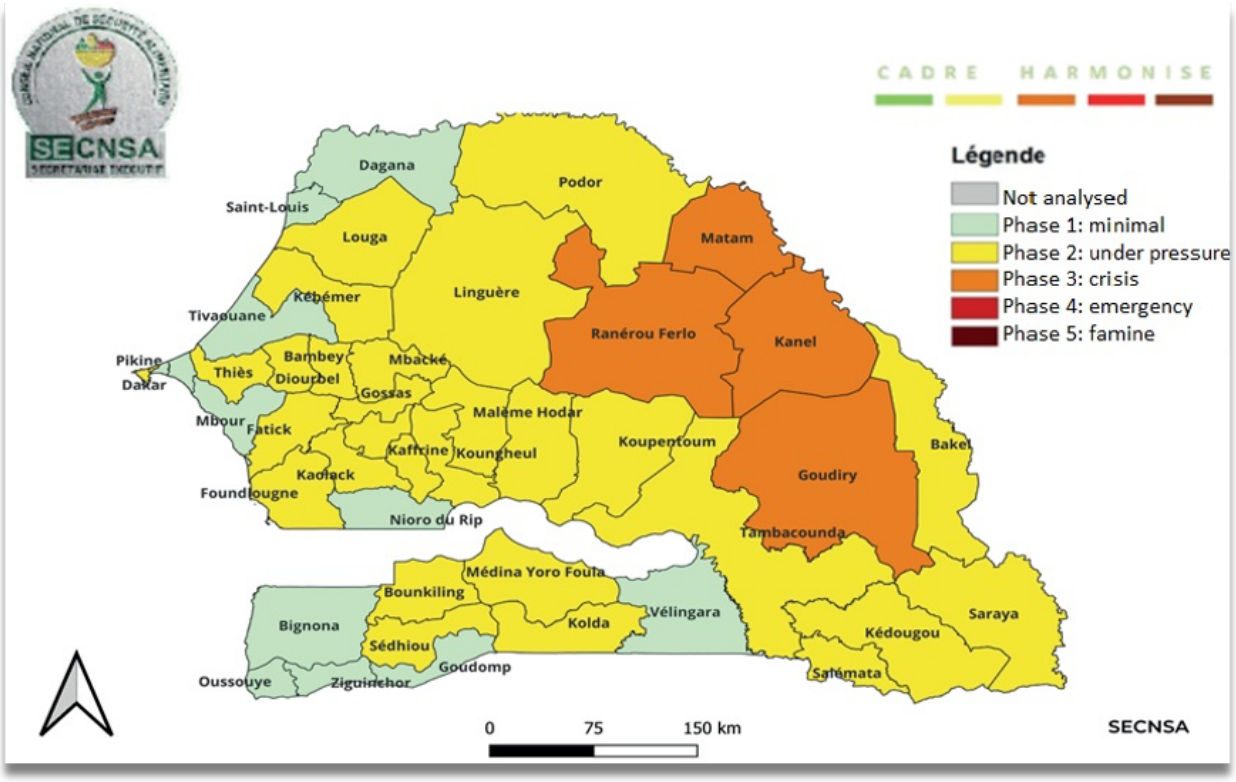


Figure 2. National analysis of the projected food and nutrition situation of Senegal (June-August 2022)

Such **socio-economic system**[14][14] is **bound by the ecosystems? carrying capacity** locally and nationally, and ?planetary boundaries? regionally and globally. The current socio-economic system presents an example of a ?reinforcing feedback loop?[15][15], where the Senegalese communities, hard hit by the destabilization of production systems and the structural adjustment, have been concerned primarily with surviving on a daily basis. Populations in remote areas have limited options for managing land and accessing other benefits of economic development[16][16]. The structural food deficit is exacerbated by drought, climate change, and worsening soil fertility, putting an increased pressure on natural resources, destabilizing fragile production systems, and their eventual degradation, and subsequent conversion of nearby woodlands and forests (which are reported to be lost at a rate of 40,000 ha a year)[17][17]. As reported in the 2015 NBSAP of Senegal, agriculture and particularly poor management practices, is the first driver of degradation and fragmentation of ecosystems, habitats of globally significant animal and plant species. Man-made pressures deteriorating natural resources have increased due to shrinking farm sizes, accelerating land degradation trends, and thus reducing supporting, provisioning, and regulating ecosystem services and biodiversity.

Biodiversity loss and eroding ecosystem services due to land degradation have high social, economic, and environmental costs to the country. In 2010, 1.8 million people lived on degrading agricultural land - an increase of 38% in one decade - bringing the share of rural residents who inhabit degraded agricultural land up to 24% of the total rural population.[18][18] The annual cost of land degradation in Senegal is estimated at US$996 million, or 9% of GDP (compared to the 4% of GDP average in Africa)[19][19]. Agriculture practices that exceed the carrying capacity of the ecosystem, will erode the land that support agriculture in the first place, thus positioning it as a proxy to an extractive activity. Thus, addressing land degradation requires urgent attention.

While the cost of land degradation is excessively high for the country?a study in 2015 noted that the annual cost of land degradation on rice, millet and maize?which account for 45 % of cropland area?is US$103 million, or 2 % of the country?s GDP, the marginal rate of return to investment in restoration of degraded lands is greater than 4.[20][20] The study notes high returns to taking action against land degradation, which would have far-reaching benefits for the rural poor who heavily depend on natural resources. Senegal has great potential for successfully addressing land degradation due to its large number of agricultural extension agents from public and private providers, the promotion of various initiatives such as Integrated Soil Fertility Management (ISFM) practices, Agroecology[21][21], Community-Based Forest Management (CBFM) and strengthening public-private partnership. The Dankou Classified Forest investment in awareness creation of ecosystem services led to effective participation of the communities and their participation in protecting it. This demonstrates that awareness creation is a key strategy for ensuring community involvement in protecting natural resources, and that Senegal has the backdrop against which successful SLM and LDN efforts can be achieved.

2.2- Site Selection

Selection of the target landscapes was carried out through multi-criteria review with the main stakeholders of the project. Sectoral partners, the inter-sectoral task force, and consultations with other projects initiatives were carried out to identify where the project could be carried out with the most value added. Chief among considerations was the presence of institutional and community actors who can uptake the contributions of the project, and sustain them beyond the duration of the project. Sites were also identified where there is a threshold of baseline activity on which these interventions can be anchored and partners who may assist with delivery or with complementary initiatives. It was also vital

that the sites selected were in line with the national LDN objectives and global LDN guidelines as well as National Biodiversity strategy and action plan. The boundaries of the targeted landscapes presented were set in order to strengthen connectivity between forest reserves biodiversity conservation efforts in nearby KBAs. The following considerations were taken into account for site selection:

? The existence of the multiple challenges regarding natural resource management, such as land degradation due to natural conditions (wind or water erosion) and unsustainable use, complexity of terrain and geographic features, soil conditions, patterns of the local agricultural activities and lack of regulatory mechanisms leading to land degradation;

? The significance of the agricultural sector to the region in terms of GDP share and share of the population employed;

? Eroding ecosystems and the need to bolster ecosystem services and prevent pressures on adjacent biodiversity

? Land degradation severity and identified as hot spots as per UNCCD indicator assessments;

? Complementarities with other relevant on-going projects;

? Contribution to the national LDN targets;

? Existence of SLM practices that can be enhanced and upscaled (bright spots);

? Diversity of land tenure governance;

? Potential for positive impact on women and vulnerable groups;

? Possibility of multiple benefits on other SDG goals, enhancement of resilience against climate change, supporting carbon sequestration etc?

? Potential for building landscape and social resilience?communities can espouse a landscape vision and potential for activities to coalesce around a mutually reinforcing sustainable development agenda

? Demonstrated community capacity and interest in adaptive learning

? Diversity among beneficiary diversity groups;

? Potential for upscaling and replication in other regions.

As per these consideration, four priority landscapes were identified and validated as sites of intervention by intersectoral partners, and development actors, during the development of the PIF, and later during the inception workshop during the PPG (February, 2022).

The project will cover four landscapes in the agro ecological zones of the **Peanut basin** (Fatick, Kaffrine, Diourbel, regions) and **East Senegal** (Tambacounda) as seen in Figure 3. The four adjacent regions stretch East to West and represent three out of four agro-ecological zones of Senegal (Southern Guinea Savannah, Semi-arid/Sudan Savannah, and Northern Guinea Savannah) and two out of three climate zones (tropical Savannah and warm semi-arid climate). A diversity of ecoregions represent a continuous mosaic of land uses dominated by rain-fed and fallow croplands, shrub and tree savannahs, forests, and marshes. Figure 4 highlights key biodiversity areas in Senegal, while figures 5 and 6, highlight key biodiversity areas per landscape targeted.

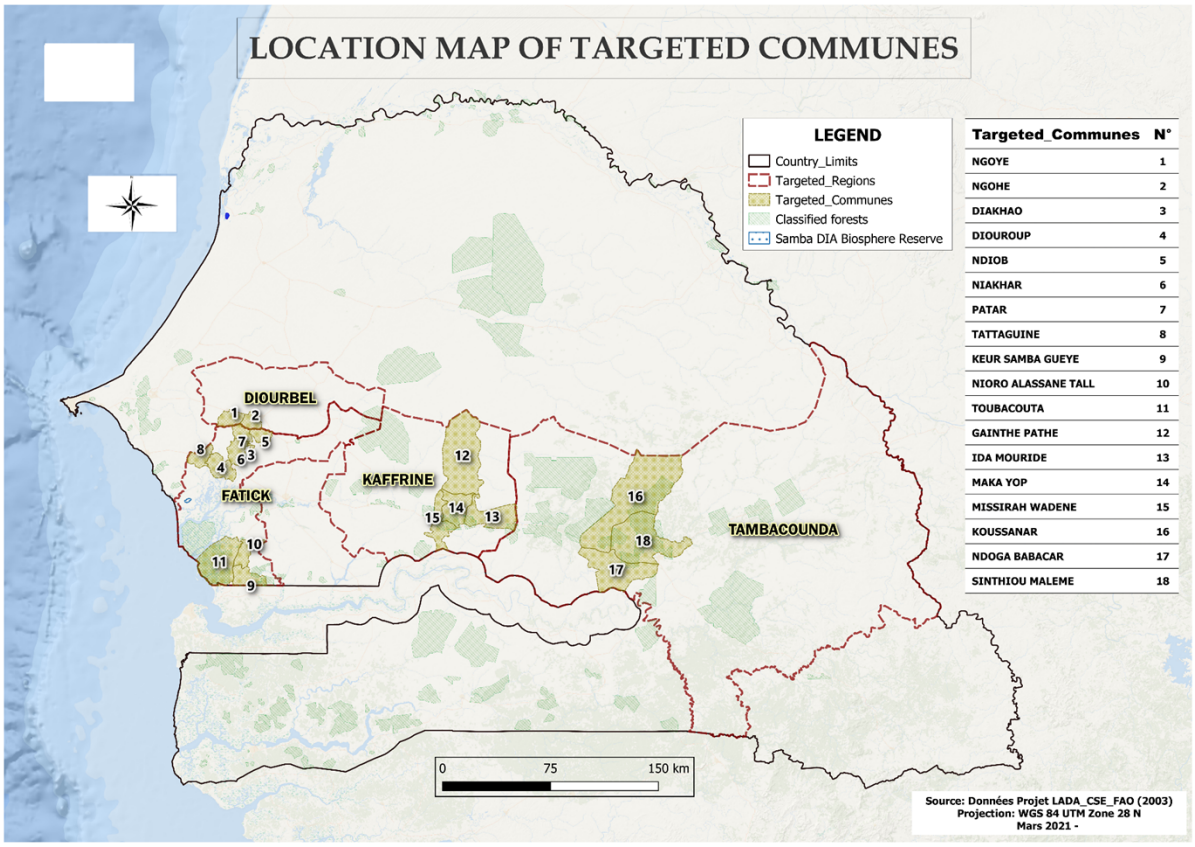


Figure 3. Project target communes

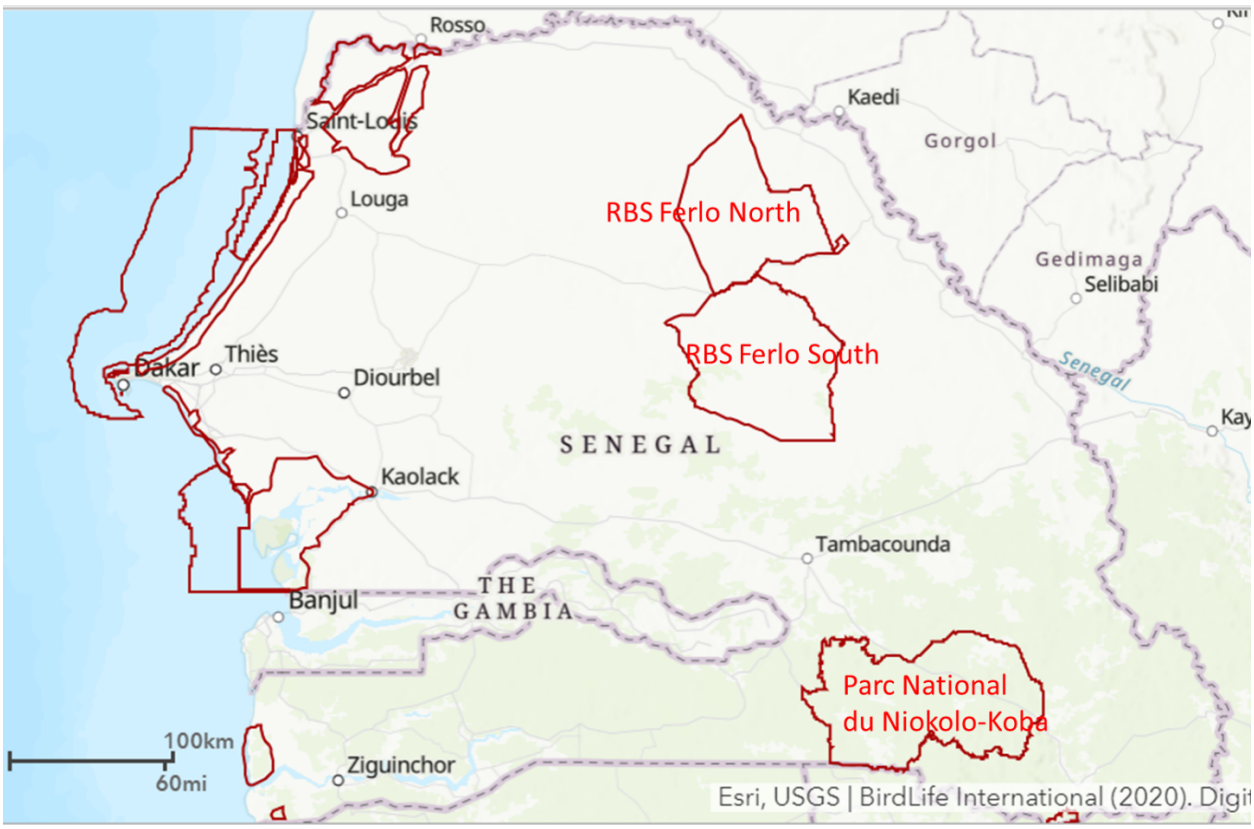


Figure 4. Overview of Key Biodiversity Areas in Senegal

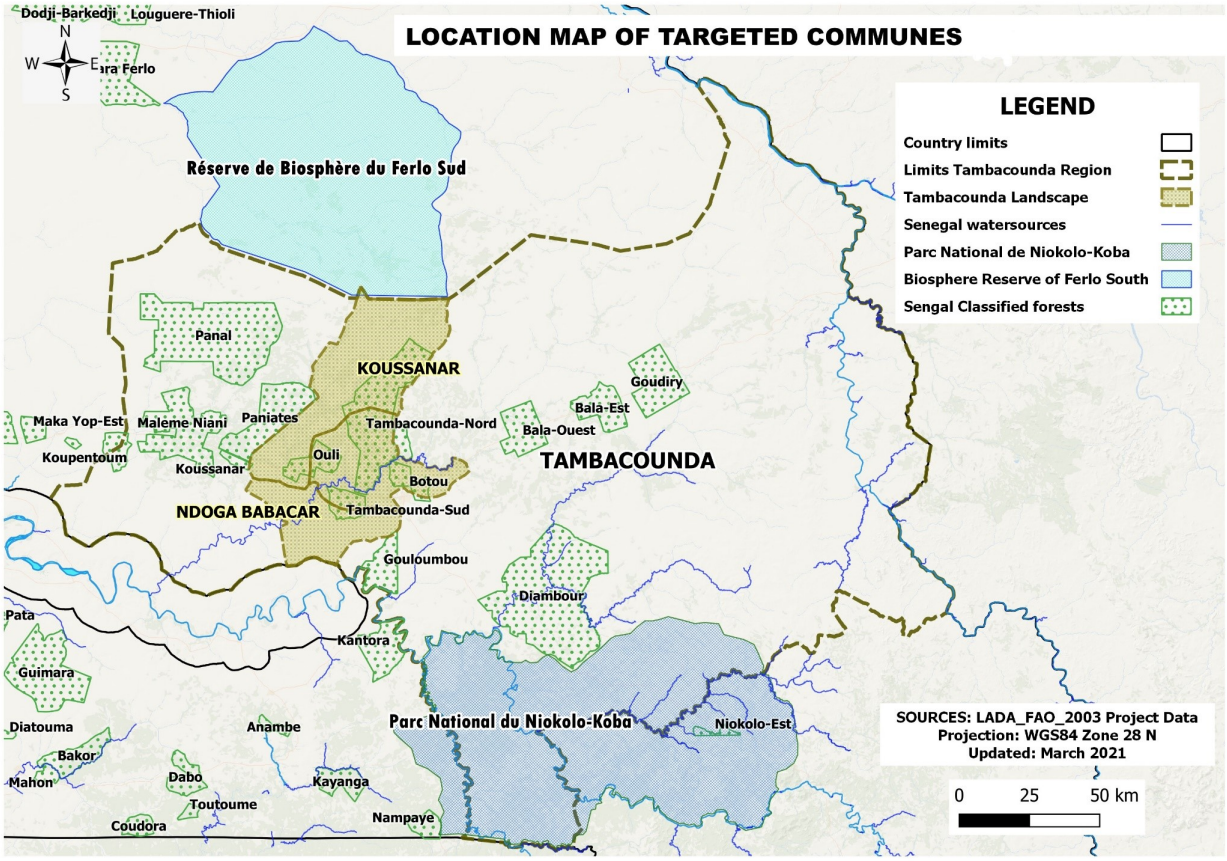


Figure 5. Key Biodiversity Areas and Classified Forests in Tambacounda

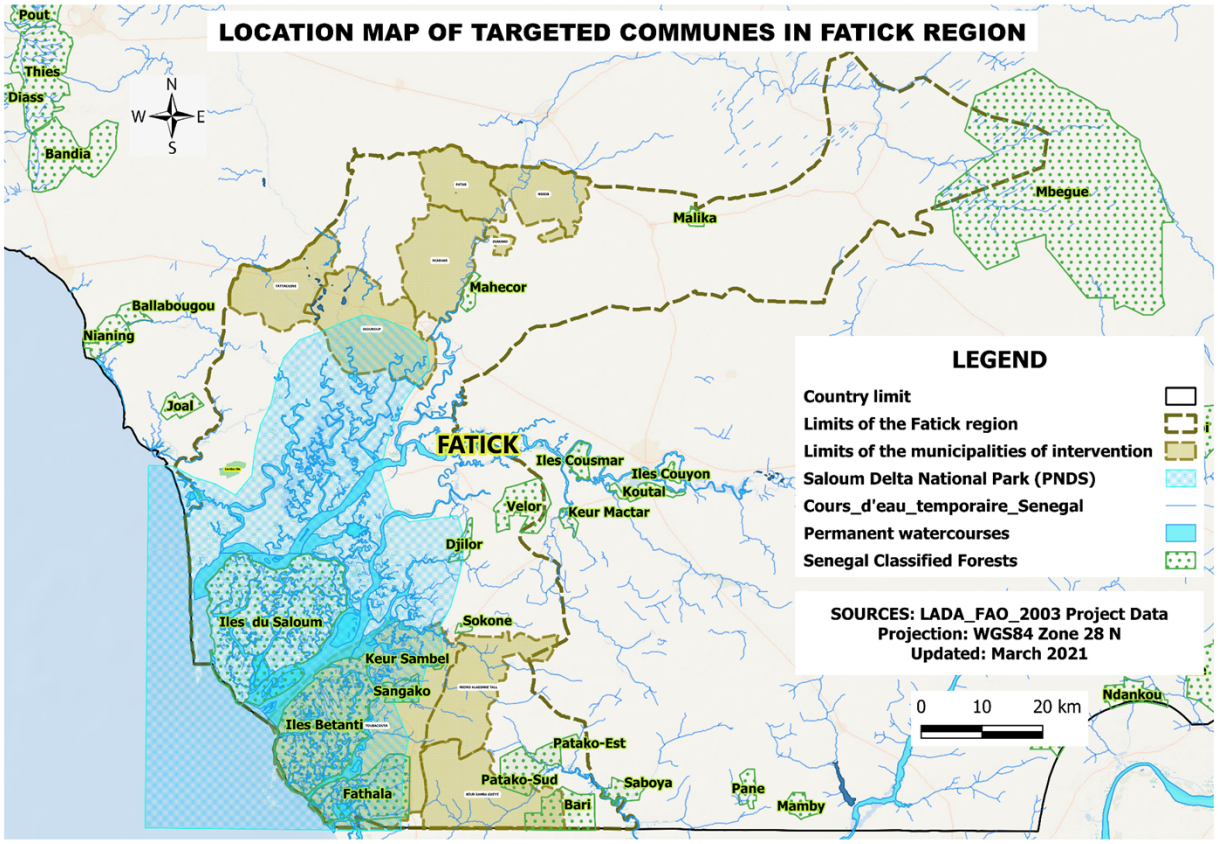


Figure 6. Key Biodiversity Areas and Classified Forests in Fatick Diourbel

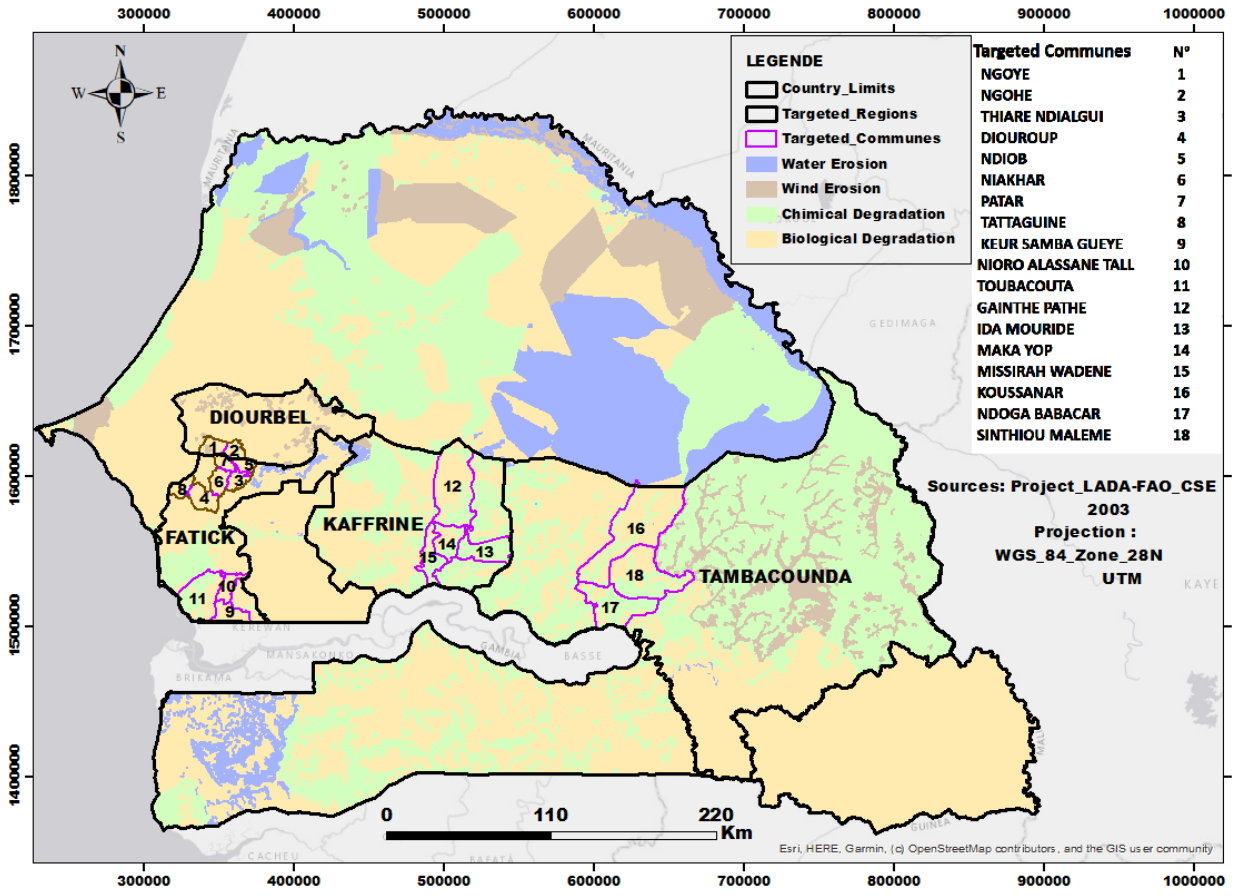

LEGENDE
Country_Limits
Targeted_Regions
Targeted_Communes
Water Erosion
Wind Erosion
Chimical Degradation
Biological Degradation
Targeted Communes N°
NGOYE 1
NGOHE 2
THIARE NDIALGUI 3
DIOUROUP 4
NDIOB 5
NIAKHAR 6
PATAR 7
TATTAGUINE 8
KEUR SAMBA GUEYE 9
NIORO ALASSANE TALL 10
TOUBACOUTA 11
GAINTHE PATHE 12
IDA MOURIDE 13
MAKA YOP 14
MISSIRAH WADENE 15
KOUSSANAR 16
NDOGA BABACAR 17
SINTHIOU MALEME 18
Sources: Project_LADA-FAO_CSE 2003
Projection : WGS_84_Zone_28N UTM
DIOURBEL
FATICK
KAFFRINE
TAMBACOUNDA
0 110 220 Km
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
300000 400000 500000 600000 700000 800000 900000 1000000
1800000 1700000 1600000 1500000 1400000

Figure 7. The main types of land degradation in Senegal

Fatick-Toubacouta Landscape- Located in the coastal area, the core area of the landscape covers an area of 114,286 ha. It includes three communes (Toubacouta, Nioro Alassane Tall, Keur Samba Gueye) with 114,637 inhabitants. The analysis of the pedological resources shows the existence of four types of soil: dior soils (ferruginous-tropical), deck-dior soils (clayey- sandy), deck soil (rich in mineral elements and organic matter, which gives them their grayish /black color, due to fine clay texture, they have a high-water retention capacity; these soils suitable for market gardening and rice cultivation), the tannes (acidic and hyper salty, and not suitable for agriculture). This landscape is distinguished by the importance of its natural resources and the remarkable biological diversity. A significant part of this landscape is home to the KBA Delta du Saloum, which is used for nature conservation and tourism. Activities in areas around the site include livestock-rearing, agriculture (mainly growing of millet), fishing and hunting, which can negatively impact the KBA.

The region includes: classified forests, marine protected areas, community reserves, national parks and biosphere reserves. Natural resources in this landscape are exposed to chemical degradation, such as salinization of the land which leads to reduced fertility, reduced organic matter content; biological degradation which leads to reduced vegetation cover, bushfire, habitat loss, decline in species composition; physical degradation leading to soil compaction, sealing and encrustation; and water and wind erosion leading to erosion of banks, loss of topsoil by wind erosion, and gullying. The climate-related changes observed in this area include decrease in rainfall; changes related to sea level rise and coastal erosion.

Fatick-Diourbel Landscape- This production landscape has an area of 112,977 ha and is comprised of nine contiguous communes (Niakhar, Patar Sine, Ndiob, Thiar?, Diouroup, Tattaguine, Ngoh?, Ngoye) with 259,896 inhabitants. The soils in the landscape are mainly of the dior type, poor in organic matter, nitrogen and phosphorus, but favorable to the cultivation of groundnuts, millet, cowpeas, cassava and watermelon. The hydromorphic deck soils cover nearly 15% of the land, particularly in areas suitable for cereal crops (sorghum) and market gardening. The deck-dior soils represent only a few pockets in the landscape. Groundnut cultivation practiced on very favorable soils is the main source of income. Millet, which also grows very well on this type of soil, is the food base of the population. The area continues to face significant land use pressure. The constraints for the agricultural sector include: land degradation; the inadequacy of land legislation and effective governance; strong increase in water salinization; poor modernization of the agricultural sector; rainfall deficit; difficulties in accessing inputs and obsolescence of agricultural equipment; insufficient water resources; low level of production market due to absence of processing units, unsuitable marketing channels; and low valuation of agricultural products.

Kaffrine Landscape- The core area of the landscape covers approximately 251,985 ha and is located in central Senegal, in the Peanut Basin. It includes four communes (Missirah Wad?ne, Maka Yop, Ngainthe Path?, Ida Mouride) with 86,508 inhabitants. The climate is Sudano-Sahelian with a short

rainy season from June to October. Temperatures are generally high with significant variations (between 26 and 39 ? C). The soils encountered in the region are of three types: tropical ferruginous soils used for cultivation of groundnuts and millet; hydromorphic soils characterizing lowlands and rivers, with deck and deck-dior variants; halomorphic soils, characteristic of salty or tannes[22][22] environments. The soils of the region are poor and linked to human action and natural factors.

Salinization; degradation of the forest, water and wind erosion, and irregular rainfall among others, are the greatest challenges facing local stakeholders. In the face of these challenges, governance issues are mainly related to public institutions or in community behaviour. Kaffrine is one of the poorest regions of Senegal with a very high poverty rate (63.8%) compared to the national level (46.7%). The constraints remain poor soils, the low use of quality seeds, insufficient human resources for basic technical services in agriculture, livestock, and environment; insufficient logistical means for collecting and monitoring products or statistics, low levels of development of production areas, the low levels of surface water, the absence of structures for conservation and processing of products, the difficulties of marketing agricultural products and difficulties in accessing agricultural credits. Though not located near an identified KBA, this landscape buffers a network of classified forest which shows signs of human disturbance including charcoal production, logging, and subsistence agriculture.

Tambacounda Landscape- This production landscape is located in Eastern Senegal, and is composed of pastoral and agricultural areas. It has an area of 397,898 ha which covers three communes (Sinthiou Mal?me, Koussanar, Ndoga babacar) with 72,584 inhabitants. The soil is very diverse, but with a predominance of weakly evolved tropical ferruginous soils (siliceous sand), little leached tropical ferruginous soils (sandy clay or with ferruginous concretion), subarid brown soils, subarid red brown soils. From a climatic point of view, rainfall is characterized by a great spatio-temporal variability. Groundnuts, cotton and peanuts are the main cash crops. In some villages, the sale of market garden produce is an important source of additional income. The landscape is rich in natural resources, but these resources are subject to significant degradation, due to natural and man-made impacts.

The main forms of degradation recorded are chemical (decrease in fertility), biological (reduction in plant cover, bush fires, loss of habitats, loss of biodiversity, reduction in halieutic biomass), physical (compaction), water and wind erosion (loss of topsoil by surface erosion, gully erosion, bank erosion), and those relating to water resources (narrowing of surface water, reduction in the capacity of backwaters, reduction in capacity wetland buffer). This landscape buffers the KBA Niokolo-Koba (park) which is under pressure because of growing population growth in its surrounding areas and their demand for increased agricultural outputs. Much of this agriculture is delivered by expanded agricultural land into classified forests or protected land in the KBA, rather than sustainable production intensification.

The majority of project activities will be conducted in these four project landscapes. The issues represented across these landscapes reflect the main challenges the food production system is facing in Senegal, when confronted with land degradation and biodiversity loss. These landscapes are production areas, most of which have been to extensive and relatively rapid deforestation and degradation. The land productivity is decreasing, and the quality of soil continues to degrade. The following image reflects the types of land degradation.

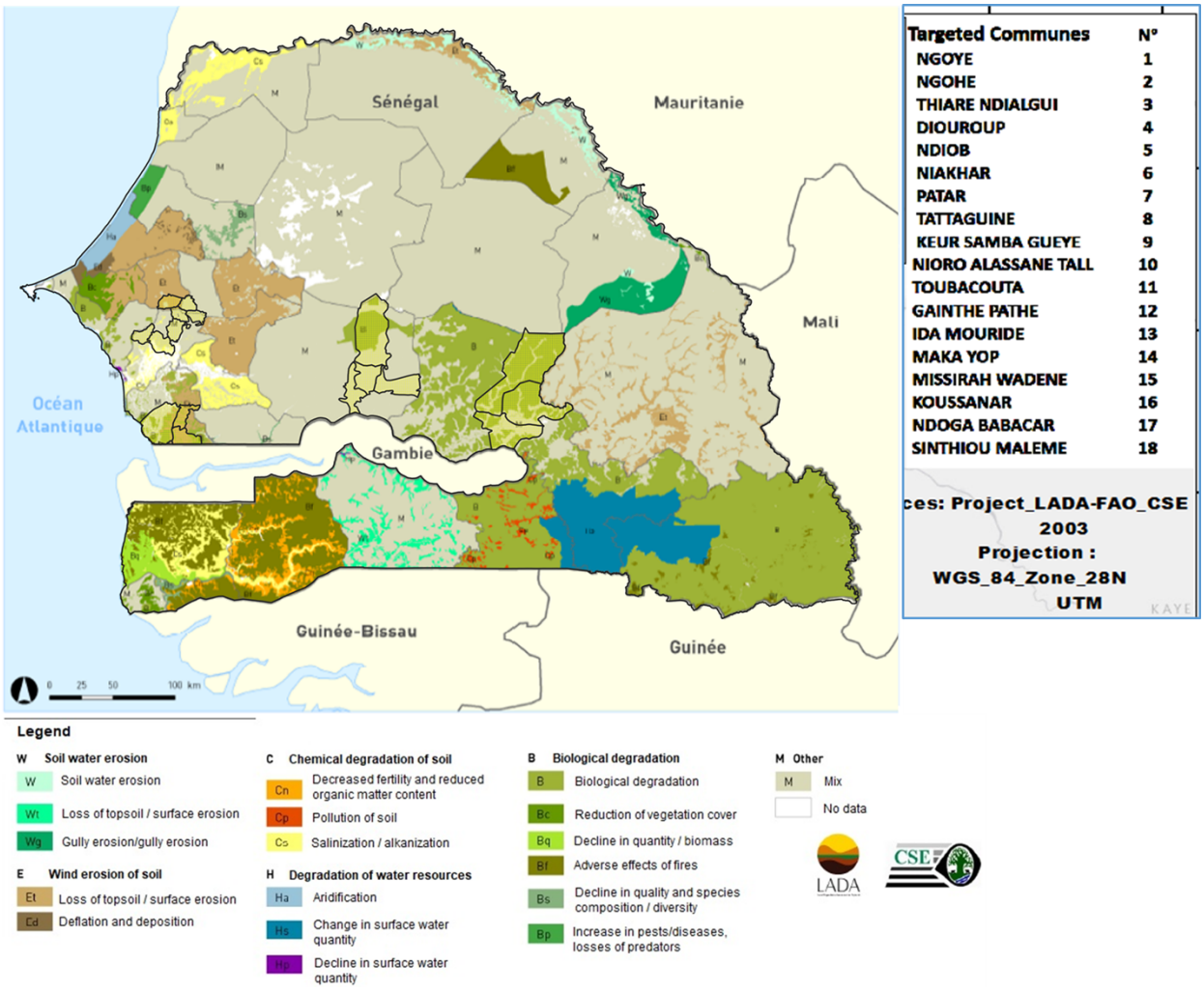


Figure 8. Types of Land Degradation

However, techniques and models are available, particularly those associated with agro-forestry, that have the potential to significantly increase the overall productivity of many of these areas, while improving livelihoods for their inhabitants and restoring lands and ecosystems services including biodiversity. Multi-stakeholder collaboration and partnerships at landscape level can help upscale

localized lessons learned and best practices. The proximity and interconnection between production land and natural land is ever considered in the project. In fact, the project notes that with low production, there is risk that agricultural activities may extend into KBAs impacting protected areas. The project will thus act to support buffer areas with sustainable development initiatives and take into account the risks and interactions that come from mixed-use target landscapes (in the KBAs identified above) that will be managed in a holistic fashion. Interventions on production land (SLM for LDN) is therefore believed to positively contribute to BD conservation efforts in natural land.

The following table reflects a breakdown of the populations and communes per landscape.

Region	Department	Districts	Communes	Population	Male	Female	Area (ha)	Latitude	Longitude
Diourbel	Bambey	Ngoye	1. Ngoye	57,340	28,392	28,948	15,956	14°38'30.06"N	16°26'2.70"W
	Diourbel	Ngohé	2. Ngohé	37,489	18,439	19,050	12,859	14°37'43.18"N	16°17'40.40"W
Fatick	Fatick	Niakhar	3. Thiaré Ndialgui	21,133	10,592	10,541	14,195	14°26'26" N	16°14'47"W
		Tattaguine	4. Diouroup	29,270	14,268	15,001	24,830	14°21'56.57"N	16°31'34.56"W
		Ndiob	5. Ndiob	23,993	11,978	12,014	12,530	14°32'35.33"N	16°15'25.06"W
		Niakhar	6. Niakhar	35,993	17,535	18,458	18,146	14°28'52.48"N	16°23'51.74"W
		Niakhar	7. Patar Sine	31,808	15,744	16,064	11,846	14°33'44.75"N	16°22'59.25"W
		Tattaguine	8. Tattaguine	38,457	19,323	19,133	15,656	14°25'6.58"N	16°36'21.84"W
		Toubacouta	9. Keur Samba Gueye	29,661	14,646	15,015	23,960	13°36'12,58"N	16°36'12.22"W
			10. Nioro Alassane Tall	40,898	19,807	21,091	19,302	13°59'27,58"N	16°33'60.30"W
			11. Toubacouta	44,078	22,089	21989	71,024	13°59'28,21"N	16°46'59.30"W
Kaffrine	Koungheul	Missirah Waden	12. Ngainthe Pathè	19,915	10,144	9,771	129,252	14°16'44.05"N	14°55'45.27"W
		Ida mouride	13. Ida Mouride	24,529	12,514	12,015	50,027	13°59'15.50"N	14°39'51.80"W
		Missirah Waden	14. Maka Yop	17,771	8,874	8,898	37,414	14° 2'9.02"N	15° 1'27.35"W
		Missirah Waden	15. Missirah Wadène	24,293	12,543	11,751	35,292	13°59'13.15"N	15° 6'54.95"W
Tambacounda	Tambacounda	Koussanar	16. Koussanar	33,746	17,022	16,724	194,828	13°51'57.62"N	14° 4'45.39"W
	Koumpentoum	Maka koulibantha	17. Ndoga babacar	13,233	12,566	25,798	86,198	13°43'55.59"N	13°57'54.94"W
	Tambacounda	koussanar	18. Sinthiou Malème	25,605	13,307	12,298	116,872	13°49'6.09"N	13°55'16.00"W
			Total	**549,212**	**279,783**	**294,559**	**890,188**		
Population projection of Senegal / MEFP / ANSD - October 2015 - Updated in January 2021									

Table 3. Project Sites and Population

2.3. Land Degradation Status and Trends

The Government of Senegal has conducted several local and regional land degradation assessments in the past and a nationwide inventory of soil conservation practices, many of which are documented in the World Overview of Conservation Approaches and Technologies (WOCAT) SLM database. These assessments associated land degradation with socio-economic characteristics and soil and vegetation trends. Assessments on the ?hot spots? focused on types, causes, impacts of land degradation and considered the existing and potential land degradation control measures and constraints for scaling up. **Observation of the state of Senegal's natural resources shows a critical situation resulting from land degradation which affects 65% of the country's surface area.**

Land degradation is a particularly serious problem for rural communities and farmers who depend on land for their livelihoods. Areas that have recorded the highest agricultural performance in the past, such as the Southern Peanut Basin and Eastern Senegal, are now experiencing high population densities, resulting in over-exploitation of agricultural land leading to rapid depletion, resulting in falling yields and agriculture income. This also leads to a decrease of food production since the natural regeneration of fallow land are practically non-existent today.

The soils in Senegal are naturally fragile and low in organic matter. Unsustainable land management has resulted in compaction and reduced fertility leading to reduced vegetative cover, in particular in grasslands. Shifting cultivation and abandonment of fallow land led to expansion of agricultural areas and resulted in steady and increased encroachment of cultivation onto savannah and woodlands in the central and southern parts of the country (CSE, 2010). In addition, high demand for wood and non-timber forest products add pressure resulting in massive deforestation and canopy degradation. Analysis of the satellite imagery (LADA) of land cover change between 1990 and 2005 showed that agriculture areas have increased by over 500,000 ha (nearly 50%) converting natural vegetation (herbaceous, shrubs, and trees)[23][23] to agricultural lands. Terrestrial carbon stock rates have been in drastic decline (1965-2000), especially in savannah, forests, and shrub and grasslands[24][24]. Salinization is also one of the main factors of ecosystem degradation, in particular the regions located in the lower and middle valley of the Senegal River, Sine Saloum, and Casamance. The magnitude of this phenomenon is due to the large rainfall deficits observed in recent decades. The land affected by the salinization phenomenon is 996,950 ha.[25][25]

The statistics on land use largely reflect that this type of land degradation is most acute where areas of agricultural land are greater than 90% of the total area. They are followed in degradation by areas where grasslands dominate by 60%, which are significant in the landscapes of eastern Senegal (Communes of Ndoga Babcar, Sinthiou Malem and Koussanar). In the municipalities of the central Peanut Basin, land use is dominated between agricultural land and grassland. The MODIS satellite images used to generate these areas show a much more marked degradation trend in the landscapes of the municipalities of the central Peanut Basin (Gainthe Path?, Missirah Wad?ne, Maka Yop), in eastern Senegal (Sinthiou Maleme and Ndoga Babacar), in the southern Peanut Basin (Keur Samba Gueye) and the northern Peanut Basin (Thiar? Ndialgui). In the landscapes of these municipalities, the areas of degraded land exceed 20%.

2.3.1. Main Types of Degradation

During PPG field observations, consultations and research data confirmed that the main types of land degradation that affect the eighteen (18) target communes include:

? ***Soil depletion of organic matter and mineral elements***- Organic carbon is one of the indicators of land degradation neutrality (LDN), which influences other soil properties, in particular the availability of nitrogen[26][26]. It is recognized that nitrogen and phosphorus are among the most deficient nutrients in the soils of Senegal, particularly in the Peanut basin. Soil cultivation conditions often lead to a decline in soil fertility. The export of crop residues, the reduction of fallow land and the low use of organic fertilizers are various practices that contribute to depleting the soil in nutrients. Organic or mineral fertilization practices can improve soil health and contribute to land degradation neutrality.

? ***Increasing salinity***- Salinization compromises the productivity of production systems located in deltas and estuaries. It is the municipalities of the southern and northern Peanut basin (Toubacouta, Tattaguine, Diouroup, Niakhar) that are most exposed to land salinization. The process caused the advance of saline water from rivers into agricultural or pastoral land. In zones where there are acute threats to food security or extreme climate change events, the salt land rehabilitation strategies are all more critical, as they may exacerbate those threats. However, the implementation of these saline soil recovery strategies requires precise knowledge of the affected areas and the type of salinity. The construction of anti-salt dykes, the use of peanut shells and the addition of phosphogypsum are techniques used by development actors to neutralize land degradation linked to salinization.

? ***Silting of lowlands and ponds***- The hydrological conditions of the lowlands allow them to be used for rice growing or to develop market gardening activities. In the Peanut basin, women are key actors in rice and market gardening. The ponds are used by livestock. However, water and wind erosion create obstacles to production due to sand from the plateau areas.

? ***Soil gullying-*** The process of soil gullying is mostly observed in agricultural and pastoral lands in the communes of the Tambacounda region. This is largely due to the topography and high levels of rainfall which can reach 800 mm per year. The runoff of water from upland areas to the watersheds, or lowlands, involve disturbances of the structural stability of soils by creating gully networks. With the decrease of soil water infiltration, the possibilities to practice rainfed agriculture are often reduced in landscapes exposed to soil gullying. The construction of water retention dams along the lowlands based on good knowledge of topographic, geomorphologic and soil characteristics of the landscape is a means to fight against this factor of land degradation related to the water erosion. Other water retention infrastructures and equipment like dikes, stone dams, check dams, contour lines (from vegetation such as aloe vera or other indigenous species that have a productive value) are also used by technical services to promote sustainable soil management in the lands affected by water erosion.

? ***Loss of plant biodiversity*** (see following section)

Table 4: Type of Land Degradation per Commune, per Landscape

Scale : Classification of the level of the land degradation in the targets communes and the SLM practices proposed

	Very High		High		Medium

Code	Commune	Landscape	Type of degradation				
			Soil depletion of organic matter and minerals	Biodiversity Loss	Salt Intrusion	Soil Gullying	Silting of lowlands
1	NGOYE	DIOURBEL					
2	NGOHE						
3	THIARE NDIALGUI	FATICK					
4	DIOUROUP						
5	NDIOB						
6	NIAKHAR						
7	PATAR						
8	TATTAGUINE						
9	KEUR SAMBA GUEYE						
10	NIORO ALASSANE TALL						
11	TOUBACOUTA						
12	GAINTHE PATHE	KAFFRINE					

13	IDA MOURIDE						
14	MAKA YOP						
15	MISSIRAH WADENE						
16	KOUSSANAR	TAMBACOUNDA					
17	NDOGA BABACAR						
18	SINTHIOU MALEME						
SLM practices proposed:			Phosphateand organic amendments (composting, biofertilizers, inputs of organic matter), assisted natural regeneration, farmer managed regeneration, soil defense and restoration/ water and soil conservation		Organic amendment of penut shells, inputs of of phosphogypsum, dykes		Baseline activities by CES : Contour bunds of stone and vegetation, hedges, farmer managed regeneration, prohibiting access, reforestation, agroforestry, fire-breaks

2.4 Biodiversity status and trends resulting from increased land degradation

2.4.1 Biodiversity in Targeted Landscapes

Senegal is subdivided into six eco-geographic zones which shelter a relatively high ecosystem diversity with the presence of:

? forest ecosystems (steppes, savannas, forests with galleries, palm groves, bamboo groves, halophyte formations, forest plantations, agroforestry parks, etc.),

? agroforestry systems,

? fluvio-lacustrine ecosystems with in particular the Senegal, Saloum, Gambia, Casamance and Kayanga rivers and the lakes of Guiers, Tanma and Retba (Lac Rose); and

? coastal ecosystems

Senegal is also home to a number of terrestrial, fluvial and marine Key Biodiversity Areas, i.e. nationally identified sites (e.g. classified forests) that contribute significantly to the global protection of biodiversity. A large part of these KBAs are protected areas, managed as national parks, wildlife reserves, Biosphere Reserves or other.

Some of the landscapes targeted by the project form buffer zones around KBAs (Delta du Saloum and Niokolo-Koba). This was a deliberate choice during site selection to reduce pressures on protected areas/KBAs, strengthen connectivity and to create improved norms around buffer zones to avoid encroachment in the future. There is also the understanding that degradation in the buffer zones will inevitably impact biodiversity and migratory patterns of wildlife species within protected areas.

The Delta du Saloum Biosphere Reserve (KBA) is home to a significant portion of Senegal's wildlife and plant resources. There are 95 species of birds, 114 species of fish, 35 species of large and medium fauna as well as 186 species of woody vegetation, including rare, threatened or likely to be species, such as bay colobus (*Procolobus badius temmincki*), African manatee (*Trichechus senegalensis*) and Atlantic humpback dolphin (*Sousa Teuszii*).

The Niokolo-Koba National park is made up 913,000 ha large area. It consists of gallery forests, savannah grass floodplains, ponds, and dry forests. Thanks to its remarkable plant diversity, a rich fauna is present: the Derby Eland (the largest of African antelopes), chimpanzees, lions, leopards, elephants, and many species of birds, reptiles and amphibians. The Biosphere has an important socio-economic role for the local populations. However, an ever-growing population in the buffer zone is a

challenge in terms of conservation,[27][27] and despite its PA status, the National Park has seen a decline due to poaching, fire within and outside the park, invasive species, illegal logging, livestock grazing and other mainly human pressures.

The Project covers two ecological zones of the country: Peanut Basin and Eastern Senegal, which extend over four landscapes and the administrative regions of Diourbel, Fatick, Kaffrine and Tambacounda. The project sites have significant potential in terms of natural resources and biodiversity.

Tambacounda Landscape: the most important types of vegetation consist of forest formations, consisting mainly of tree savannah, wooded savannah, shrub savannah and gallery forest, according to the Land Degradation Assessments in Drylands (LADA) project. They represent almost 69.09% against 43.84% of cropland. The shrub layer is mainly dominated by *Combretum glutinosum*, *Combretum micranthum*, *Guiera senegalensis, Grewia bicolor, Terminalia macroptera*. *Pterocarpus erinaceus, Cordyla pinnata, Sterculia setigera, Bombax costatum, Lannea acida, Anogeissus leiocarpus* are also founded in wood savannahs. Bamboo remains significant in certain localities of the region, while lowlands and marshy formations are colonized by *Mitragyna inermis*. *Adansonia digitata* and *Sterculia setigera*, because of their socio-economic importance, are carefully preserved in their natural habitats.

In terms of fauna, the quality of the forest ecosystems contribute to the maintenance of a rich and varied wildlife. The terrestrial fauna is mainly made up of antelopes including the bushbuck, the fassa cob, the derby elk, the ouribi, the hyena, etc., lions and panthers.

The aquatic fauna, apart from a large fish community, is made up of the hippopotamus and the crocodile. The avian fauna is varied. Its exploitation through hunting campaigns, in leased areas (safaris), contributes significantly to the socio-economic incomes of local communities. The main species include partridges, guinea fowls, pigeons, doves, gangas. It is also worth noting the sporadic presence of African vultures, a raptor with a high capacity for mobility from one locality to another. Overall, according to the official documents relating to the faunal diversity of the region, no migratory species of international dimension is noted. However, animal migrations between bordering regions of eastern Senegal are conducted. Such is the case of the lion which often leaves the national park to join the hunting zone of Fal?m? in the rainy season via natural migration corridors. In terms of **threats**, poaching and the deterioration of ecosystems are the main constraints to the dynamics of fauna in this region.

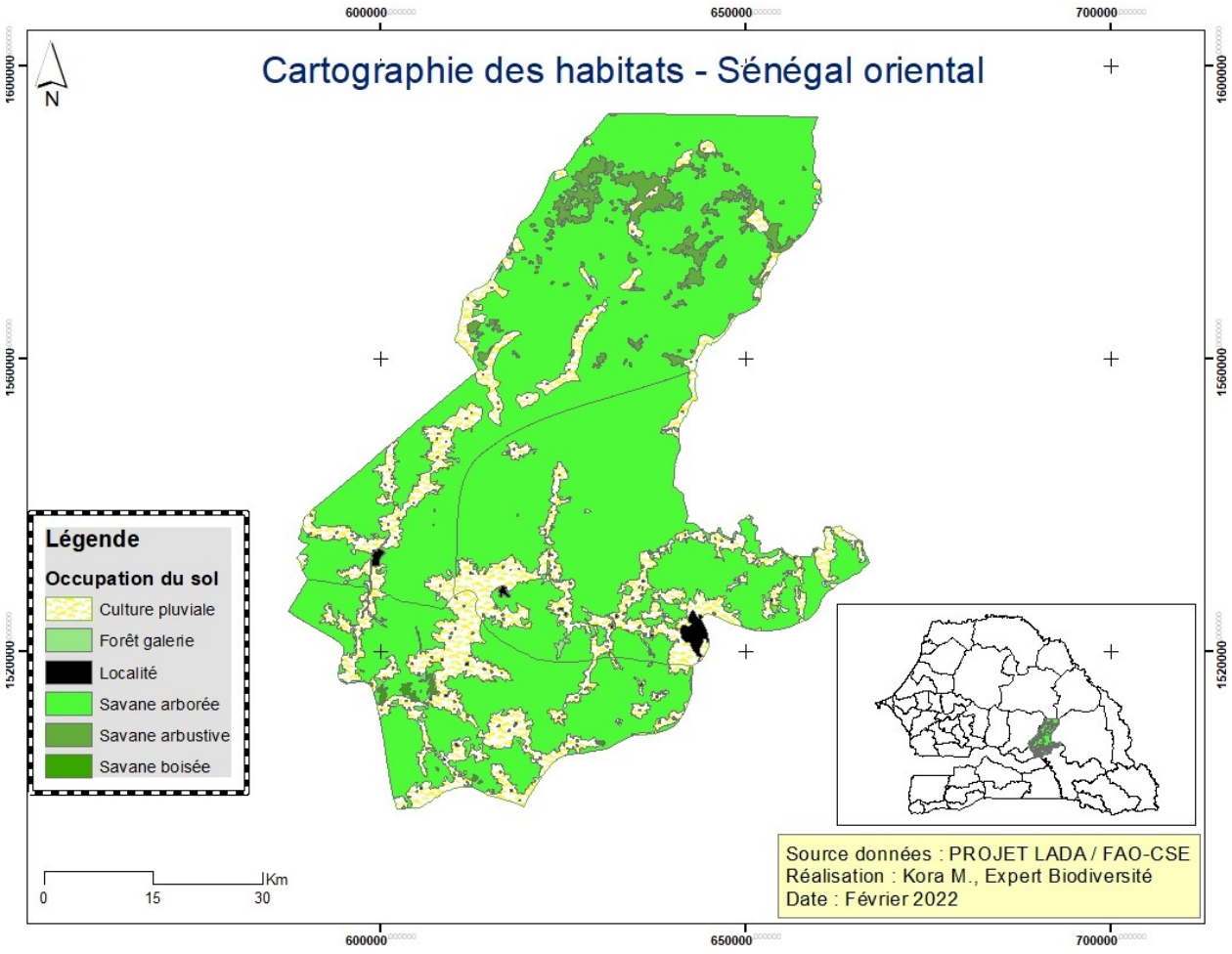


Figure 9. Land-Use in Tambacounda Landscape

Legend Translation:

Land use category

French	**English**
Culture pluviale	Rainfed agriculture
Foret galerie	Gallery Forests
Savane arbor?e	Tree savanna
Savane arbustive	Shrub savanna
Savane bois?e	Savanna woodland

Fatick-Diourbel Landscape

Peanut Basin is biodiverse and has several ecological sub-zones. The **Northern part of the Peanut Basin** corresponds to the municipalities in the south of the Diourbel region, and in the north of the Fatick region (Ngoye and Ngoh? for Diourbel; Niakhar, Ndiob, Thiar? Ndialgui, Diouroup, Pattar, Tattaguine for Fatick). The landscape of the area is mainly dominated by rainfed cropland, i.e. 63.95% of the total area of ??this part of the project. Forest lands are comprised of wooded savannas, shrub steppes and forest plantations (mainly eucalyptus). They are estimated at about 31.72% of the total area of ??the said municipalities.

The wooded stratum is dominated by an agroforestry park containing *Faidherbia albida* and *Balanites aegyptiaca* which occupies almost the entire agrarian landscape. Forest plantations, are mostly dominated by *Eucalyptus camadulensis, Prosopios juliflora,* and *Acacia melifera*. In the southern part, tannes have resulted from land degradation. There are shrubby stands of *combretaceae* such as *Combretum glutinosum* in the immediate surroundings of the tannes.

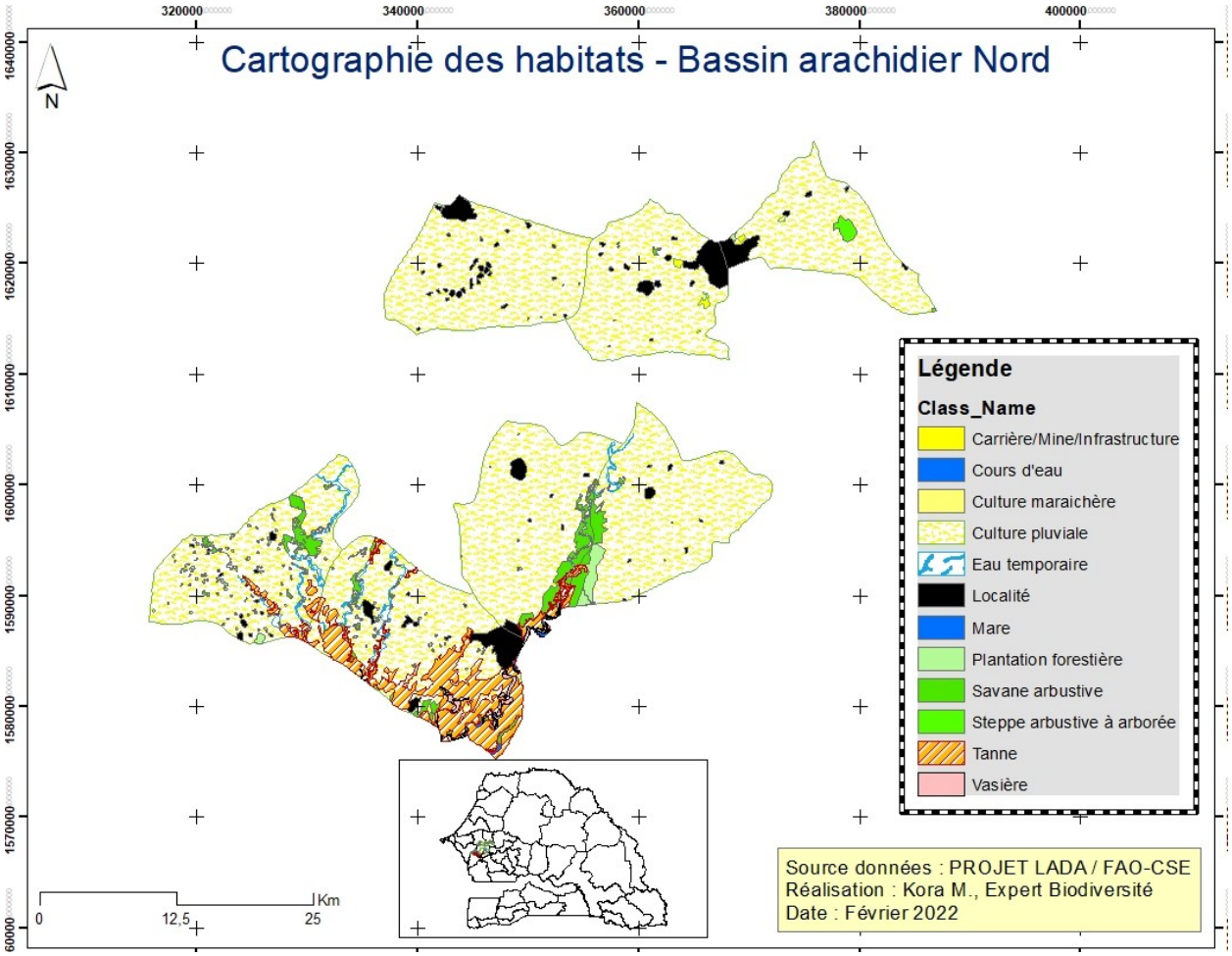


Figure 10. Land-Use in Fatick-Diourbel Landscape

Legend Translation:

Land use category

French	**English**
Carriere/Mine/Infrastructure	Quarry/Mines/Infrastructure
Cours d?eau	Watercourses
Culture maraich?re	Market gardening
Culture pluviale	Rainfed farming
Eau temporaire	Temporary water

Localit?	Locality
Mare	Pond
Plantation foresti?re	Forest planting
Savane arbustive	Shrub savanna
Steppe arbustive arbor?e	Tree shrub steppe
Vasi?re	Mudflats

Kaffrine Landscape: In the Center and East part of the Peanut Basin, (Ida Mouride, Gainthe Path?, Maka Yopp and Missira Wad?ne, in Kaffrine), the landscape is dominated by croplands and savannah forest formations. Tree and shrub savanna make up 65% of the of the municipalities addressed by the project. The characteristic species of the shrub layer are, among others, *Combretum sp.*, *Balanites aegyptiaca, Lannea acida, Bauhinia rufuscens, Adansonia digitata, Anogeissus leiocarpa*. In the tree and wooded savannah strata, species such as *Cordyla pinnata, Pterocarpus erinaceus, Daniellia oliveri, Parkia biglobosa, Tamarindus indica, Prosopis africana, Sterculiasetigera, Parinari macrophylla* can be found. Croplands, remain very important because they represent 44.45% of the total area of this sub-zone of the project. These croplands, like those of the North Peanut Basin, consist of an agroforestry park whose main species is *Cordyla pinnata*.

The wildlife in the Peanut Basin North, Center and East, is quite poor, and can be attributed in part to the conversion of natural habitat to agriculture. In this area long-haired animals, antelopes in particular, are rarely observed. However, there is avian fauna which includes doves, (guinea fowl, francolins, and sandgrouse, bustards, and passerines. As for mammals, hares, common jackals, striped hyenas and warthogs are often seen in the wild.

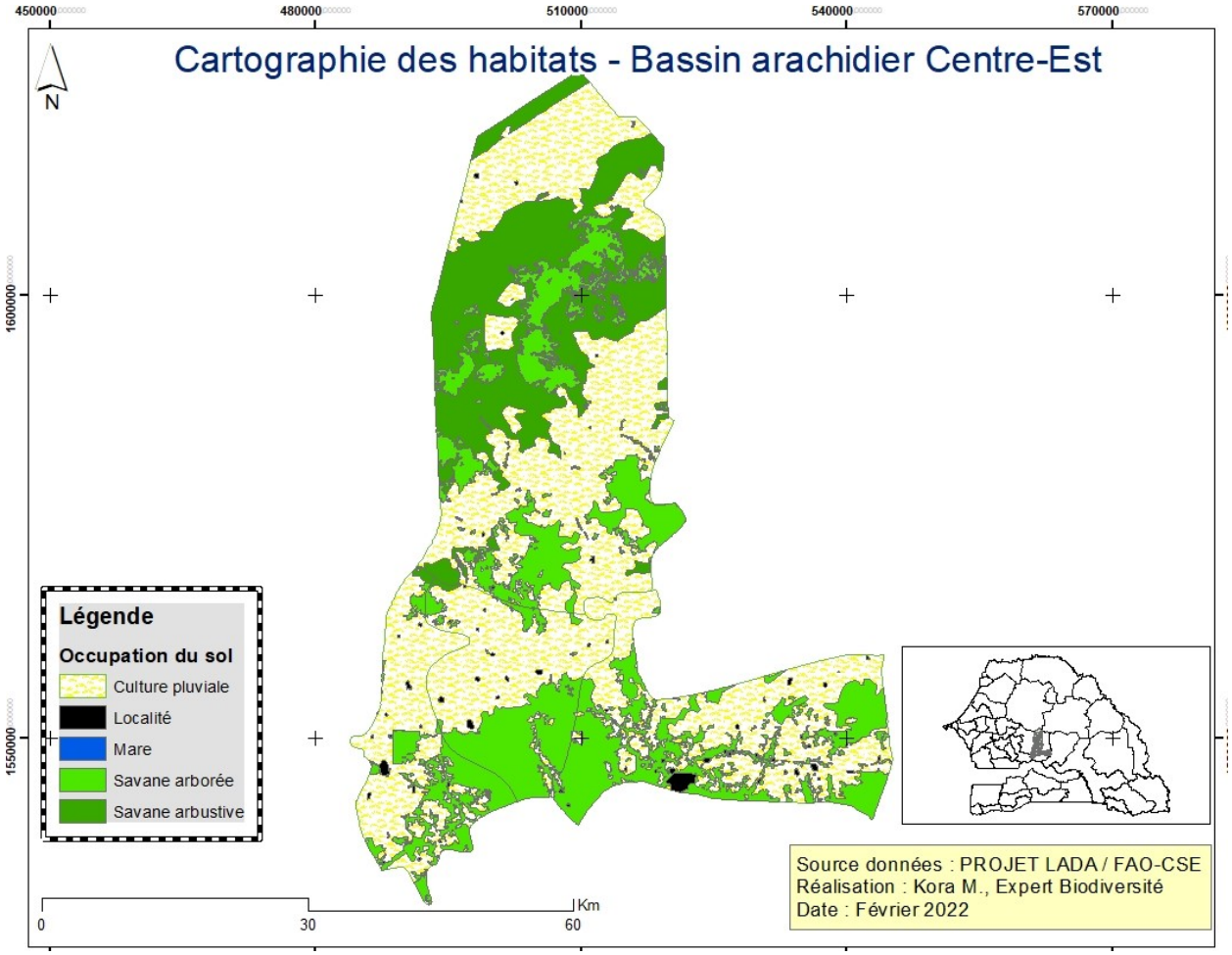


Figure 11. Land-Use in Kaffrine Landscape

Legend Translation:

Land use category

French	**English**
Culture pluviale	Rainfed farming
Localit?	Locality
Mare	Pond
Plantation foresti?re	Forest planting
Savane arbor?e	Woodland savanna

Savane arbustive	Shrub savanna

Fatick-Toubacouta Landscape: The Southern part of the Peanut Basin is different from the other project intervention areas due to the biological diversity linked to water resources (Nioro Alassane Tall, Toubacouta and Keur Samba Gueye).

The most important plant formations in this area are mangrove species *Rhizophora* and *Avicennia*. This part of the country marks the transition between the Sahelian and Guinean zones, hence the presence of several Sudanese species in the landscape, in particular *Pterocarpus erinaceus, Daniellia oliveri,* and *Borassus akeassii*. The most important tree strata are the gallery forest, the wooded savannah, the wooded savannah and the shrubby savannah. Forest land outside the mangrove makes up almost 56.26% of the area. Forest plantations of *Eucalyptus camadulensis* have become imposing in the area. On one hand they provide an alternative to cutting down of mangroves for firewood, on the other, they place new strains on water resources.

Large fauna is almost absent from the south of the Peanut Basin. However, there is presence of warthogs, hyena, bushbuck, patas monkeys. As for the halieutic resources, a very important community of fish (more than 95 species) is noted. These natural conditions have significantly contributed to the success of the Fathala reserve. Indeed, through this reserve, the practice of ecotourism is contributing to the conservation and development of wild species such as the lion. The Saloum Delta National Park (PNDS) was in this area to serve as a sanctuary for the avian fauna, which is the most represented in the area. Indeed, more than 95 bird species are listed in the PNDS alone including the royal tern, dwarf flamingo, pink flamingo, gray pelican, egret, etc.

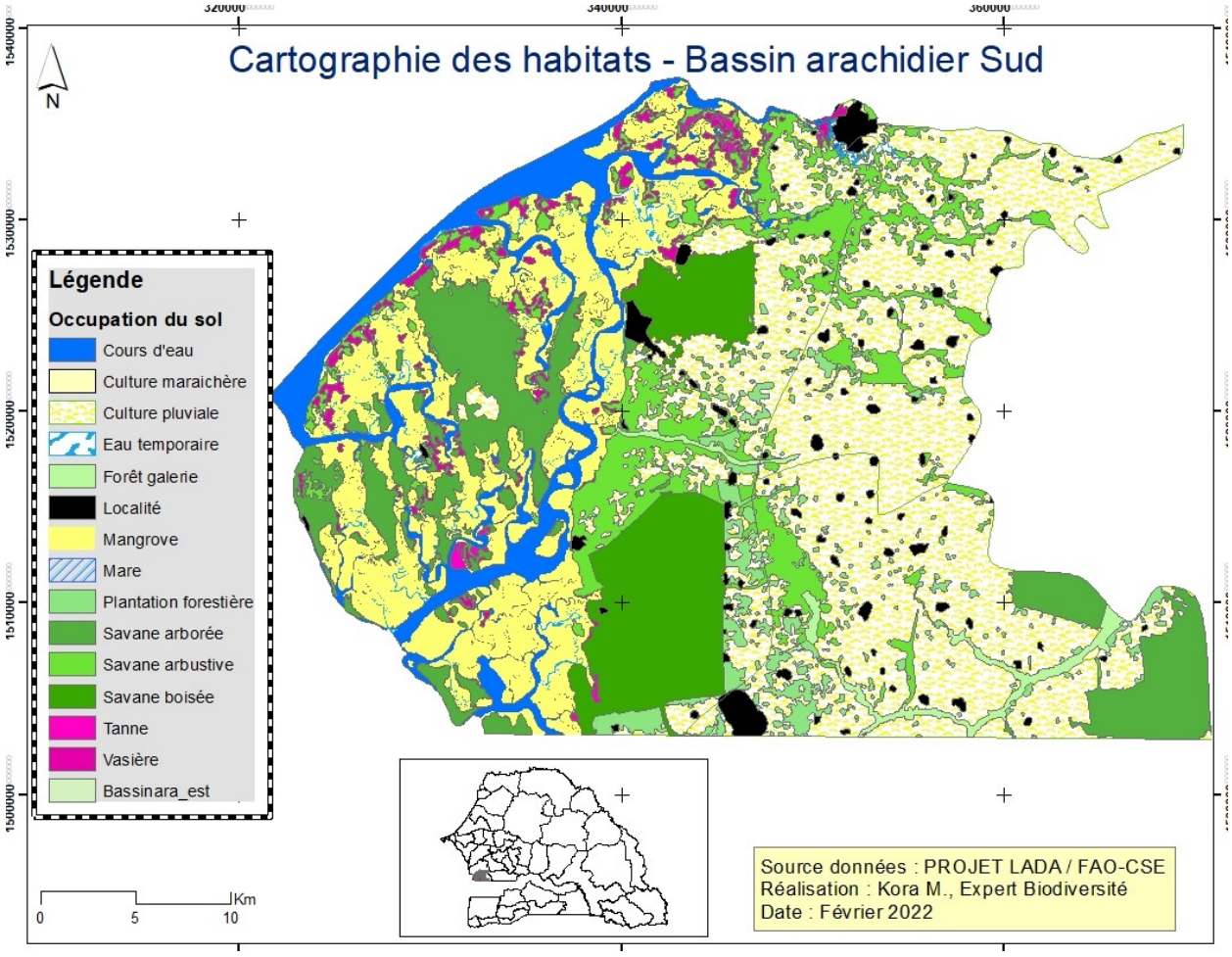


Figure 12. Land-Use in Fatick-Toubacouta Landscape

Legend Translation:

Land use category

French	**English**
Cours d?eau	Watercourses
Culture maraich?re	Market gardening
Culture pluviale	Rainfed farming
Eau temporaire	Temporary water
Foret galerie	Gallery forest

Localit?	Locality
Mare	Pond
Plantation foresti?re	Forest planting
Savane arbor?e	Woodland savanna
Savane arbustive	Shrub savanna
Steppe arbustive arbor?e	Tree shrub steppe
Vasi?re	Mudflats

2.4.2 Biodiversity Threats in the Selected Sites

As noted in the aforementioned sections, the various agricultural zones are subject to pressures which affect biodiversity loss. Destruction and fragmentation of habitats (urbanization, agriculture, construction of dams, bush fires, etc.), the overexploitation of resources and their illegal removal, invasive plants, pollution, coastal erosion, salinization and acidification, climate change, all contribute to biodiversity loss. These are exacerbated by social, political, legal and institutional factors such as poverty, the poor consideration of the conservation of biological diversity in certain sectoral policies, the insufficiency and lack of application of legal texts and regulations and the low level of synergy between institutions responsible for biodiversity conservation. Table 4 below reflects the pressures on the biodiversity of each ecosystem.

Table 5. Pressures/Threats on Ecosystems

	Forest ecosystems	***Coastal ecosystems***	***River and lake ecosystems***	***Agricultural and pastoral ecosystems***

Specific factors	Bush fires Extension of agricultural land Logging Overgrazing Transhumance Charcoal production Mining Conflict and insecurity	Coastal erosion Pollution Extraction of sea sand Conflicts Mining activities	Salinization Invasive species Hydro-agricultural developments, Siltation	Poor selection of varieties Poor cultivation practices and techniques Overgrazing Disintegration of the agro-pastoral system
Cross-cutting factors	Climate change Overexploitation of biological resources Poaching Urbanization Legal, institutional and scientific factors Poverty			

Source: CBD strategy and action plan-Senegal

Sustainable land management (SLM) comprises measures and practices adapted to biophysical and socioeconomic conditions aimed at protection, conserving and sustainably using nature resources, while restoring degraded ecosystems and their services. As a result effective and appropriate SLM is a significant step in in ensuring land management and restoration, but also of biodiversity protection. There is also strong overlap between the main drivers of land degradation and biodiversity loss, which shows the potential for Land Degradation Neutrality (LDN) to address these drivers, through concerted actions to protect ecosystems, manage land sustainably and deploy nature-based solutions to address climate change.[28][28] The most significant drivers of the decline in global biodiversity are changes in land and sea use, the direct exploitation of organisms and climate change. **By addressing land-use change and the sustainable management of natural resources, while building resilience to climate**

change, LDN contributes directly to combating all three drivers.[29][29] For that reason, this project will use LDN and SLM as entry points by which to support biodiversity protection.

The following Table 6, reflects various potential measures that can integrate biodiversity conservation while fighting land degradation.

Table 6. Measures integrating biodiversity conservation in fighting land degradation

Type of Land Degradation	**Measures integrating biodiversity conservation**
Decline in land fertility	Promote / strengthen agroforestry and agroecological practices; Support and promote assisted natural regeneration of valuable trees and shrubs species Protect and enhance existing native grass layer vegetation, using native grass as pioneer vegetation to increase soil carbon and enhance the recolonization by trees and shrubs species through natural seed dispersal processes Introduce leguminous forest species in agrarian landscapes Organic amendment Phosphate amendment
Overexploitation of agroforestry zones/parks containing *Faidherbia albida*[30][30] in the Northern Peanut Basin	Introduce alternate fodder species (fodder bank systems) to reduce livestock pressure on agroforestry parks; Rejuvenate and diversify the agroforestry parkland systems Disseminate knowledge on the best species association and spacing in the agroforestry systems Disseminate knowledge on the relevance of agroforestry parks and how to protect them

Wind and water erosion Silting of the lowlands	Strengthen nitrogen-fixing ligneous species in agricultural perimeters; Maintain groundcover[31][31] to reduce erosion and sustain production Implement the policy of creating community woods to reduce pressure on vulnerable resources and fostering community participation and management; Construction of stone bunds with living hedge; Construction of dikes Enacting community-based conservation measures for valuable vegetation; Reinforcing tree cover on uneven terrain subject to erosion; Protect the edges of the lowlands with strips/hedges of native, resilient vegetation with strong soil-holding capacity.
Land Salinization in the Southern Peanut Basin	Promote land recovery through revegetation from salt-tolerant species; Strengthen the policy for the development of community nature reserves (RNC) to reduce pressure on the mangrove; Promote mangrove regeneration, and the reforestation of species used for garland-making in oyster farming Develop income-generating initiatives with a strong impact on biodiversity (beekeeping, valuation of NTFPs, market gardening, etc.) Peanut shells amendment; Inputs of phosphogypse
Overexploitation of agroforestry parks containing *Cordyla pinnata* in Centre-East Peanut Basin	Introduce shrub and tree fodder bank to alleviate the pressure of livestock on agroforestry parks Promote farmer managed natural regeneration in *Cordyla pinnata* agroforestry parkland; Promote the enrichment in *Cordyla pinnata* parklands with nitrogen-stabilizing tree and shrub species
Bush fires	Integrate bush fire policies into land degradation and biodiversity protection policies ; Implement prescribed burning or controlled burning as appropriate Establish and maintain fire break
Excessive irregular destruction of ligneous resources	? Strengthen community forest-management initiatives and community monitoring ; ? Support sustainable use of resources through trainings and public awareness and dissemination of wood energy saving technologies

2.5 Challenges, Threats and Barriers

2.5.1. Threats and Challenges

A variety of challenges, threats and barriers prevent sustainable land management activities, and need to be considered when implementing activities. Some have been touched upon in previous sections, but are expanded upon in this section. Land degradation and biodiversity loss can be unintended consequences of a dynamic system structure and its behaviour change, where system elements ? such as, hunger, poverty, economic instability, and environmental degradation - are integrated, inter-connected, and complex even in isolation. As the existing socio-economic system and declining land degradation status can no longer guarantee the provision of investment opportunities and ecosystem services, respectively, this can create displacement, migration, conflict, unemployment and food insecurity. This trend transfers the poverty, closing the vicious loop that reduces productivity and performance of the agriculture sector leading to a poverty trap and agriculture encroachment on primary forests. The project will strategically respond to root causes of degradation and habitat loss for globally significant biodiversity and utilize the best available global and local technical knowledge and build on key national baseline initiatives.

Poverty- Poverty can be both seen as a cause and a barrier to land degradation and biodiversity protection activities. Populations in remote areas have restricted options for managing land and accessing other benefits of economic development.[32][32] Land degradation leads to reduction in the provision of ecosystem services that takes different forms - deterioration in food availability, soil fertility, carbon sequestration capacity, wood production, groundwater recharge, etc.- with significant social and economic costs to the country. Land degradation can severely influence populations' livelihoods by restricting people from vital ecosystem services and food and water, thereby increasing and/or exacerbating the risk of poverty. A negative feedback loop may occur as competition grows for scarce natural resources. Improving land quality and living standards of the rural population requires policy responses that ameliorate the condition of terrestrial ecosystems by avoiding, reducing and reversing degraded land. Investments, particularly in hotspot locations characterized by both high restoration potential and high socioeconomic benefits in poverty areas, can improve the conditions of the most vulnerable people and increase the resilience of ecosystems, provided that poverty is considered as a barrier that must be addressed. For those most vulnerable, long-term sustainability can often be foregone for short term activities that can be lucrative but may also have negative impacts on land. For that reason, to address poverty as a barrier, it is essential that any SLM or LDN activities promote tangible improvements in livelihoods, else there is a risk that poverty and desperation may lead to people exploit natural resources to make ends meet. Similarly, when looking at poverty as a cause, which may make people turn toward unsustainable practices, it is essential to consider factors such as policies, governance, capacity building, access to inputs, development of value chains,

strengthening of social structures and tenure etc? that can supported to decrease people?s poverty and create positive incentives for rehabilitating natural resources.

Structural Food Deficit- The socio-economic system[33][33] in Senegal is bound by the ecosystems? carrying capacity locally and nationally, and ?planetary boundaries? regionally and globally. The current socio-economic system presents an example of a ?reinforcing feedback loop?[34][34], where Senegalese communities, hard hit by the destabilization of production systems and structural adjustment, have been concerned primarily with surviving on a daily basis. Populations in remote areas have limited options for managing land and accessing other benefits of economic development[35][35]. Structural food deficit is exacerbated by drought, climate change, and worsening soil fertility, putting an increased pressure on natural resources, destabilizing fragile production systems, and their eventual degradation, and subsequent conversion of nearby woodlands and forests, which are reported to be lost at a rate of 40,000 ha a year[36][36].

Poor Management Practices- As reported in the 2015 NBSAP of Senegal, agriculture and particularly poor management practices, is the first driver of degradation and fragmentation of ecosystems and habitats of globally significant animal and plant species. Man-made pressures deteriorating natural resources have increased due to shrinking farm sizes, accelerating land degradation trends, and thus reducing supporting, provisioning, and regulating ecosystem services and biodiversity. Agriculture impacting land degradation does not only have impacts at the ecosystem level, but also results in economic loss. A study in 2015 noted that the annual cost of land degradation on rice, millet and maize, is USD 103 million or 2% of the country?s GDP.[37][37]

Biodiversity Loss- Biodiversity loss and deteriorating ecosystem services are both a threat to ongoing sustainable land management practices, and to ecosystem health and food security. Biodiversity loss and eroding ecosystem services due to land degradation have high social, economic, and environmental costs to the country. In 2010, 1.8 million people lived on degrading agricultural land - an increase of 38% in one decade - bringing the share of rural residents who inhabit degraded agricultural land up to 24% of the total rural population. The annual cost of land degradation in Senegal is estimated at US$996 million, or 9% of GDP (compared to the 4% of GDP average in Africa)[38][38]. Agriculture practices that exceed the carrying capacity of the ecosystem, will erode the land that support agriculture

in the first place, thus positioning it as a proxy to an extractive activity. Thus, addressing land degradation requires urgent attention.

Climate change- This can be considered both a cause and a threat. Climate change effects are felt in rural areas both biophysically and socio-economically. Local consultations have shown that the manifestations and causes of climate change constitute a vicious circle in various forms felt by the populations: reduction of plant cover, wind, water and coastal erosion, soil salinization / acidification, physico-biological degradation. These problems are also exacerbated by anthropogenic factors such as urbanization, deforestation, overexploitation of wood and non-wood forest products, poor agricultural practices, overgrazing, bush fires, etc. Added to this is the degradation of wildlife habitats and a loss of biodiversity resulting mainly from the mismanagement of natural resources from the agricultural sectors, land use change and overgrazing, particularly in the buffer zones of protected areas.[39][39] Social implications as a result of droughts and lower food production are also risks faced by populations.

Climate projections indicate that the coming decades are anticipated to have negative consequences for human health and the needs of communities. The study of precipitation indicates that rains will decrease compared to the reference period of 1981-2010. This finding is shown in Figure 13: decreasing rainfall seen as a gradual southward displacement of isohyets. Strong inter-annual variability in rainfall is also expected. This aspect is all the more important as the activities of the communities, as well as their health, are based on access to water, as is the case, for example, of rain-fed agriculture, which is very much affected by reduced rainfall. This implies that agriculture is one of the most vulnerable sectors to the effects of climate change, as more than 90% of crops are rainfed. The most notable consequence is a drop in yield and productivity which will result in the reduction of plant cover following a significant water deficit and high evapotranspiration. The sector is already facing several factors that limit its development (low annual rainfall, infertile soils, and production factors such as access to degraded fertilizers and equipment, lack of water control). Climate change will therefore worsen already poor performance likely resulting in food shortages, poor nutrition outcomes and negative effects on livelihoods.

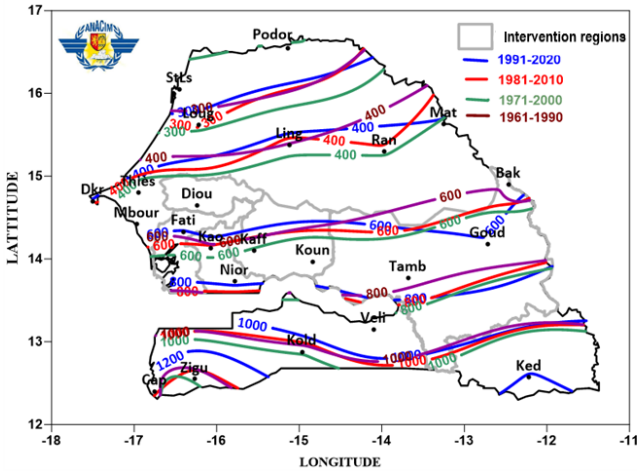


FIGURE 13: Map of Senegal with isohyets

According to some analyses, if no adaptive measures are put in place, the reduction of agricultural land could reduce cereal production by 30% by 2025. The spatial and / or temporal variability of the climate also modifies the rainy season, in particular the dates of start and end, which could disrupt the cropping calendars and negatively influence harvests and quality seed capital. Indeed, with the reduction of the rainy season, the adaptation of the cycle lengths of varieties must be carried out when seeds are not always available in sufficient quantity, which makes agriculture particularly vulnerable.

The analysis of the inter-annual evolution curves of the mean temperature anomalies Figure 14. shows a global warming trend over the last thirty (30) years at the level of all the target regions of the project, with a warming rate being more marked during the last thirty (30) years. ten (10) years, especially in the regions of Tambacounda and Diourbel. In fact, between 1990 and 2020, temperature increases varying between + 0.9 ? C in Koungheul to + 1.7 ? C in Bambey and Tambacounda. In addition, it is observed that the rate of warming is more marked in the Diourbel region (0.058 ? C / year).

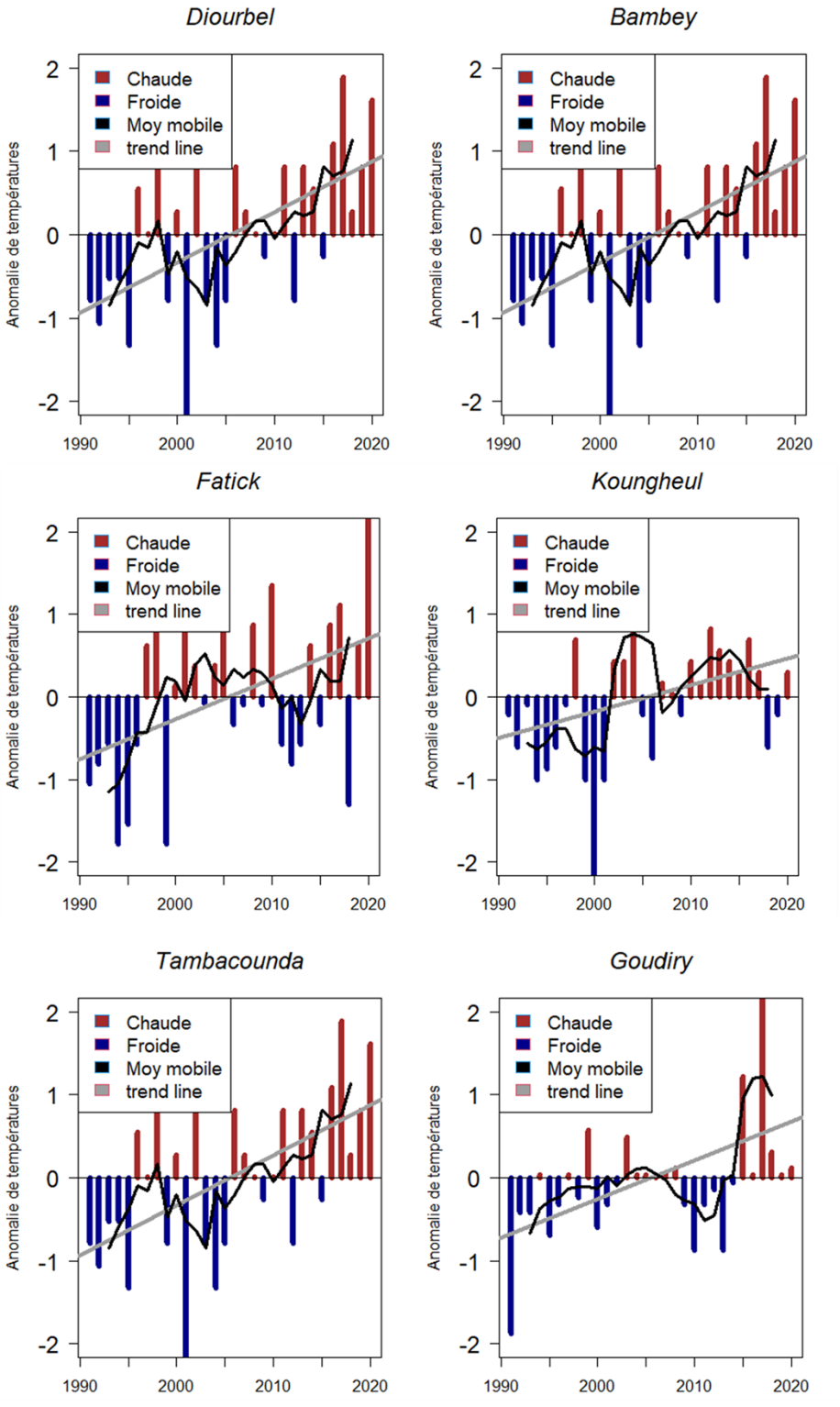


Figure 14. Rate of Warming and Anomalies of Mean Annual Temperatures

	Diourbel	Bambey	Fatick	Koungheul	Tambacounda	Goudiry
Increase in temperature (?C)	+1.8	+1.7	+1.4	+0.9	+1.7	+1.2
Rate (?C/an)	0.058	0.054	0.045	0.029	0.054	0.038

These effects are felt in rural areas both biophysically and socio-economically. Local consultations have shown that the manifestations and causes of climate change constitute a vicious circle in various forms felt by the populations: reduction of plant cover, wind, water and coastal erosion, soil salinization / acidification, physico-biological degradation land, drought, rise of the salty tongue, rise in temperature, etc. These problems are also exacerbated by anthropogenic factors such as urbanization, deforestation, overexploitation of wood and non-wood forest products, poor agricultural practices, overgrazing, bush fires, etc. Added to this is the degradation of wildlife habitats and a loss of biodiversity resulting mainly from the misuse of natural resources, mining, prospecting for fossil fuels, the advancing urban front and overgrazing. on the outskirts of protected areas[40][40].

The analysis of the evolution of the inter-annual variation of precipitation anomalies between 1961-2020 (Figure 15) does not show a fairly homogeneous and significant trend in the evolution of precipitation at the stations of Diourbel, Tambacounda. In general, two climatic periods are noted from a rainfall point of view before and after the 1990s. Before 1990, a significant downward trend in precipitation is noted at the level of the various localities. From the 1990s to the present day, there is an increasing trend in precipitation. Indeed, it is noted a return of good rainfall years in the target area accompanied by extreme and frequent rainfall events.

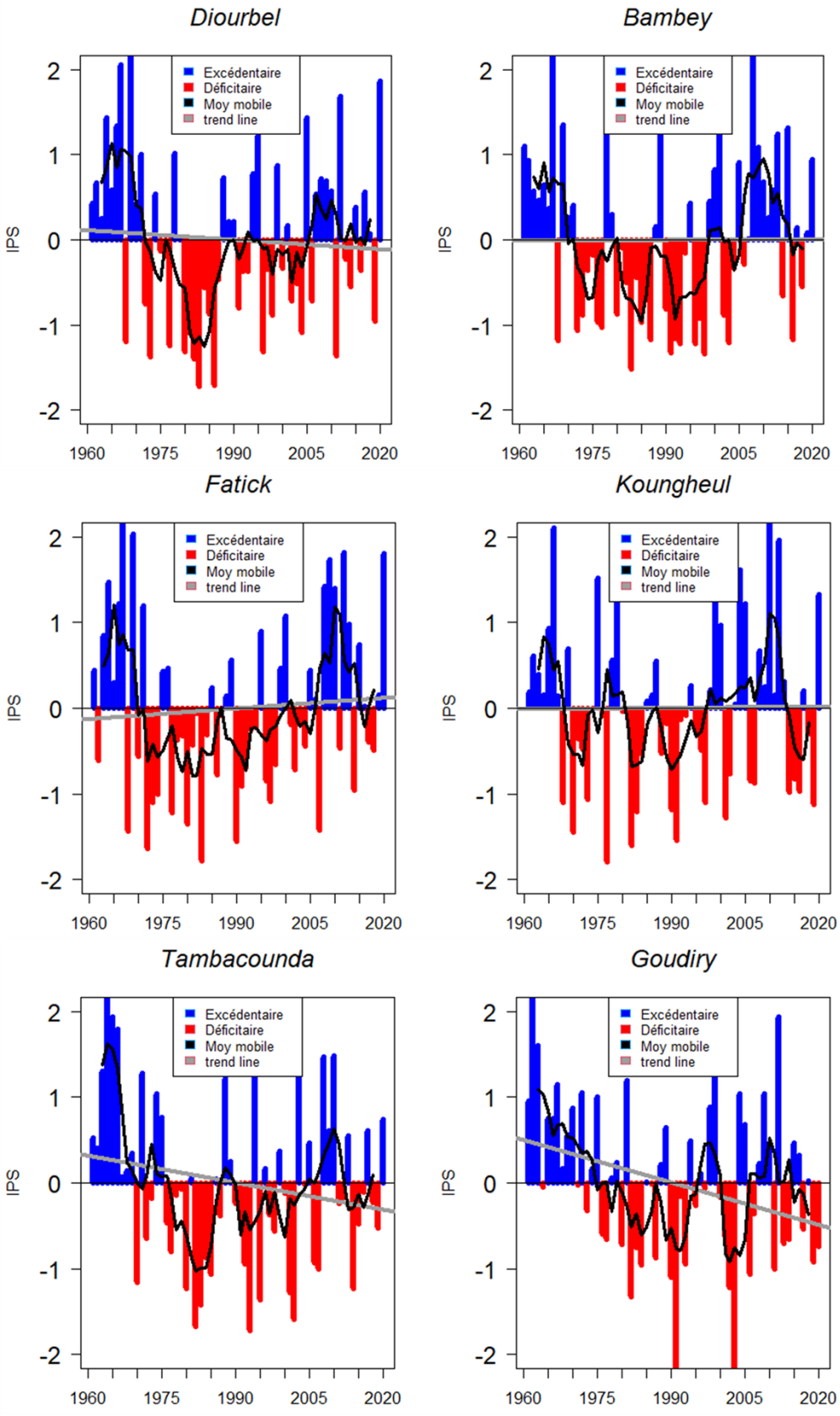

Diourbel
Bambey
Fatick
Koungheul
Tambacounda
Goudiry
Excédentaire
Déficitaire
Moy mobile
trend line
IPS
2
1
0
-1
-2
1960
1975
1990
2005
2020

Figure 15. Inter-Annual Variation of Precipitation

According to the RPC4.5 GHG emission scenario, a climate warming trend is projected for 2035 in all localities, compared to the current level. This warming could be much more marked in the case of the RCP 8.5 scenario. Indeed, a concordance of the models to the RCP 4.5 scenario of climate change is observed. The CCma and IPSL models project an average increase of 1.5?C over the period 2021-2050 in the various localities of the target area. The temperature increases will be equal on average to 1.8?C in the case of the RCP 8.5 scenario according to the CCma and IPSL models against 2?C for the MOHC model.

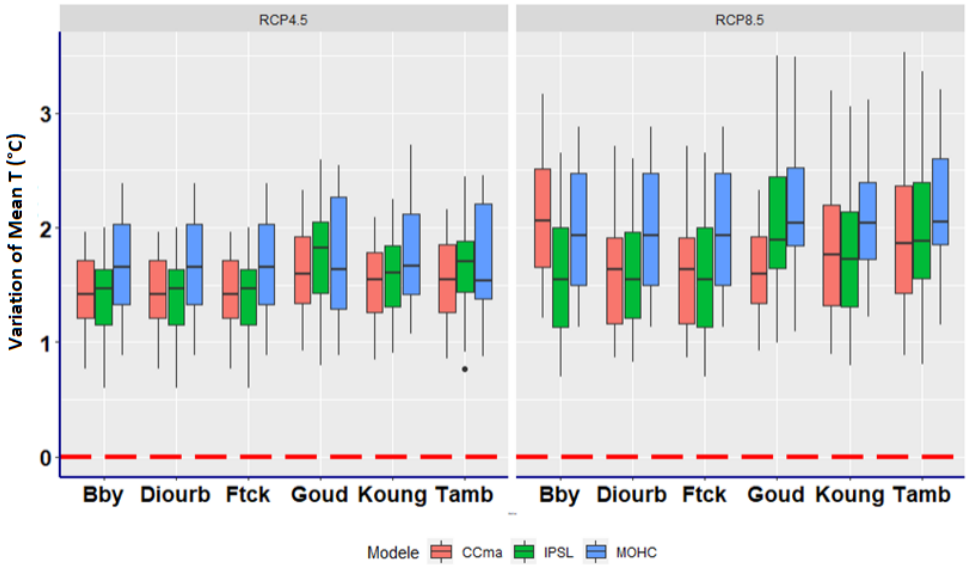


Figure 16. Annual mean temperature projections 2021-2050

NB : Bby = Bambey, Diourb = Diourbel, Ftck = Fatick , Goud = Goudiry, Koung = Koungheul, Tamb = Tambacounda)

The rainfall projections for 2035 according to the RCP 4.5 scenario show, for most of the models used in this analysis, a downward trend compared to the 1981-2005 reference in practically all the localities of the project target. This decrease varies on average between 10 to 20% compared to the climatological model of the localities of Bambey, Diourbel and Fatick. Nevertheless, it is noted at

Koungheul, with the IPSL model, a slight upward trend in precipitation of around 10%. In addition, for the RCP 8.5 scenario (pessimistic, high greenhouse gas emission (GHG)), the models show the same overall trend as before with a more remarkable decrease in precipitation with the CCma model at Bambey where it is projected a decrease of the order of 30% compared to the climatological model. In the departments of Koungheul, Goudiry and Tamba, rainfall will decrease by around 5 to 10% on average. Overall, whatever the climate change scenario, it is expected by 2035, a downward trend in precipitation which can vary from 5 to 30% depending on the locality and which will be much more felt towards the north of the project intervention area.

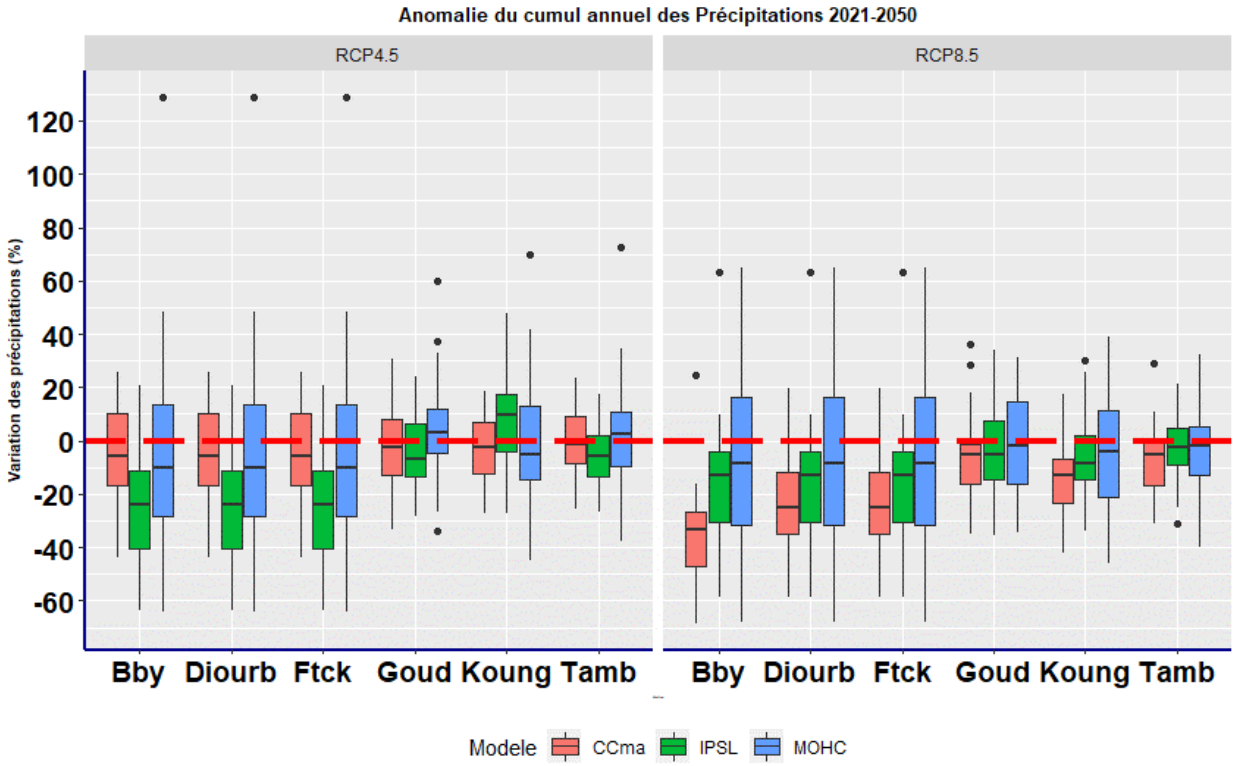


Figure 17. Annual mean precipitations projections 2021-2050

Poorly structured value chains, weak infrastructure, limited access to finance and markets- The agriculture sector has faced major challenges that have weakened its proper development. Access to inputs - such as electricity, mechanization, quality seeds, land, and water - is poor. Only 1.3% of agricultural land is equipped for irrigation, and vulnerability to climatic shocks, with high risks of drought are significant. Agricultural micro-lending and insurance, as they currently stand, are sub-optimal. *The Plan S?n?gal Emergent (PSE)* (2014) identified weak structure of value chains as a major constraint to agricultural development. Value chain competitiveness is often compromised by the lack of appropriate financing mechanisms along the various segments of the chain. Such segments have different financial needs, e.g. producers require finance for inputs and other productive investments,

while distributors require it for bulk purchasing and onward marketing. Unfortunately, many available financial instruments are limited in their range, diversity, and sophistication vis???vis the requirements of the value chain actors. As the sector is principally made up of family smallholdings (about 90%), removal of the barriers that prevent family farmers from participating in important parts of the value chains is an important consideration, as it helps making the agricultural sector more profitable, and offers opportunity to develop decent jobs which are attractive to youngsters, where the average age of the farmer is increasing. For small producers, there are often no collaborators?individual families or small groups of women are responsible for every aspect of the value chain. With no transportation or packaging or distribution capacity, many are not able to upscale sustainable production without taking on huge costs of labour, time and funds that they do not have.

Drought- Drought observed during the rainy season (May to October) is characterized by highly variable dry spells that result in severe rainfall shortage or poor distribution of rainfall in space and in time. During the last decade, several parts of the country have experienced these phenomena. Drought events that took place in 2011 resulted in a decrease of 20% of the production of grain and 31% of groundnut production[41][41]. This led to an inflation of food prices and food insecurity for a population estimated at 800,000 people of which the majority depends mainly on agriculture.

Drought vulnerability assessments identified susceptibility at various levels: the agriculture sector (loss of revenue from groundnut and vegetable production, food insecurity due to failure of grain production, livestock loss due to lack of natural pasture), water supply sector (water shortages (lake Guiers, drying of wells)), environment sector (disappearance of animal and vegetable species, soil cover degradation and soil erosion)[42][42]. In Casamance region, the rainfall deficit resulted in salinization of groundwater and soils. Early depletion of natural pastures in the north exposes livestock to limited diets. Herders are forced to an early transhumance towards the south, increasing the pressure on the vegetation of this area. This causes conflicts between farmers and herders, and is also the cause of major cattle raid in protected areas, posing a great difficulty in managing livestock-wildlife interface[43][43]. In order to effectively implement project activities, impacts of drought, and drought-resistant revegetation will need to be explored. Further, tools for communities to build resilience in the face of such shocks will have to shared and strengthened.

Covid-19 impacts in Senegal- The Covid-19 pandemic is taking a heavy toll on Senegal?s economy with real GDP growth projected by the IMF in September to contract by 0.7 percent this year, reflecting the larger-than-anticipated disruptions in economic activity stemming from the pandemic and

strict containment measures.[44][44] Lower external demand, a sudden decline of travel and tourism, declining remittances and the effects of domestic containment measures have worn on the economy. Despite mitigation measures put in place by the government, rising Covid-19 cases deteriorated food insecurity levels and the economy[45][45]. Prior to the Covid?19 outbreak, the number of food insecure people was projected to peak at about 766,000 during the lean season between June and August 2020, but went well above the 341,000 food insecure that were estimated in the same period of 2019[46][46].

The impacts of the pandemic have been found to vary significantly across regions[47][47]. The availability of and access to basic cereals (rice, millet, maize) and other basic necessities (oil, sugar, fish, meat, milk) has mostly been disrupted for rural households in areas where the movement of goods and people is usually very dense, notably the central-western part of the Peanut basin (between Thi?s and Touba) and the eastern part of the country (around Tambacounda and K?dougou). In addition, significant negative effects of Covid-19 on food consumption patterns have been identified, with the majority of rural households being affected in both the quantity (62%) and quality (70%) of their food consumptions patterns.

Senegal has responded with containment measures and a comprehensive economic stimulus plan (PRES) to protect lives and livelihoods. However, limited fiscal buffers and safety nets, a vulnerable healthcare system, and a large informal sector pose challenges.[48][48]

COVID-19 can also have disproportionate impacts on women who often have care-giving responsibilities within communities. With the burdens of rising costs, potential health risks and caring for ill relatives, women can face greater health risks. These barriers have to be considered in project implementation activities if new spikes in COVID-19 and mitigating rules are put in place.

International Crises- The crisis in Ukraine, rising inflation costs, the closing of the border between Mali and Senegal, are all exacerbating pressures on food security. The cost of food imports, their availability, create new burdens on an already stressed system.

Challenges in Upscaling- A lesson learned from other projects and initiatives, is that there may be challenges in upscaling best practices. Some of the reasons identified for these is lack of governance, lack of capacity, livelihood challenges and lack of knowledge. The project will focus on (i) facilitating knowledge through local-level structures, as well as farmer field schools, learning-by-doing opportunities, peer exchanges; (ii) supporting an enabling environment by strengthening governance mechanisms; (iii) supporting sustainable livelihoods, without which communities may be pressured to take on unsustainable practices for subsistence. In order to ensure effective upscaling and replication, the project will create vertical channels, so that the municipal level can feed up to national entities, who can then collect lessons learned, best practices, collect data, and promote replication of activities. Interventions will focus on knowledge-sharing, knowledge-management, and knowledge-ownership.

2.5.2 Drivers and pressures as root causes of the global environmental problem

Population density and growth; land tenure; poverty and social structures; and weak policy and regulatory governance in agricultural and environmental sectors, are all underlying drivers of land degradation.

Increased demand for food- One of the biggest food security challenges in Senegal is addressing the nation?s high and growing dependence on food imports, even though significant efforts are being deployed to achieve rice self-sufficiency. Imports account for approximately half of the total domestic cereal requirements. On average, the country imports about 2 million tonnes of cereals, 1.2 million tonnes of rice and 0.5 million tonnes of wheat. Despite the above?average 2019 cereal production, import requirements for the 2019/20 marketing year were expected to increase at above?average levels due to the strong demand by local traders aiming at replenishing their stocks. To address food security and self-sufficiency, increased productivity is expected, where soils are increasingly depleted. Production land is therefore expected to extend into natural land, exacerbating fragmentation and degradation of ecosystems. The cropland area has increased by 175% in 2009 from its level in 2001[49][49]. The population growth of the country, which is approximately 2.75% per annum increases demand and pressures for food.

Poverty and weak social capital resulting in migration- Senegal is classified as a heavily indebted country and ranked 168 out of 189 in Human Development Index in 2020[50][50]. Although stable and democratic, Senegal is one of the world?s least developed countries, ranking 67 out of 117 countries in the 2019 Global Hunger Index. Lack of employment and business opportunities in agriculture is a

driver of migration, which leads to urbanization and emigration. Those left behind, especially women, children and the elderly, are particularly exposed to food insecurity and other risks. Gender disparities remain widespread in the country, especially in rural areas. Poverty and weak social capital translate into poor management practices of production land and limited productivity and profitability. Women are often invited to produce on heavily degraded lands with little protections with regards to tenure.

Weak LDN governance, including land tenure, and inter-institutional coordination- Despite several land laws that have been passed, land access and use is primarily regulated by customary law that generally tends to not focus on small-holders. There are three main bottlenecks that prevent the optimal functioning of the land sector in Senegal: (1) an obsolete legal framework for the land sector; (2) inadequate mechanisms and capacity to manage land tenure in approximately 80 percent of the country; (3) lack of reliable land information as national and municipal systems differ. Together, these issues have caused structural issues that affect Senegal?s ability to tap into its economic potential and support social cohesion among the various groups[51][51]. Land disputes are increasingly common in Senegal. Additionally, open access rules and practices on public land lead to a situation in which everyone is entitled to use land without any consideration of the damages. Mechanisms for dispute resolution include formal and customary procedures as well as alternative systems, such as arbitration boards and municipal councils[52][52]. Inclusive land governance through greater involvement of local and regional authorities and effective coordination mechanisms are missing, but needed to facilitate private investments into land and land productivity. Senegal ranked 116th out of 187 countries in the Registering Property ranking of the World Bank Doing Business report (2020). In additon, Investment Climate Assessment[53][53] ranked the practices of the informal sector as the most severe constraint for formal companies to invest, closely followed by access to finance, electricity, and land. Further, poor cross-sector coordination and lack of accurate and timely information on land conditions and are among the main impediments to large-scale intervention through inclusive and integrated community planning and application of SLM technologies through landscape approaches to integrated ecosystem management. FAO has been instrumental in supporting government institutions in developing four land tenure and one tenure project. Further support is needed to: (1) changing in the behaviors of individuals and/or agencies (e.g., integration of practices, principles or decision making for municipal budget allocation) for improved land tenure arrangements; (2) design of tools (e.g., support to masters, or the creation of guides, national data information system), on how to generate, update, maintain tenure-related information; (3) transfer of technologies for improved tenure-related practices; (4) Related tenure to various sectors of activity (agriculture, pastoralism, forestry, etc.) and levels of government (national and local) to ensure that tenure arrangements are anchored in functional realities and within appropriate governance frameworks.

Reduced delivery of vital ecosystem services- A considerable share of the costs of land degradation (59%) is due to the decline in provisioning ecosystem services (e.g. food availability, wood production, etc.), which has a significant impact on the population of the country. The remaining share refers to the regulating ecosystem services (e.g. carbon sequestration, water regulation flows), which have an impact not only at the country level, but also at the regional and global levels due to the cross-border nature of these services that encourage international cooperation. In Senegal, the AFOLU sector is responsible for 64% of the total emissions of the country, with agriculture being the biggest contributor and raising consistently. Within the sector, enteric fermentation, manure left on pasture, and savannah burning are the biggest shares, 37, 29 and 26% of total, accordingly[54][54]. As the current population and agriculture production trends are projected[55][55] to grow, an increased cereal output of 1.5 ton/ha/year by 2035 without considering the ecosystem?s carrying capacity, will further reduce the delivery of ecosystem services.

2.5.3. Barriers Addressed by the Project

Overall, the project will target **four barriers** that prevent the achievement of LDN in Senegal, and which will include considerations for the aforementioned barriers, threats and causes identified above:

Poor dissemination of sustainable land management best practices and resilience-enhancing approaches. SLM concepts in family farms[56][56] production systems are not oriented towards resilient systems in integrated landscape approaches. Smallholders[57][57] predominantly focus on maximizing output for economic well-being. The regard for land, ecological health and function, sustainability of ecosystem resources, are often not built into heavy production paradigm. Small farmers are also generally risk averse, hence there can be reticence at employing new technologies or practices, particularly if this overhead investment is high with initial low results.[58][58] Small farmers may not have the economic resources to transition to sustainable practices and may not be aware of the various resources at their disposal to enhance capacity.

Small farmers are also often dependent on a large number of small-sized land plots making it difficult to adopt and use modern technologies, or reach scale with their activities. Knowledge, practices and know-how is fragmented and is not systematically made available or used by agricultural extension

services. Lack of capitalization and dissemination of innovative results or insufficient access to data limits the effective targeting of land degradation interventions and the assessment of the impact of policies and investments. More participatory monitoring is needed both to improve the use of data by communities and to ensure land management assessments are carried out and coordinated. The knowledge needs to be institutionalized so that products are used systematically by different stakeholders. Therefore, it is important to combine approaches and measures that build the capacity of agro-sylvo-pastoral producers to apply the conceptual framework of LDN to withstand shocks and to adapt to the threats of climate change while aiming at improving their food and nutritional security and increasing their incomes. While representing the majority of rural assets, women and youth have lower access to these technologies. Activities under **Component 1** will support the enabling environment to catalize the adoption and dissemination of SLM practices, while **Component 2** will support the piloting and rehabilitating of natural resources through a learning-by doing approach. Under **Component 3**, small farmers will be able to invest in their livelihoods and strengthen value chains which offer economic and environmental benefits (see Section 4.1).

Limited scientific knowledge and data- Most data needed for evidence-based decision-making on land management is either outdated, isolated, or not sufficiently comprehensive. Several studies have been carried out often localized to a specific geographic area not fully representing the socio-economic realities of the country. While there are national, outdated studies on land cover change (primarily for forests), extensive and up-to date analysis and data at scale are missing, in particular on the soil organic carbon (SOC) and land productivity. Concensus on a national methodology for land degradation status and SLM assessment, and a centralized SLM knowledge management system are lacking. As a result, local communities do not have access to knowledge materials on alternative practices and their benefits, severely undermining responses oriented towards resilience. Most farmland in the national domain is neither mapped nor demarcated[59][59] which is a key obstacle for ensuring food security and protecting community rights. With the information that is present, mechanisms are not sufficiently in place to share with relevant stakeholders and sectoral partners. As a result, sectoral interventions could be undermining SLM initiatives. Initiatives under **Component 1** are designed to enhance the communication, awareness, sharing of data and research, and strengthening the tools available to manage land degradation and biodiversity loss.

Integration of sustainable land management and land tenure into policy implementation and local development plans. Most of the frameworks set up for participatory natural resource management have remained sluggish, thus failing to ensure the integration and promotion of traditional natural resource governance in many regions. Such governance systems have been eroded by population growth and poverty, changes in tenure and the need to strengthen property rights for women and youth. Senegalese farmers maybe in a situation of illegality when they sell, inherit, or rent the land that they cultivate.While awareness of these challenges is growing, there is still a lack of knowledge and

capacity in securing and managing land sustainably, including lack of knowledge of shared farming practices and SLM. At the policy level there are serious gaps related to integrated management of land, and a lack of a harmonized agro-environmental strategies and financing mechanisms that could support the implementation of LDN and institutions lack relevant information to mainstream SLM. Despite being integrated within the boundaries of the landscapes and administrative units, the responsible government agencies do not have a joint coordination mechanism and instruments for spatial, local and administrative planning. Insufficient integration of strategies of line ministries involved in various aspects of land management leads to silos and weak SLM mainstreaming in sectoral policies, which is unfavorable to LDN. There are various national-level initiatives at work attempting to explore the questions of land tenure. Where the project can contribute on tenure, is through the entry point of women farmers, mechanisms at the municipal and customary level by which tenure can be improved. While other initiatives are focused on the legislative aspect, this project will build tenure-positive considerations within SLM and biodiversity protection activities.

Improving governance through greater involvement of local and regional authorities is key to sustainable land management, and innovation is needed to put in place effective coordination mechanisms that are accepted and respected by stakeholders (agro-forestry producers, traditional authorities, local authorities, central line ministries). Results of the LADA analysis (2010) concluded that the lack of appropriate soil fertility strategies during the expansion and intensification of agricultural activities resulted in a dramatic drop of crop and labour productivity. Target interviews demonstrated that the capacity constraints is the single most important reason for inability to scale out SLM. Capacity building of institutions for natural resource governance and strengthen local livelihoods are developed in **Component 2**.

Limited development of inclusive value chains- The agricultural sector has a crucial role to play in job creation and rural poverty eradication in Senegal. Emerging Senegal Plan (PSE) ? a framework policy for economic and social development plan, identifies the weak structure of agriculture value chains as a major constraint to agricultural development. Coherence of local authorities' interventions around land degradation issues and linkages with private sector to facilitate access to agricultural financing is still limited. In this context, strengthening the participation of young people and women in agriculture and sustainable food systems can potentially reduce rural poverty, but also maintain all the dynamics of sustainable SLM practices. The territorial approach helps ensure the integration of young people and women into wealth creation mechanisms based on the real commitment of the actors and regional capacities. Under **Component 3**, private investment will be facilitated through improved access to financial services and development of stronger value chains.

To overcome these barriers, **Land Degradation Neutrality (LDN)** has been proposed as an overarching approach to guide different organisational levels of the project, combining the various social, economic, and environmental challenges under a single guiding holistic participatory

methodology to ensure no future loss in quantity and quality of productive land. It has also been promoted to build on some of the interventions under way by the national government to strengthen its activities under the UNCCD. The LDN targets provide Senegal with a strong vehicle for fostering coherence of policies and actions by aligning national LDN targets with measures from the Nationally Determined Contributions and other national commitments. Investing in LDN also accelerates the advancement of other SDGs due to the close linkages between land and other goals and targets, such as: Goal 1 (No poverty), Goal 2 (Zero hunger), Goal 5 (Promote gender equality), Goal 6 (Clean water and sanitation), Goal 8 (Decent work and economic growth), and Goal 13 (Climate action).

Part III. Baseline Scenario and Associated Baseline Projects

3.1 National Plans and Priorities

The Senegalese government has made considerable efforts to improve the living conditions of its population by combining food security and sustainable development through the establishment of favorable policies and initiatives, that this project can build on. There are a wide range of SLM options developed and tested by research organizations and implemented in the field, many of which are documented in WOCAT's SLM database. The country has central and decentralized structures whose mission is to develop, implement and monitor national policies and natural resources management (NRM) initiatives. There are a large number of legal instruments and sectoral plans relating to NRM, and more specifically to SLM, with a history of their implementation. Senegal is well established at the institutional level - decentralized structures made up of local authorities (Regions, Communes, Rural Communities) are empowered to manage their land and implement public policies; there are a large number of research institutes, NGOs, extension agents and private sector entities (see Stakeholders section). Senegal actively participates in several relevant platforms, such as the "Saloum Mangrove Platform" and the "Platform on Land Governance" (see Knowledge Management section for more details), which this project will build on.

Social development

The last twenty years have been characterized by the succession of several significant government strategies in terms of economic and social policy, the main ones being the two Poverty Reduction Strategy Papers (PRSP I 2003-2005 and PRSP II 2006-2010) and the Economic and Social Policy Document (DPES 2011-2015) replaced in 2012 by the National Economic and Social Development Strategy (SNDES 2013-2017). In December 2013, the government launched the Emerging Senegal Plan (PSE), an accelerated version of the SNDES which, since its promulgation, has been the benchmark for medium- and long-term economic and social policy with the objective of making Senegal an emerging economy by 2035. All of these government economic and social policy frameworks revolve around three main areas identified as priorities: (i) growth, productivity and wealth

creation; (ii) human capital, social protection and sustainable development; and (iii) governance, institutions, peace and security. This project is strong in line with the second aspect, while contributing to the other aspects as well.

Agriculture, food security and rural development

The government's objective is to make agriculture an engine of economic growth, as stipulated in the *Loi d'Orientation Agro-Sylvo-Pastorale* (LOASP) promulgated in 2004, which constitutes the legal framework for the development of agriculture for the next 20 years. The adoption of this law gave rise to the formulation of several operational programs such as the **National Agricultural Development Program, the National Livestock Plan** and the **Great Agricultural Initiative for Food and Abundance** (GOANA).

In terms of growth, the **Accelerated Growth Strategy** (SCA), adopted in 2008 and then integrated into the SNDES and the PSE, aims to double GDP and GDP per capita in 10 and 15 years, respectively. To achieve this, key agro-economic sectors with high potential have been identified, in particular: livestock, agriculture and agro-industry (cereals, horticulture, oilseeds and wild harvested products), fishery products and of aquaculture.

Senegal has developed its **National Agricultural Investment Program (NAIP)** and related investment plans within the framework of the Ag**ricultural Policy of the Economic Community of West African States** (ECOWAS) and the **Detailed Program for Development of African Agriculture** (CAADP). The investment plan focuses on eight specific objectives, including increasing production and input productivity, increasing the value of agricultural products through further processing, and improving access to market for agricultural products. Senegal has dedicated 10% of its national budget to investments in agriculture by providing support in the form of inputs such as seeds, fertilizers, food, livestock to farmers, as well as agricultural tools (ploughs, harrows, etc.) for mowing and compacting of hay to provide food for livestock during the dry season.

The **Accelerated Program for Agriculture in Senegal** (PRACAS), the agricultural component of the PSE, was launched in February 2014. It is built around the vision of a competitive, diversified and sustainable agricultural sector that would be the main source of economic development. This program aligned with previous agricultural development programs, thus ensuring continuity. The government has decided, initially, to concentrate its investments on strategic products with the aim of achieving self-sufficiency in rice and onions, then to optimize the performance of the groundnut sector and to develop the fruit and off-season vegetables. The program will then gradually cover all major agricultural products.

Agriculture and Livestock Competitiveness Program (P164967), **Program Results Based Loan** (PPR) (2020)- The objective of the Program is to improve the productivity and market access of priority value chains, based in the Peanut Basin. It is part of the implementation of the programs of the Government of Senegal, the **Senegalese Program for the Acceleration of Agricultural Cadence (PRACAS II**), the **National Livestock Development Plan** (PNDE), as well as the **Orientation Note for the Development and Optimization of Performance of the Peanut Sector** in 2018. The areas of intervention of the program will be articulated around three axes of results: the improvement of productivity and the resilience of crops and livestock; improving the business environment and market integration; improved governance, coordination and management of sector programs. The program supports actions to strengthen actors in the processing of agricultural products at different levels of the value chains with the aim of contributing to reducing the frequency and incidence of food risks in rural areas in the face of climatic hazards, which has strong linkages to the proposed project. The program emphasizes that access to agricultural products at lower cost will help improve food security and nutrition, especially for vulnerable populations. The other expected effects of the program are: improvement of air quality by reducing greenhouse gas (GHG) emissions; promoting integration between agriculture and livestock; better management of conflicts between farmers and herders; the fight against deforestation and desertification; soil restoration and fertilization; improving water management.

Other key policies, laws and regulations on the Agriculture front that have linkages to this project include:

? Agro-sylvo-pastoral orientation law (2004).

? Ministerial Order No. 5122 MAEL-UPA on the creation and organization of the National Rural Infrastructure Program (PNIR)

? National Agricultural Investment Program for Food Security and Nutrition in Senegal (PNIASAN, 2018-2022).

Water Management

Since PRSP II (2006-2010), disaster risk prevention and management have become government priorities and increasing attention has been devoted to flood management. This led the government to launch a ten-year **flood management plan** (PDGI 2012-2022) and to create a ministerial department for the restructuring and planning of areas at risk of flooding. The **Action Plan for the Integrated Management of Water Resources in Senegal** 2007, is also a document that provides a reference point for this project in terms of improving governance and supporting integrated management.

Land tenure and sustainable land and forest management

Senegal has developed the **National Strategic Investment Framework for Sustainable Land Management** (CNIS/GDT) with the objective that by 2026, the favorable political, legal, institutional, technical and financial environment can reverse land degradation, and ensure that land in all ecosystems is used for sustainable production and the well-being of its people. This objective clearly highlights the development of value chains by the different stakeholders, including family farming. SLM is seen as a prerequisite for achieving agro-sylvo-pastoral productivity for prosperity, food security and sustainable development opportunities in rural areas. Components 1, 2, and 2 are anchored strongly into this initiative (see Section 4.1).

The National Strategic Investment Framework for Sustainable Land Management (CNIS-GDT) translates the vision and strategic orientations of the Plan for an Emerging Senegal (PSE). It reinforces the need for rationality, efficiency and effectiveness in the fight against land degradation. It also promotes the achievement of SDG-15 "Life on land", and more specifically target 15.3 on land degradation neutrality (LDN), an opportunity to reduce the growing threats of land degradation and reap multiple socio-economic benefits from LDN. The framework will serve as the key guiding document for the project's LDN monitoring system.

The **National Agro-sylvo-pastoral Development Fund** (FNDASP) was created in 2004 following the adoption of the agro-sylvo-pastoral orientation law; it is the technical and financial arm of the national agricultural advisory system, but also an instrument at the service of rural people to finance the training of value chain actors and the large-scale dissemination of technological innovations. The FNDASP is a vision of agricultural finance based on a demand-driven approach for the benefit of value chain actors, particularly Senegalese producers. In particular, it finances: agro-sylvo-pastoral advice, training of producers and institutional support for producer organizations and agro-sylvo-pastoral research. The financing of the FNDASP is ensured by contributions from the State, producers, local authorities, development partners and the private sector. The FNDASP will be a key partner of the project to support micro-loans and provide credit to women in the project zones.

The 2001 Constitution recognizes economic and social rights, including the right to property for every citizen. The **National Domain Law** was intended to limit the influence of ethnic and religious hierarchies; it encourages more productive land use and the creation of better conditions for agricultural exports, while giving control of land to decentralized government bodies. The **Rural Communities Act of 1972** established the structure of rural councils, which have the power to allocate land use rights and criteria for improving production according to local development plans.

Decree No. 96-1134 implements the law on the transfer of powers to regions, municipalities and rural communities in matters of environment and natural resource management. The government has also commenced a process of decentralization of national policies, emphasizing the existence of viable and competitive "landscapes", capable of ensuring sustainable development through an inclusive, participatory and people-oriented approach. results, involving multiple stakeholders. The Government has thus confirmed the importance it attaches to decentralization through (i) building the capacities of local authorities through targeted training programs; (ii) the promotion of solidarity and inter-municipal cooperation, harmonious collaboration between local authorities, the promotion of territorial clusters and (iii) the promotion of good local governance. The proposed project is very much in line with supporting this law, by promoting the landscape approach and strengthening local governance structures.

Senegal has set a national **Land Degradation Neutrality (LDN) target** to reduce vulnerabilities resulting and has identified five voluntary national targets:

? During the period 2020-2035, 18,809.96 km2 of forest land will be restored and sustainably managed.

? During the period 2020-2035, 10,257.06 km2 of meadows and pastures will be restored and sustainably managed.

? During the period 2020-2035, 19,894.12 km2 of cultivated land will be restored and sustainably managed.

? During the period 2020-2035, 1,147.58 km2 of wetlands will be restored and sustainably managed.

? During the period 2020-2035, 1,348.27 km2 of marginal areas (artificial land, bare land and others) will be restored and managed sustainably.

This project will support LDN targets by restoring 12,000 hectares of land and ensuring that 40,000 hectares of land are under improved management.

FAO has also collaborated extensively with the Ministry of Agriculture and Rural Equipment (MAER) on land tenure issues. Senegal was the first country in the region to set up a national platform for multi-stakeholder dialogue around land tenure, which FAO has supported. MAER received institutional support from FAO in their role of chairs the platform and COPIL and with the National Land Reform Commission (Commission Nationale de R?forme Fonci?re - CNRF).

FAO has also fostered what was the eventual formulation of the new World Bank Rural Cadaster and Land Security Project (PROCASEF) (see in following sub-section). The Senegalese Institute for Agricultural Research (ISRA) has also developed a national survey on the relation on land tenure and soil quality, which is to be leveraged by this project.

On women and land tenure, the civil society organization Enda Pronat has developed a study on constraints for women access to land that led to production and support to women titling process. FAO?s involvement with that process as well as with the *Initiative prospective agricole et rurale* (IPAR, The National Council for the Concertation and Cooperation among Rural people (CNCR), Environment and Development in Africa (IED), Council of NGOs involved in support to development (Conseil des Organisations Non Gouvernementales d?Appui au D?veloppement CONGAD), Female Paralegal Association (Association des Juristes S?n?galaises, AJS), RBM, among others, will be inform land tenure activities.

3.2 Baseline Projects and Sources of Co-Financing

The following projects form the existing foundation on which this proposed GEF project will build. The co-financing provided by each source is provided in Table B in the first section of the report. A healthy amount of co-financing has been generated which captures the interest and the integral nature of this project to other sectoral partners. Co-financing partners have been liaised with throughout the project design process to ensure that the project is:

? Adding value added

? Filling critical gaps that currently limit progress on SLM, LDN, biodiversity protection and women?s advancement

? Optimizing resources provided by the GEF to offer co-benefits, and

? through co-financing partnerships can extend reach and scope.

The **Resilience and Intensive Reforestation Project for the Safeguarding of Territories and Ecosystems in Senegal** (RIPOSTES) (2022-2026) will be implemented by FAO with the support of the European Union. The objective of the project is to help build the capacity of communities to adapt to climate change through SLM. The project aims to scale up 50,000 ha with restoration options on improving forest cover to benefit 10,000 households in 13 communes, nine of which overlap with the proposed GEF project. RIPOSTES aims to (i) Promote holistic and integrated governance of natural resources and contribute to the management and optimization of local dynamics of resilience; (ii) Stimulate the restoration and rehabilitation of agro-ecosystems and promote a sustainable land use

system through a landscape approach to SLM, with a view to contributing to carbon sequestration and the improvement of ecosystem services; (iii) Strengthen the capacities of populations, including vulnerable groups, by stimulating the creation of sustainable opportunities for the improvement and development of value chains of non-timber forest products and by promoting public-private partnerships. The project supports biodiversity conservation by strengthening the current fragmented terrestrial ecosystems, reducing habitat loss and encouraging natural regeneration, while rolling out national action plans for youth employment and skills development in rural economic value chains, supporting the design and implementation and policy dialogues on a coordinated approach to decent youth employment and entrepreneurship. The proposed GEF project will benefit from investment in capacity and infrastructure to diversify livelihoods to create more climate resilient communities. RIPOSTES will co-finance the proposed GEF project for a total amount of US$5 million. The GEF project has been designed consciously with synergies in mind with RIPOSTES. In fact, a consultant from RIPOSTES was even retained in the PPG team to ensure that the GEF project does not duplicate interventions, and builds on the anticipated outcomes of RIPOSTES. The chief contribution of the GEF initiative is to build LDN and biodiversity conservation considerations into baseline activities. RIPOSTES will also be responsible for co-financing a Value Chains Expert position for the project. This role will involve ensuring alignment between the two projects, ensuring that negative private sector impacts relating to pricing distribution and marketing do not occur, and overseeing the growth of value chain development with an adaptive approach. This role will also facilitate subject matter experts.

The **Global Transformation of Forests for People and Climate: a focus on West Africa** project is implemented by FAO with the support of Sweden (2019-2023). The total funding of the project is USD 8.2 million. Focusing on ECOWAS countries, the project aims to strengthen overall forest land management decision-making and implementation of the Forest Convergence Plan. In particular, the project targets 1) knowledge of the state of the dynamics of forest ecosystems; 2) laws, policies and strategies related to forests and lands at the sub-regional level; and 3) demonstration and dissemination of sustainable forest and land use practices. The proposed GEF project will build on capacity development in landscape management and on strengthening an institutional environment conducive to the resilient management of mangrove ecosystems. In particular, the project will tie sustainable agricultural interventions into the activities carried out on sustainable forest management, to ensure complementarity and to ensure that agricultural practices support the sustainability of forests and their biodiversity. Encroachment has been an issue, and this project will serve to reinforce the practices put forth by the baseline, while demonstrating sustainable livelihoods without erosion of forest resources. The amount of co-financing for the project proposed by the GEF is US$2 million. It is anticipated that this baseline initiative can scale up public awareness on sustainable land use to create a favorable threshold upon which the GEF initiative can take place. The USD 2,000,000 co-financing will provide drivers, vehicle rental, fuel cost, land logistics around pilot presentations (communications, facilitation of experts, follow up with community members on activity delivery), as well as baseline activities on sustainable forest management.

The **Rice-Senegal Value Chain Development Project (PDCVR)** was launched in the Saint-Louis region and is financed by the Islamic Development Bank (IDB). The PDCVR is part of the implementation of the National Program for Self-sufficiency of Rice (PNAR). The project aims to reduce the high importation of rice in Senegal. This reduction will go through land development and boosting agricultural yields. The project is co-financed by the Islamic Development Bank (IDB) and the Senegalese State at more than 41 million Euros. It will provide co-financing of USD 5,000,000 to the project. The key linkages between the two initiatives is to increase the incomes of smallholders, reduce poverty and food insecurity and improve the livelihoods of the rural population. There will also be shared interventions in supporting business opportunities for targeted rice farmers to facilitate market access; strengthen institutional capacity for implementation, including through effective engagement of the private sector.

The objective of the **Agriculture and Livestock Competitiveness Program (PCAE)** is to improve the productivity of agricultural value chains, in particular access to the market for basic agricultural and livestock products, in the groundnut basin and agropastoral areas. This new phase is a continuation of the projects supported by IFAD in Senegal. The total fund for the initiative is worth 230 million USD from 2021-2048. It is co-financed by the World Bank, IFAD and the national government. It is anticipated to impact 900,000 farmers, including 50% women and 30% young farmers. This initiative will provide USD 15,000,000 in co-financing to the project, and focus interventions on value change development and livelihoods. This project will also finance a logistics position for the project. This will involve arranging local level visits, community consultations, follow-up with communities to ensure that activities were well understood and socialized, and liaising with the project coordinator to plan calendar of events (carried out by ANCAR).

The **Sustainable Development Project for Pastoral Farms in the Sahel** (PDEPS) (2018-2024) is funded by the Islamic Development Bank and falls under the purview of the Ministry of Livestock and Animal Production (MEPA). Senegal will receive up to 30 million US dollars for a period of 5 years with 550,000 pastoralists and agro-pastoralists as direct beneficiaries. The objective of this project is to reduce poverty and strengthen the food and nutritional security of vulnerable populations in the regions of Saint-Louis, Matam, Louga, Kaffrine and Tambacounda. It aims to sustainably improve the productivity and competitiveness of the dairy and small ruminant sectors; increase the added value of livestock products and; and create jobs for women and young people. The Project has 4 Components, which are: 1: Development of pastoral infrastructure and improvement of access to pastoral resources; 2: Support for the development of milk and small ruminant value chains; 3: Support institutional and organizational capacity building and; D: Project management and coordination. The key linkages between the two initiatives is to increase the incomes of smallholders, reduce poverty and food insecurity and improve the livelihoods of the rural population. Investments in pastoral infrastructure and pastoral resources, strengthens the baseline within which sustainable value chains will be strengthened. Both projects will be intervening in Tambacounda and Kaffrine?the proposed GEF project offers opportunities to add the ecosystems-based restoration, agroecology, and sustainable land management approaches to pastoral initiatives. The PDEPS intervenes in the development of pastoral

areas by setting up pastoral units for the participatory management of pastoral resources. This is in response to the Municipal Planning and Territorial Development Plan (SCADT) that the proposed GEF project will support, by integrating LDN at the municipal levels. Co-financing is to the tune of USD 7,000,000.

Other non-co-financing but key partnerships will include:

The **Water Valorization for the Development of Value Chains** (PROVAL-CV) project (2019-2024) aims to launch a process of strong, inclusive and sustainable economic growth, to support livelihoods of poor rural people. The project is financed by the African Development Bank for an amount of approximately 60 million euros, as well as the African Fund for Growing Together (AGTF) for 26.7 million euros. The project is implemented in the agro-ecological zones of Niayes, Peanut Basin and Casamance. This project seeks to strengthen entrepreneurship in key value chains, contributing to improving the incomes of rural populations. As surface water and groundwater management is the basis for the development of major agricultural value chains, the project aims to develop more than 12,000 ha of agricultural land and invest in pastoral and post-harvest infrastructure. 300,000 beneficiaries are anticipated. The GEF project will also build on some of the trainings, best practices and mechanisms that this project has established.

The **Support Program for Municipalities and Agglomerations** (PACASEN) is a component of the Third Act of the Decentralization Strategy, which seeks to improve land tenure. The PACASEN program is funded by the Government of Senegal (60 M USD), the World Bank (110 M USD) and Agence France D?veloppement (90 M USD) (2018-2023), implemented and supervised by the Ministry of Governance Territorial, Development and Territorial Planning (MCTDAT). This baseline project seeks to contribute to improvement of local governance and financial and human resources, by supporting structural and multi-sectoral reforms. The implementation of this project illustrates Senegal interest in strengthening local level/municipal level mechanisms to promote decentralization. This provides a solid basis for developing synergies to promote the integration of sustainable natural resource management into local policies. This partnership also ensures that the GEF project?s advances on land tenure will be done in adherence with larger government initiatives, and will support such initiatives through local level tenure change.

The World Bank-funded **Cadastre and Land Tenure Improvement Project** in Senegal is implemented by the Ministry of Finance and Budget (2020-2025)[60][60]. Total funding for the project is US$80 million. The project aims to build the government's capacity for the implementation of its cadastre at the national level and to improve the system of recording land use and property rights in selected areas. The project has three technical components: to strengthen land institutions and invest in

infrastructure; support land rights registration operations; and to support training, communication and research action plan on land. The proposed GEF project will build on the project to ensure integration of LDN principles on land governance in alignment with national development goals. The PPG stage involved close collaborations with thisproject. In particular, communes of intervention were determined in partnership with PROCASEF to avoid duplicating activities and complementing initiatives in particular sites. The project also has high resolution imagery of some of the project sites which they are sharing with the GEF-funded initiative. Chief in the collaboration is to develop land use measurement tools that are compatible and usable by various sectors.

Climate Change Resilience and Coastal Zone Management Project (CCGIZC). The project, implemented by the Ministry of Environment and Sustainable Development for the period 2020-2024, aims to protect coastal areas against coastal erosion and sea level rise through the planting of trees to slow down coastal erosion, installation of dykes to prevent rising waters. Out of a total of 5 million Eurosfrom the EU, this initiative will support this project through interventions on SLM/salinization and biodiversity in the Saloum Delta. The salinization interventions will support the restoration initiatives planned under the GEF project.

The **Management of Mangrove Forests from Senegal to Benin** (PAPBIO) project is TEU-funded, and jointly implemented by Wetland International and IUCN. It aims to achieve integrated protection of biodiversity and fragile mangrove ecosystems in West Africa. It seeks to strengthen those involved in the management of protected and unprotected mangrove sites. The aim is to link governance and production systems to mangrove conservation structures at the territorial level. The total budget is 5 million euros (2019-2023).

Mangrove Capital Africa is a ten-year program (2017-2026) led by Wetlands International (a global non-profit organization) and funded by DOB Ecology. Its objective is to safeguard and restore African mangrove ecosystems for the benefit of people and nature. By 2027, the project strives to conserve or restore 1 million hectares of African mangroves, which is estimated to benefit 2 million people. The total budget is 10 million euros.

The **Sahel Irrigation Initiative Support Project** (PARIIS) is implemented by MAER and contributes to the Regional Initiative for Irrigation of the Sahel (2iS), which consists of developing productive, sustainable and profitable irrigated agriculture for employment and food security in the Sahel. This project aims to improve the capacity of stakeholders to develop and manage irrigation and increase irrigated areas using a regional solutions approach in Burkina Faso, Mali, Mauritania, Niger, Senegal and Chad. To this end, the investment is directed towards two main components, namely the modernization of institutional frameworks and irrigation investment solutions. The amount made

available to Senegal under this regional project is US$25 million. The proposed project will benefit from local and regional infrastructure and capacity for water management that the baseline will establish. Especially, when investing in sustainable value chains, strengthening sustainable production and restoration activities, the water infrastructure established by the baseline will be key.

The **Communities Regreen the Sahel** project funded by the DOB Ecology implemented in Burkina Faso, Niger and Senegal, supports agricultural and fodder production through the introduction of trees in the areas of breeding and cultivation, using the technique of assisted natural regeneration. The objective is to support communities to carry out the rehabilitation of degraded lands. The program aims to strengthen the resilience of populations and ecosystems through inclusive governance of natural resources. The expected results are the restoration of 200,000 hectares and an increase in agricultural production, food security, the preservation of biodiversity and, indirectly, an increase in the income of households involved in the re-greening process. The project will support the development of resources that will result from regreening actions by facilitating access to the market for non-timber forest products that are available in these areas. It is implemented by BothEnds (an international NGO) which will collaborate with the GEF project to identify lessons learned and best practices.

Strengthening the Climate Resilience of Food-Insecure Smallholder Farmers through Integrated Climate Risk Management (the R4 Initiative for Rural Resilience) funded by the Green Climate Fund for USD 9.98 million (2020 -2024) and is implemented by the World Food Programme, seeks to strengthen the climate resilience of 45,000 households. It is implementing four key tools: 1. Risk reduction interventions encompassing the creation climate adaptation assets such as community-based soil and water conservation measures and small-scale community infrastructure, as well as the provision of climate services with the aim of reducing the risks and impacts arising from climate change climatic. 2. Risk transfer through weather index insurance (WII), to transfer risk to the international market and provide farmers with compensation in the event of weather shocks to avoid the sale of productive assets such as livestock or tools. 3. Risk reserves, aiming to provide farmers with the capacity to save, to use their savings as a buffer or to invest in income generating activities (IGA), but also to build a path of sustainability taking them to the commercial insurance market. 4. Prudent risk-taking encompassing interventions such as insurance, allowing farmers to use their excess production as collateral for loans, the aim being to unlock credit for investments in agricultural inputs or other IGAs . The intervention areas of the GCF project include the regions of Fatick, Kaolack and Tambacounda, i.e. some of the target regions of the proposed project. The technical solutions for the financial instruments disseminated by the GCF project will be capitalized within the framework of the results 3.1.1 and 3.1.2 of the proposed project.

The **Increased Resilience of Ecosystems and Communities by Restoring the Productive Capacity of Salinized Lands** financed by the Green Climate Fund (GCF) for an envelope of 7.61 million USD, with 546,000 USD from the Senegal Centre of Ecological Monitoring (CSE) will run from 2020-2024.

The project aims to ensure effective prevention of the risks from land salinization due to climate change and to develop appropriate mechanisms to reduce and manage land affected by salinity; the ultimate goal being to improve the fertility of the land and consequently food security as well as economic and financial profitability. The project is part of axis 2 of the Emerging Senegal Plan (PSE) for the period 2014-2018 entitled "Human capital, social protection and sustainable development" which emphasizes the need "to integrate the principles of sustainable development into policies. This project will support the proposed project managing issues of salinization and integration of sustainable natural resource management approaches into local policies, to support LDN.

Opening up Production Areas in Support of the National Local Development Program (PDZP/PNDL) is financed by the Government of Senegal, the African Development Bank and OFID for an amount of USD 39 million, and implemented by the Ministry of Territorial Governance, Development and Territorial Planning. The strategic objective of the project is to support robust and inclusive economic growth. At the sectoral level, it aims to open up roads in the hinterland in order to widen access to production areas and facilitate access of rural communities to markets and basic socio-economic services. In addition to the infrastructure that will be rehabilitated or built (550 km of access roads; value chain support infrastructure, including 20 market gardening areas, 15 weekly markets, 30 storage warehouses, 6 multifunctional platforms, 5 service centers for mechanization, etc: (i) develop agricultural value chains with high employment potential for young people and women; (ii) improve access to basic socio-economic services for territorial economic development; and (iii) strengthen the capacities of local actors (local authorities, regional development agencies, central and decentralized technical services) to implement Act III of the decentralization policy and achieve the targets of the Emerging Senegal Plan (PSE). This initiative will provide the supportive infrastructure and backdrop required to strength the value chains targeted by the proposed project. The PDZP/PNDL operates in four regions (namely Kaffrine, Kaolack, Fatick and Tambacounda) which are the same as the GEF project.

The **Support Program for Agricultural Development and Rural Entrepreneurship in Senegal** (PADAER) Phase 2 is funded by IFAD, OFID, Spanish Cooperation and the Government of Senegal for a total amount of $48.56 million (2018-2024). The development objective is to sustainably improve food security and increase incomes of small producers (farmers and herders), as well as to create sustainable and remunerative jobs for rural populations, especially women and young people. Interventions will take place in the regions of Tambacounda, Matam, Kedougou and Kolda.

Section IV. Proposed Alternative Scenario

4.1 Principles of the Project

The project will employ a **landscape approach**. The definition of landscape used in this project is that of a biophysical as well as cultural and political entity[61][61] with overarching problems of ongoing environmental degradation, economic production, and social cohesion. The concept of the ?landscape? is used as it takes into account biodiversity value, land use trends and patterns, opportunities for application of resilient and adaptive practices to reverse degradation of land and biodiversity. Targeting landscape resilience allows for the various types of community action to be catalyzed to advance multiple global environmental and local development goals synergistically in the same geographic space.

Key to the landscape approach will be that the project will support local actors, municipal government, community-based organizations, smallholders and private sectors in carrying out project activities in pursuit of outcomes they will identify through local plans and strategies. By coordinating projects and supporting synergies at the local level, initiatives in the landscape will generate ecological, economic and social synergies that will produce greater and potentially longer-lasting global environmental benefits, as well as increased social capital and local sustainable development benefits. Multi-stakeholder groups, supported by this project, will also take experiences, lessons learned, and best practices from other initiatives in the baseline and implement a number of scaling up efforts during this project?s lifetime.

The project will also support landscape-scale conservation to promote a holistic approach to landscape management and to synergize the various conservation and economic efforts underway in the landscape. Instead of addressing biodiversity concerns through a fragmented, habitat basis, a networked approach across a larger ecological system is needed to address complex, multi-faceted challenges. As noted by some biodiversity conservationists, critical conservation goals?including responsiveness to climate change and representation of species, ecosystems, and habitats?can be achieved only if addressed within larger, permeable landscapes.[62][62]

The National Land Management and Development Plan (PNADT) notes in Access 4 for the need of ?Productive system and regional and sub-regional integration?. It also notes that the sub-regional work has often been characterized by:

? Fragmented and unbalanced territorial architecture;

? Boundary imprecision/boundary errors;

? Problems of administrative attachment of localities;

? An interpenetration of village lands leading to blockages in development policies and the implementation of local projects;

? Inconsistencies between size the demographics of certain local authorities and their administrative status, raising the issue of access to basic social services and socio-economic viability;

? A territorial duality: small territory with high population concentrations/vast, sparsely populated territory;

? A confused toponymy;

? A multitude of levels of governance.

Subsequently, it is said that "the search for territorial and social cohesion, the improvement of the economic performance of the territories as well as the expected effectiveness of public policies are undermined by these variables explained above". The landscape approach will be innovative and make it possible to better bring together the populations who are in the same landscape units for a more harmonious development, as there are clear commune boundaries. These will be accompanied by intermunicipal agreements, clear governance structures, and most importantly, the participation of mayors which facilitate municipal engagement and collaborations.

The project strategy will seek to reverse the ?positive feedback loop? of the existing socio-economic system - where land degradation is an unintended consequence of system behaviour - to position LDN as an accelerator of SDG targets implementation in Senegal. Under the business-as-usual scenario, current land degradation trends will continue leading to reduced soil fertility, land productivity, and land use change. The project will set the enabling environment for LDN and demonstrate the LDN approach in the Peanut Basin and Eastern Senegal for achieving food security, delivery of ecosystem services, and livelihood resilience. The alternative scenario leverages key enablers leading towards land degradation-neutral Senegal by 2030 and ?building back better? for resilient emerging economy by 2035.

The project integrates **Land Degradation Neutrality** (LDN) in all its activities and seeks to achieve no net loss of healthy and productive land for the benefit of human well-being and to protect land and the ecosystem services that land provides. Measures that guard against doing unintentional harm to communities and ecosystems in the pursuit of LDN targets, will be implemented by the project to support the environmental, economic, and social objectives of the LDN process.

This will be further reinforced by incorporating the **agroecology[63]**[63] approach in the project. Agroecology is an integrated approach that applies ecological and social concepts and principles to the design and management of food and agricultural systems.[64][64] It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system. The agroecology approach will be implemented by this project through bottom-up and landscape processes, helping to deliver contextualised solutions to local problems (see below on participatory approach and building back better). The agroecological innovations proposed by the project will support the co-creation of knowledge, including traditional, practical, and local knowledge of producers. The project will support adaptive capacity and producers and communities to act as key agents of change, to be supported by strengthened and responsive institutional structures. The project will seek to transform food and agricultural systems, by addressing root causes of problems in an integrated way and providing holistic

solutions, taking into account how to build-back-better in the wake of disasters and COVID-19, and with an eye to contributing to LDN within the landscapes identified. There will be an explicit focus on social and economic dimensions of food systems, with strategic interventions to support marginalized people, in particular women and youth, and empower the with resources, voice and capacity to conduct their own sustainable activities.

In order to design agroecology activities that are best suited for achieving results in the selected sites, during the PPG the FAO requested the NGO Enda Pronat to carry out a diagnostic study of households in 3 eco-geographical zones, in 4 regions of Senegal: Diourbel, Fatick, Kafrine and Tambacounda, to assess the level of agro-ecological transition, and provide a solid baseline against which future results can be measured The Tool for Agroecology Performance (TAPE) was mobilized to carry out this study and define the typology of the production systems of the farms in the target sites and to assess the level of agroecological transition of farms according to the 10 elements defined by the FAO (see footnote 57). The TAPE tool aims to measure the multidimensional performance of agroecological systems through the different dimensions of sustainability. It applies a step-by-step approach at the farm level but also collects information and provides results at the community and territory level. The study itself is available in Annex 14.

The assessment provided details on the sites; which were more conducive for agroecology work, and where initiatives have been initiated. It revealed that most of the producers in target sites have low levels of transition to agroecology. This justifies the relevance of the PPG-LDN project, which will contribute to strengthening the production systems in their transition processes through mechanisms for restoring the fertility of degraded land and soil to improve household food security.

The assessment also noted that there is a positive correlation (linear regression) between the number of animals, the farm size, the diversity of crops and the level of transition to agroecology. The higher the transition level, the more agricultural systems are diversified, and the more livestock assets exist for the family. The study concluded that:

? The diversification of agricultural activities and the improvement of the ecosystem, characteristics of agro-ecological systems, make it possible to better cope with climatic risks and therefore more resilient farming systems,

? The increase and diversification of agricultural production in agro-ecological systems contribute to the food security of populations,

? Agroecological systems are generally more labor intensive. There are opportunities there for job creation.

The project will include the following principles as part of its methodology for implementation and to support the landscape, LDN and agroecology approaches:

? ***Participatory approach***: from the consultations during the PPG (conducted by a biodiversity expert, a land degradation expert, a value-chains expert, a national consultant), which involved workshops and meetings with local stakeholders in each landscape (please see Annex 10 for summaries of workshop) as well as with national partners, and managers of other development projects, the process has been and will be participatory in nature. From conception, this project has sought to build on the successes of other initiatives, avoid duplication, and provide value added to SLM and biodiversity protection initiatives. An inter-sectoral task force was struck up during the development of the PIF to ensure that sectoral considerations were taken into account in the design, and that the project supports national endeavours. This task force has been engaged throughout the process of articulating activities, targets and indicators, and these were further validated with local partners at the regional level. Mayors and municipal actors expressed appreciation during the PPG for their inclusion in project development. The participatory engagement is also a core part of the agroecology approach and to ensure co-knowledge creation and learning. In order to achieve LDN through these means and to ensure widespread take-up of LDN favorable approaches, participatory mechanisms will be employed throughout the life of the project.

? ***Gender Equality and Empowerment of Women***: This project is setting a high standard for women?s participation, leadership, engagement and decision-making. The project is focused on value chains that will primarily benefit women, and on trainings and activities that are gender-sensitive and take into account women?s labour, their responsibilities and support their agency. The project has high gender targets, but feasible, and seeks to implement activities that can sustain gender benefits beyond the project duration. In order to achieve this the project will work at various levels of governance, in addition to at the community level, to formalize agreements and action plans that benefit women. In particular, the project will support positive tenure agreements to support women. The project will also help allocate productive lands to women where SLM activities and agroforestry can be piloted. Rigorous monitoring will take place throughout the project to ensure that the project continues to yield benefits to women and does not add any additional burdens. Additional information is provided in the gender analysis (see Section 5.2). The project steering committee will also ensure that the project does not discriminate against women, traditional communities socioeconomically disenfranchised and other marginalized groups. Efforts will be taken to ensure that the project is well-understood at a deep level within a landscape, so that there is local-level commitment and buy-in, and that the project responds to needs at landscape level. The different opportunities that women and youth have as well as the impediments faced by women, especially impoverished women from traditional communities, are folded into the logical framework and proposed activities. Women are also recognized as knowledge-creators and sharers, and it is anticipated that sustainable agroecological activities that support LDN, and livelihoods strengthening will be led on by women.

? ***Learning-by-doing***: The project will promote activities where stakeholders and beneficiaries can put into practice trainings, innovations and interventions. This will contribute to the socialization of the interventions and allow communities to drive project activities. It will also support the sustainability of skills obtained. Activities that support LDN and agroecology will be pursued, with a focus on ownership and co-creation of knowledge. Through learning-by-doing, it is anticipated that new activities, findings may emerge and these will adapted into project activities.

? ***Country Ownership:*** The project will be implemented by MAER with support from the FAO. Executing entities are being identified through FAO Operational Partners Implementation Modality (OPIM)[65][65] which allows FAO to carry out projects in collaboration with national and non-profit actors, to achieve more sustainable results. The main objectives are to increase national ownership, build capacity of the partner through implementation of projects, and make the best use of expertise available on the ground. Throughout the project design process, synergies and complementarities have been sought to anchor the project in national plans and policies. The value added of the project is that it can support the commune-level interventions needed to support SLM/LDN plans and policies. The project will be managed and driven by national actors.

? ***Livelihoods Approach***: The economic reality of communities, particularly in the context of Covid-19 pandemic is essential to consider in any land and biodiversity focused project. Natural resources are often turned to as an economic resource, particularly for the most impoverished. To be successful, the project must strengthen peoples? livelihoods in tangible and measurable ways to sustain commitment to SLM and biodiversity-friendly activities. Component 3 of the project will thus focus on strengthening people?s livelihoods.

? ***Participatory Approach to Management of Natural Resources***: The success of project initiatives will depend on how communities manage natural resources. To avoid a top-down approach to resource management, which may lead to less success in the long-run, Component 1 is focused on strengthening local, customary and national level governance, to support local level agency in managing resources. Public awareness, communications, incentives and demonstrating the value added of biodiversity is anticipated to enhance people?s ownership and management of natural resources. Local monitoring groups and engagements of chiefs will help reinforce principles of protection.

? ***Building Back Better:*** The pandemic has resulted in reduced agricultural yields[66][66]. The proposed project is aligned with the ?Build Back Better? approach taken by FAO in the framework of its Covid-19 Response and Recovery Programme. The proposed project will contribute to three of the seven key areas of action identified in the Programme, including (i) Boosting smallholder resilience for recovery; (ii) Economic inclusion and social protection to reduce poverty; and (iii) Food systems transformation. The proposed project will empower smallholders to fulfill their role as investors in the agricultural sectors generating business and employment opportunities for the economy, and as custodians of natural resources and ecosystem services. It will also adopt a territorial approach to build resilience among the rural poor by increasing the sustainability of their livelihoods. Under Components 1 and 2, reversing land degradation processes and disseminating sustainable landscape management practices will further enhance the resilience of rural livelihoods in target regions. This will be complemented under Component 3 by interventions aiming to foster job creation and extract value-added in selected value chains[67][67]. Finally, agri-food enterprises will be supported under Component 3, with the objectives to generate economic activity in the transformation sector and support supplying farmers with secure and diversified markets.[68][68]

4.2 Components and Outcomes of the Project

The **objective** of the project is to demonstrate the LDN approach in the Peanut Basin and Eastern Senegal for biodiversity conservation and delivery of ecosystem services to achieving food security and livelihood resilience.

This will be delivered through 4 components:

? **Component 1-** Enabling environment for large-scale SLM dissemination

? **Component 2-** Scaling up SLM and biodiversity conservation using a landscape approach in the Peanut Basin and Eastern Senegal

? **Component 3**- Rural employment and livelihoods enhanced to sustain improved management of production land

? **Component 4-** Learning, knowledge management and communication

Component 1- Enabling Environment for large-scale SLM dissemination, seeks to strengthen the structural elements which pose barriers to enabling wide-scale SLM activities to ultimately support LDN. The activities under this component will focus on (i) enhanced governance; (ii) access to sustainable financial resources for SLM and (iii) generation and application of usable, quality data, information and knowledge, which can inform policy-making. The project recognizes that a conducive enabling framework, with inter-sectoral approach and buy-in is essential for LDN investments to be effective. The project will embed the LDN concept into existing planning frameworks and participatory land-use planning, while promoting policy work at national levels. The embedding process will ensure that LDN is not ?tacked on? to commune level planning and interventions, but becomes a meaningful part of planning and monitoring to understand how communes are contributing to LDN and whether their interventions are successful. It will also support national level accounting to have consistent means of reporting across landscapes. Land tenure issues which can be obstacles to LDN objectives, will also be addressed through activities under this component through participatory and Voluntary Guidelines for Responsible Governance of Land Tenure (VGGT) interventions, building on initiatives underway on land tenure (as described in the Baseline section, see Section 3) and, particularly, by looking at women?s relationship to land as entry points. Investments to sustain and rebuild productive areas, mitigate the effects of drought, increase resilience, through interventions which are planned in Components 2 and 3, will only be possible through strengthening the enabling environment from actions conducted under Component 1.

The interventions under Component 1, will be in addition to the core activities carried out by various projects as part of the implementation of the Strategic Investment Framework for Sustainable Land Management (CNIS/GDT), which Senegal has initialized. Component 1 will establish mechanisms for landscape level planning and prioritization of actions, including identification of institutional capacity for sustainable land management, LDN objectives and investment priorities. The Component will strengthen governance in four administrative regions Diourbel, Fatick, Kaffrine and Tambacounda to remove the barriers of weak capacity of institutions and poor governance, while strengthening women's skills in sustainable land management (SLM) to improve their roles in land access mechanisms and their potential to contribute to value chain development. SLM is seen in this project as a key intervention at the plot level, to support LDN in the longer term. This Component supports participatory planning, decision-making and will generate resource utilization agreements that will serve as a basis for strengthening land rights and more transparent governance. The project will develop a synergy with the capacity building component of the Support Program for Municipalities and Agglomerations of Senegal (PACASEN), and ensure the participation of women and other marginalized groups.

The proposed alternative scenario under Component 1, will promote this strong involvement of local and regional authorities in sustainable land management through **better access to finance, informed decision-making, and improvement of data and information on land health**. Strengthened evidence, through data and information, will serve as a basis for improved target-setting processes for LDN objectives, and for monitoring SLM activities conducted to achieve longer-term LDN. The principles of SLM will be integrated into municipal investment and action plans. Particular emphasis will be placed on the coordination, planning and management of ecosystems and landscapes, land and water management, based on improved inter-sectoral collaboration at local and national levels. The landscape approach will support the territorial dimension of strengthening policies and strategies, to foster greater coherence among municipal units in the management of natural resources. This component will also support the establishment and/or the reinforcement of multi-sectoral inter-community platforms for multi-stakeholder dialogue on land governance.

Three **Outcomes** are anticipated under Component 1, which include:

? Outcome 1.1. Strengthened inclusive land governance for better biodiversity conservation and natural resources access through the application of LDN and VGGT principles

? Outcome 1.2. Enhanced capacity for the mobilization and sustainable management of financial resources by the municipalities and the coordination of SLM interventions in favor of LDN and biodiversity conservation

? Outcome 1.3 Accessibility of data and information on land degradation enhanced

Under ***Outcome 1.1 Strengthened inclusive land governance for better biodiversity conservation and natural resources access through the application of LDN and VGGT principles***, the project seeks to improve land governance to yield biodiversity and LDN benefits. At the core of this outcome, is the need to support national authorities, and community-led governance mechanisms so that they are the drivers and beneficiaries of sustainable land management practices. Activities under this outcome will strengthen the tools, planning instruments and the arrangements for inclusive land governance. There are municipal planning tools currently being put in place for land-use planning (e.g. Municipal Commission for Territorial Planning and Development (CCADT)). The value added of this project is that there is the opportunity of integrating SLM and LDN into these planning tools, to support more global monitoring and reporting on SLM, LDN and biodiversity initiatives. The action at the municipal level is intended to be aggregated, upscaled and replicated, so as to support national level measurement and reporting of LDN and biodiversity. It also provides the national government coherent data from the local level which can be comparatively analyzed.

Initiatives under this outcome will also support a holistic, integratative approach between sustainable land management and biodiversity protection. Regulatory frameworks and territorial planning instruments will be designed with an eye to support both national biodoversity and LDN targets. Activities which yield mutial benefits will be sought. LDN can support the achievement of biodiversity targets.[69][69] As noted by the UNCCD, addressing land degradation and biodiversity challenges requires common approaches and solutions, and involved and integrated policy-making.[70][70] Activities under this Outcome will seek to support integrated frameworks.

Elements under this outcome will also ensure that land-use planning is tenure-responsive. The FAO has been engaged with MAER, COPIL and the National Land Reform Commission (CNRF) to set up a national platform for multi-stakeholder dialogue around land. This project will build on the outputs from those processes as well as that from the World Bank Rural Cadaster and Land Security Project (PROCASEF), which was developed in collaboration with FAO?s advocacy efforts through the Ministry of Finance and COPIL. The project will strengthen the existing multi-stakeholder platform and integrate LDN considerations. FAO has already conducted a series of consultations with stakeholder groups for the development of the final draft of a national land policy and tenure, and has assessed forest governance with respect to VGGT, in the baseline. This critical baseline work forms the backdrop against which tenure-positive activities will take place.

Three Outputs are anticipated under this outcome (1.1.1, 1.1.2, 1.1.3).

Under **Output 1.1.1 Review of strategic regulatory frameworks and territorial planning instruments to enhance local stakeholder participation and mainstreaming of LDN, biodiversity conservation and land tenure at national and sub-national levels**, the project anticipates the following key activities:

? Establishment of the Municipal Commission for Territorial Planning and Development (CCADT). The establishment of such commissions are mandated under the recent law for planning and sustainable landscape development (*Loi d'Orientation pour l'Amenagement et le Developpement Durable des Territoires*- LOADT). This activity is anchored within a national exercise which will be sustained through national institutions, but requires the initial piloting and establishment at the municipal level. The project will strengthen SLM, LDN gender and tenure considerations supportive of biodiversity, within the CCADT framework, and offer a potential model to be replicated by other municipalities.

? Development and integration of LDN and biodiversity protection in the Communal Planning and Territorial Development plan (*Sch?ma Communal d?Am?nagement et de D?veloppement Territorial-SCADT*) in partnership with the National Agency for Spatial Planning (ANAT). This project provides the opportunity of integrating LDN into communal planning and territorial development, while strengthening LDN and biodiversity monitoring and governance. It will be essential to also ensure that common LDN indictors are included within territorial development plans, so that reporting for UNCCD on LDN becomes streamlined across the country.

? The project will also facilitate collaborations and cooperation among municipalities through intermunicipal agreements to facilitate a landscape approach. The goal here will be to harmonize SLM and biodiversity interventions among municipalities in order to achieve aggregate results at the landscape level. Activities will also support improved and harmonized governance, with landcape level measurement of results, so that results are easier to monitor. Common metrics, established by the project, are necessary in order to achieve LDN at the landscape and eventually national level Strengthening intermunicipal collaborations will also allow for sharing of best practices, policy discussions, accountability and sharing of lessons learned.

? The project will collaborate with other initiatives to strengthen land tenure (see co-financing arrangements, Section 3). In order to provide value added to other initiatives, the project has identified a strategic entry point: it will support direct and indirect incentives for obtaining land titles for women, young people, and vulnerable groups in the project intervention areas while integrating this dimension into the Communal Planning and Territorial Development Plans. This will also harmonize the work that is underway through other projects and initiatives into local level planning, while ensuring that the vulnerable people are considered within land tenure arrangements, and build LDN considerations in existing multistakeholder tenure platforms. The entry point of supporting women, will ensure that activities that seek to benefit them are done with the appropriate agreements and land titles in place to ensure long term protections and sustainability. In order to effectively conduct this activity the project will have to undertake beforehand (i) clear diagnostic of land tenure arrangements for those having access to land assets or benefiting from land use such as farmers, herders, forest loggers, fisherfolks, as well as land ownership considerations e.g. traditional customs, communal access etc, in target communes; (ii) identification of barriers to tenure such as access, conflicting interests, enforcement of

laws and regulations, lack of monitoring; and (iii) soil quality analysis?women have been reported to often being given soil of low quality; soil quality analysis will help ensure that women are also given favorable parcels of land.

? Establish the baseline situation of women's land tenure/access in the different targeted areas

? Capacity building for women on land application and securing procedures

Under **Output 1.1.2. Land, biodiversity and natural resource governance and planning tools are stengthened in accordance with LDN principles (using FAO Land Resource Planning Toolbox, VGGT, etc.)**, the following activities are foreseen:

? Training of local and territorial actors on the Voluntary Guidelines for Responsible Governance of Land Tenure (VGGT), FAO Technical Guide on the Integration of the VGGT into the implementation of the UNCCD and the Achievement of LDN, and the FAO Land Resource Planning Toolkit for better integration into Communal Planning and Territorial Development Plans (SCADTs). As the VGGT seek to strengthen and clarify tenure for the most vulnerable, it will be particularly relevant to support such training with women, youth, chiefs and agents of customary governance.

? Strengthening land information systems (*syst?mes d?information fonciers- SIF*) in target municipalities by integrating spatial monitoring technologies such as georeferenced information on the various statuses and land boundaries.

? Identify clear physical boundaries of land use and systems, as land tenure boundaries are essential to prevent conflicts and avoid illegal changes of land use (e.g. from forest to arable land). The status and condition of land is important for leasing purposes.

? Contribute to the establishment of an innovative municipal cadastre that considers individual and collective land use rights

Under **Output 1.1.3. Governance of customary and formal natural resources management is strengthened with special focus on vulnerable groups**. The following activities are anticipated under this Output:

? The development of priority action plans on SLM and biodiversity conservation involving local authorities e.g. associations of village chiefs, municipal councils, unions and youth councils, and disadvantaged groups.

? Agreements forged within communities to facilitate and document women and youth access to land for SLM and livelihood activities. These agreements can be made at the customary, municipal/commune levels.

? The project will establish DIMITRA Clubs and/or Gender and natural resources management discussion circles. FAO Dimitra listeners? clubs will allow groups of women, men and youth to organize themselves and discuss opportunities to bring changes within their communities.

Under ***Outcome 1.2 Enhanced capacity for the mobilization and sustainable management of financial resources by the municipalities and the coordination of SLM interventions in favor of LDN and biodiversity conservation***, three outputs are anticipated (1.2.1, 1.2.2, 1.2.3). Land degradation affects many parts of the economy and peoples? livelihoods. It is a cross-cutting issue with impacts on food security, climate change, biodiversity and ecosystem services. Sustainable land management practices such as landscape restoration and agroforestry provide opportunities to reverse land degradation and produce significant environmental and social benefits (UNCCD). However, in order to do so, sustainable financing with appropriate incentive mechanisms and effective partners are required. Interventions under this outcome will seek to catalyze sustainable financing mechanisms that can invest in and finance reversal or reduction in degradation, while protecting biodiversity.

Under **Output 1.2.1. LDN principles are integrated into municipal investment and action plans**, the following activities are planned:

? Municipal investment and action plans will be analyzed, and entry points will be identified to integrate both LDN and gender as priority areas.

? The project will support target municipalities in mobilizing sustainable funding for the implementation LDN and biodiversity conservation action plans and their integration into the annual budget. This will involve (i) supporting municipalities to identify and document the LDN-friendly work that is already underway; (ii) identifying key actions that need to be conducted on LDN and incorporate them into planning and budgeting practices; (iii) establish sustainable financing opportunities and partnerships (this could involve providing incentives to private actors to increase green plant cover or tree planting, supporting farmers that are investing in green contour lines to avoid soil loss and gullying and protect land further downstream; identifying gains and potential losses).

? Training of trainers will be conducted on LDN and gender for Department of Water and Forest, Hunting and Soil Conservation (DEFCCS) agents, LDN focal points and key actors in ANCAR, INP, ISRA and other local actors, who can then disseminate trainings under their own programming.

? Integrate LDN and gender in the curricula of the Training Centers for Water and Forest Technicians to foster LDN knowledge at the institutional level.

? Establish public-private partnerships with actors that are interested in reversing land degradation and eroding biodiversity e.g. agribusiness, eco-tourism to share planning objectives, and mobilize resources.

Under **Output 1.2.2. Capacity building program for multi-stakeholder policy dialogue on SLM in accordance with the guidelines of The National Strategic Investment Framework for SLM (*CNIS-GDT*)**, the following activities are planned:

? Integrate gender considerations into the National Strategic Investment Framework for SLM (CNIS-GDT), and disseminate it at the municipal level.

? Support the creation and operationalization of the National Council for Sustainable Land Management of the CNIS-GDT

? Partner with the RIPOSTES project in order to strengthen policy dialogue and increase multi-sectoral capacities to measure the contributions of LDN

Under **Output 1.2.3. Inter-sectoral coordination mechanisms at the national and the level of each intervention region are operational /strengthened**, the following activities are planned:

? Develop a concept note and methodology for monitoring LDN results

? As a follow-up to the aforementioned concept note/methodology, establish a mechanism for monitoring the planning and implementation of LDN action plans and biodiversity conservation both at municipal and landscape level (inter-municipality)

? Create a multi-stakeholder coordination mechanism at the national level

Outcome 1.3 Accessibility of data and information on land degradation enhanced, will focus on the data gaps which act as barriers to improved policy interventions. Strengthened evidence through data and information will serve as a basis for improved target-setting processes at local and sub-national levels, and for integrating LDN principles into municipal investment and action plans. It will also support more accurate measurement of results of this project and other initiatives. There are two outputs planned under this Outcome (1.3.1, 1.3.2).

Under **Output 1.3.1. Developed and shared in a participatory manner, targeted multi-scale data and information on land degradation status and trends (such as Collect Earth, LADA, and others) and biodiversity status (such as B-Intact) and training material on LDN and LDN for biodiversity conservation developed for practitioners, feeding into the indicator-based LDN monitoring system**, the following activities are planned:

? High resolution spatial and participatory mapping of land degradation at municipal and landscape level will be carried out; this may involve the replication of an app that was recently developed for Cabo Verde

? Trainings on land degradation and biodiversity technologies (B-INTACT (Biodiversity Integrated Assessment and Computation Tool), E-Ante Carbon Balance Tool(EX-ACT) ABC ? MAP tools for monitoring SLM indicators) will be provided to staff in: Centre de Suivi Ecologique (CSE), Institut National de P?dologie (INP), Feed the Future Senegal (IFDC), OCP, Institut S?n?galais de Recherches Agricoles (ISRA).

? Training materials and dissemination of data at the municipal level will be conducted to improve local level planning and SLM budgeting processes

Under **Output 1.3.2. A national platform/information system (management tools and data dissemination) on degraded lands and vegetation cover is set up**, the following activities are planned:

? Strengthening of the Forest Ecological Information System (SIEF) in order to generate data according to national LDN indicators at the communal and landscape levels

? A diagnostic will be conducted of the SIEF to map existing data and gaps, define guidelines for taking into account SLM and LDN indicators

? Protocols will be signed between the DEFCCS housing the SIEF and data provider institutions integrating data sharing mechanisms

? Increase the shareability/accessibility of SIEF land degradation data with relevant stakeholders, so that information may be downloadable by intersectoral partners.

? Capacity building sessions will be provided to enhance stakeholders? use of the SIEF

Under ***Component 2 - Scaling up SLM and biodiversity conservation using a landscape approach in the Peanut Basin and Eastern Senegal*** the project will implement specific activities to ameliorate degraded lands, protect biodiversity, and strengthen the capacities of local communities and actors to champion SLM activities. This will be carried out by disseminating natural resource management strategies, technologies, and best practices at the level of small agro-sylvo-pastoral producers. The implementation of activities in the communes and at the inter-communal level will facilitate improved land management through drought-smart SLM, natural and assisted regeneration, restoration of salinized lands, reduction of water erosion processes, and restoration of buffer zones so as to limit pressures on protected areas. The project will capitalize on planning tools at the local level and build the capacity of stakeholders, engage men and women in sustainable management and land restoration practices, and engage with decision-makers to improve their livelihoods to ensure that policies at the national and local levels support the identified approaches to SLM and the development of value chains with positive involvement of the private sector and financial structures. This component will use the agro-pastoral farmer field approach as a tool for scaling-up farmers? adoption of SLM practices and adaptation technologies. The community-led facilitation of practices and technologies will strengthen adoption processes and will be additional to baseline approaches that do not include cross-sector collaboration among local resource users.

The component will further promote Smart Climate Village model. This model favours an intra and inter-communal collaboration based on an agro-ecological diagnosis with regard to climate effects. The partnership with the project of valorization of waters for the development of the chains of values (PROVAL) will facilitate the dissemination of best practices of SLM through agro-pastoral farmer field schools. As the project design has been developed through participation of a task force made up of partners managing other agricultural and environmental projects, activities will build upon initiatives identified in the baseline, and will take into account lessons learned and vehicles of learning established

by other projects. The Climate Smart Village model[71][71] will benefit from interventions under Component 1, dedicated to strenghen local-level frameworks and governance. Component 1?s interventions in participatory planning, decision-making, resource utilization agreements, strengthening land rights and more transparent governance, will support greater transparency and organization around climate-smart villages.

Through climate-smart villages, the project will pilot activities contributing to LDN and biodiversity conservation to ensure an integrated and holistic approach. LDN and agroecology will serve as nexus points to address the issue of rendering food systems more resilient to climate fluctuations. Weather events that may cause disruptions in the food supply (eg through pests, disease, droughts and floods) will be responded to through agroecology, restoration processes, and sustainable land management practices which will build adaptive capacity, foster resilience while also contributing to LDN. Climate-smart agriculture pursued under this project will have to have a demonstrable link to contributing to LDN objectives and biodiversity targets.

Women will be central to interventions under Component 2. With bold but feasible targets established, women will be recipients of capacity building opportunities, communications, agents for their own sustainable development and livelihood activities, and will be supported through municipal level plans and activities. The component will also promote gender relations to enable women and youth to ensure full participation and active intervention, with support from customary governance.

Component 2 will be carried out by activities under the following anticipated **outcomes**:

? Outcome 2.1. Increased technical and institutional capacities of agro-sylvo-pastoral communities on SLM technologies and approaches

? Outcome 2.2. Improved ecosystem services, habitat for biodiversity and resilience in target agroecosystems of Peanut Basin and Eastern Senegal in line with LDN principles

Outcome 2.1 Increased technical and institutional capacities of agro-sylvo-pastoral communities on SLM technologies and approaches will focus on providing appropriate capacity building tools, trainings, methodologies. These will be carried out at field level with concrete demonstrations and pilots, through a learning-by-doing approach. One of the key learnings from consultations during the PPG has been that demonstrations and initiatives must be carried out through experts who understand the baseline knowledge of communities, so as not to provide trainings that are too generic or basic.

Capacity-building exercises will be conducted with a clear understanding of skills and local knowledge already in place. Whenever possible, cross-landscape exchanges and demonstrations will take place, so as to provide opportunities for sharing knowledge, cross-landscape coordination, and adoption of sustainable practices on scale.

There is one output anticipated under this Outcome: **Output 2.1.1. Capacity building program on SLM technologies and approaches (using Farmer Field Schools approaches, Dimitra Clubs, e-advice, exposure visit, facilitation of farmers? cross learning visits, LADA, WOCAT, Community-Based Ecological Mangrove Restoration-CBEMR etc.) in order to sustainably intensify ecosystem productivity**. The activities planned under this Output include the following:

? Capacity building on SLM will be provided to women and youth through Agro-Pastoral Field Schools (APFS) which will be supporting integrated systems and options to deliver both SLM and BD benefits. It will be ensured that these are provided by experts who speak local languages and can provide value added to the agricultural practices already underway in numerous communities. Field Schools will take into account the baseline knowledge and practices to render the programming more effective.

? Design of technical guides at the level of the different landscapes to accompany different training courses on SLM, which are accessible particularly to women, youth and vulnerable communities

? Dimitra Clubs, which have had demonstrable success in the country and region, will be established as spaces for open dialogue, collaboration, knowledge-sharing of local community members, particularly those from vulnerable communities, on strategies to sustain ecosystem services

? The project will also support Community-Based Ecological Mangrove Restoration (CBEMR) initiatives which will involve mitigating mangrove stressors, supporting natural regeneration when possible, applying mangrove ecology to restore degraded mangroves. Local stakeholders will be engaged from the outset to ensure ownership and uptake, and trainings will be provided on how to mimic natural processes and supporting regeneration and sustainability of restoration works. These approaches will support LDN, biodiversity conservation and increase resilience to climate change. Community-based ecological mangrove restoration within the target sites will be extended.

? Apply the LADA-WOCAT tool to document land degradation and conservation activities to link to community, commune and national level interventions

? Identify the SLM/LDN related gaps at the national level and supporting Masters training to meet SLM skills needs

? Fund research projects through doctoral theses on the problem of SLM and biodiversity conservation

? Cross-landscape farmer visits and demonstrations will be organized, for farmer-to-farmer knowledge sharing and learning opportunities, and dissemination of best practices.

Under ***Outcome 2.2 Improved ecosystem services, habitat for biodiversity and resilience in target agroecosystems of Peanut Basin and Eastern Senegal in line with LDN principles***, the project will pilot field activities and support sustainable and resilient agricultural systems that not only support nutrition and food security, but also strengthen ecosystem services. Interventions under this outcome will seek to strengthen the sustainable management of agro-ecosystems to support long-term adaptation, as well as reverse land degradation and mitigate against biodiversity loss, through investments in diverse, native and resilient natural resources. Interventions under this outcome will promote the conservation of genetic diversity of seeds selection. Supporting genetic diversity will strengthen barriers against new diseases and invasive pests, and support adaptive capacity and the stabilization of ecosystems. It will also invest in future biodiversity. Three outputs are anticipated under this outcome (2.2.1, 2.2.2, 2.2.3).

Under **Output 2.2.1. Participatory integrated land use plans developed in Peanut Basin and Eastern Senegal**, the following activities are planned:

? Local stakeholders will be invited through a participatory process to identify priority areas of intervention in terms of SLM and biodiversity conservation within their communities in the design of land use plans.

? Restoration and rehabilitation of degraded lands and conservation of biodiversity will take place within prioritized zones as identified by communities.

? Support for the implementation of Communal Planning and Territorial Development plan (*Sch?ma communal d?am?nagement et de d?veloppement territorial- SCADT*). The project will support the implementation of the LDN priority actions defined in the SCADTs. The actions to be supported will be defined by mutual agreement between the the municipality, the stakeholder structures, with support from the project management unit and the FAO. This will thus be a good opportunity to begin the implementation of local plans and to encourage other partners to follow in the footsteps of the project. It will also provide a roadmap for other municipalities, which the national government can roll roll out. This will support upscaling and the fulfillment of national-level objectives.

? Establish concerted management of inter-village sylvo-pastoral spaces; key productive landscapes shared by agriculturalists, agropastoralists and herders.

? Implement use of software technologies such as LUP4LDN which tackle the challenge of aligning land use and management decisions with LDN goals.

? Integrate the formalization of women, youth and mixed farmer groups into the package of advisory and extension services and other project support services

Under **Output 2.2.2. Innovative SLM technologies and approaches applied and scaled out on agro-sylvo-pastoral landscapes to reduce land degradation, restore degraded land and contribute**

to biodiversity conservation ***(restoration of salinized lands, mangrove restoration and conservation, crop rotation, agroforestry/plantation of high value tree species e.g. Fadherbia albida, etc.)*****,** the following activities are planned:

- ? Promote integrated soil?crop?water management and integrated agroforestry and agro-silvo-pastoral systems
- ? Establish and implement climate-smart village (CSV) where smallholders can adapt their agricultural practices to secure dependable food supplies and livelihoods, while decreasing greenhouse gas emissions, increasing carbon sequestration and piloting SLM activities.

•Rehabilitate and sustainably manage dryland environments (e.g. managing grazing and livestock; rainwater harvesting; drought management; and precision agriculture)

- ? Work with pastoral communities to promote controlled rotational grazing,[72][72] set up protected plots and natural barriers to prevent soil erosion
- ? Implement agroforestry technology for the recovery of degraded land threatened by erosion, strengthening the fertility of poor soils and the regeneration of mangroves
- ? Install/rehabilitate/strengthen community nurseries
- ? Strengthen management tools, rehabilitation practices, and governance of village and community forests
- ? Support for village environmental monitoring committees on NR and bush fires
- ? Disseminate information and awareness of the forest code through Farmer Field Schools and smart climate villages
- ? Implement soil quality monitoring activities and manage soil organic matter for soil carbon sequestration
- ? Implement appropriate restoration and rehabilitation practices on degraded lands, targeted to benefit women and youth
- ? Strengthening ongoing initiatives on composting based on the lessons learned in Niayes area, where the practice of composting can both be a good source of income for private promoters and bring significant environmental benefits in the restoration of degraded land.
- ? Establish cross-sectoral and multi-stakeholder partnerships to develop agro-sylvo-pastoral practices adapted to small producers

•Prevent land conversion and protect vulnerable lands

•Improve crop?water productivity and manage soil salinity in irrigated dryland agriculture

Under **Output 2.2.3 Seed/seedling production capacity improved to support restoration of degraded lands and biodiversity conservation**, the following activities are planned:

? Participatory identification of which native and climate-resilient, regionally-adapted and threatened varieties need to be propagated, and which species are to be fostered in each community

? Establishment of a partnership framework for the supply of quality forest seeds with collaborations with *Commission Nationale de Recherche Foresti?re* (CNRF), *Programme National Semences Foresti?res* (PRONASEF) and local organizations

? The production, collection, processing, packaging and supply of forest seeds through the partnership framework established

? Supporting monitoring processes to promote the diversity of seeds, ensuring that a diversity of seeds are produced and managed.

? Establishing community seed ?libraries?, supporting the cataloguing of seeds to ensure seed diversity within communities.

Component 3- Rural employement and livelihoods enhanced to sustain improved management of production land will facilitate the inclusive and sustainable financial investments needed to remove barriers to accessing finance for women and youth. Diversification of activities will include adapted cereal varieties (millet, maize, rice) introduced into ecological zones, non-timber forest product management to increase resilience and food security given the diversity of climatic conditions. For herders and pastoral livelihoods, land management and increased forage quality, forest resources and their resilience to climate will be achieved by using improved species and varieties, and improved forest resource management. The implementation of adaptation measures will provide valuable feedback for knowledge creation and dissemination processes and sustainable food chain development. A landscape approach will ensure a strong anchoring between sustainable land management and the creation of multiple interdependent and territorialized value chains that will provide employment for young agribusiness entrepreneurs. Lessons learned on contractual agreements between farmers' organizations and market operators (OP-OM); access to low-interest micro-credit managed by and for women, enhance access to finance by nurturing saving culture among others and the empowerment and professionalization of agricultural and non-agricultural actors in the provision of social and economic services is an important part of wealth creation promoted by the project. The project will increase access to technical assistance to small and medium-sized enterprises (SMEs) promoted by women and youth for the application of innovations in agricultural and livestock production systems. This process intends to establish links with the private sector and foster the emergence of local businesses. Investments, particularly in hotspot locations characterized by both high restoration potential and high socioeconomic benefits in impoverished areas, will improve the conditions of the most vulnerable people and increase the resilience of ecosystems.

The project will work with women by removing constraints that limit their participation in SLM activities, such as access to land (supported through Component 1), technical training and

equipment (supported through Component 2), and access to credit (supported through Component 3). Awareness and advocacy efforts will be supported through the project to increase opportunities for women to speak, lead, be part of decision-making processes. The granting of parcels of land for groups of women for SLM will be supported through local level agreements. Biodiversity-friendly income generating activities (e.g. beekeeping, climate-smart agricultural production, handicraft production, processing of raw materials into secondary products, seed banking, establishment of nurseries, harvesting forage materials, medicinal products, cosmetics and fragrances) will be financed through microcredit provided by Fonds national de d?veloppement agro-sylvo-pastoral (FNDASP). This will ensure synergies with national lending mechanisms, while supporting credit access for women working in sectors that benefit the environment. Approaches of improving access to microcredits and reliable and relevant sources of market information will also be piloted. Efforts will be undertaken to identify cost?effective and appropriate agro?processing technologies and link targeted agro?processes to suppliers of these technologies. Women-led micro-credit mechanisms will be proposed for scaling-up SLM. Context appropriate options such as the ?bancs villageois? promoted under GEF-funded ?Groundnut Basin Soil Management and Regeneration? project, which support economic interest groups consisting of solely women working on nurseries, gardening, harvesting forage, forest fruit processing and transformation of peanuts, will be scaled up. Approaches of improving access to reliable and relevant sources of market information will also be piloted. Finally, efforts will be undertaken to identify cost?effective and appropriate agro?processing technologies and link targeted agro?processes to suppliers of these technologies.

Under Outcome 3.1 Enhanced incentive mechanism framework for investment in family farms in local agro-sylvo-pastoral value chains for improved livelihoods, four outputs are planned to increase families? livelihoods (3.1.1, 3.1.2, 3.1.3, 3.1.4). Prior to delving into the activities planned to deliver each output, it is necessary to provide an overview of the potential value chains that will likely be invested in in each landscape. These will be finalized at inception when a more current diagnostic is carried out. Three criteria were applied to identify these value chains: (i) ones that have the greatest potential for positive environmental outcomes (lessening of land degradation, potential for building resilience and adaptive capacity, supporting biodiversity, and/or changes in cultivation practices may decrease negative impacts); (ii) value chains that women have demonstrated an interest in pursuing; (iii) ones that can result in promising livelihoods that can lead to better economic outcomes.

Fatick-Foundiougne

The project intervention municipalities are those of Toubacouta, Nioro Alassane Tall, and Keur Samba Gueye. These municipalities are all located in the department of Foundiougne and report annual rainfall above 1,000 mm which impacts the value chains that can succeed in this landscape. The landscape has more than ten agricultural value chains, each of which plays an essential role in improving the living conditions of the populations. Among these value chains, those proposed under the project are **cashew** and **groundnut**. This choice is explained by the large volumes of production recorded each year. These value chains can play a considerable role in the local economy and in job creation.

Other value chains that can be invested in include: **rice**, **oyster farming** and **honey**. Rice cultivation, an important self-sufficiency activity, is practiced in the lowlands and plateaus during the winter period. As for oyster farming and honey production, they are mainly done in the mangroves throughout the year. These value chains are of particular socio-economic and environmental interest; they are not only income-generating and job-creating activities for women and young people, but can also contribute to the preservation of the environment and biodiversity conservation.

Fatick-Djourbel

In this landscape, the project will intervene in nine municipalities, namely Niakhar, Patar Sine, Ndiob, Diakhao, Diouroup, Tattaguine, Ngoh?, Ngoye. Typically, groundnuts, millet, sorghum, cassava, are cultivated.

In this landscape, the project can support the **groundnut**, **millet** and **rice** value chains to render them more sustainable. This choice was facilitated through consultations with stakeholders and an economic review which which confirmed the potential economic significant importance of developing these value chains, with strong environmental benefits.

Kaffrine

The main value chains inventoried in this area currently include groundnuts, millet, sorghum, Non-Timber Forest Products (NTFP), rice, cowpea and watermelon. The priority value chains selected for this landscape are **NTFPs, groundnuts, and millet**. The choice of these chains was made according to criteria based on resilience, the percentage of the population involved in the current value chain and the interest of women and young people.[73][73]

Tambacounda

This production landscape is located in eastern Senegal, and covers three municipalities (Sinthiou Mal?me, Koussanar, Ndoga babacar), where there is considerable production of peanuts, sorghum and watermelon (ANSD, 2021). In the municipality of Koussanar, there is potential for the development of NTFP products due to the presence of several species such as *Ziziphys mauritiana*, *Adansonia digitata*, *Detarium microcarpum* among others (ENDA-?nergie, 2019). At the time of writing, the project can anticipate supporting **groundnut** and **NTFP** value chains, given their environmental and

socioeconomic importance such as preservation of biodiversity and job creation for women and young people.

Under **Output 3.1.1 Innovative market-based incentives for financing LDN-oriented and biodiversity-friendly inclusive agriculture value chains are identified and strengthed (*e.g. subsidies, tradable permits, Public-Private Partnerships, certification programs, penalties, etc.*)**, the following activities are planned:

? Establish partnerships with various private sector partners to provide incentives and opportunities to support ?green investments? such as in the area of organic, bio pesticides, composting, solar kits, processing of local products including NTFPs. See Section 5.3 on Private Sector Engagement, which outlines the different partners the project will include.

? Establish partnerships (with private or public structures) to finance the capacity building of producers in the field of certifications (ISO, HACCP, Global Gap) for increased competitiveness and enhanced access to reliable markets

? Identification of sustainable financial investments to meet LDN indicators and remove barriers to financing for women and youth

? Promote innovative marketing/awareness campaigns (such as bulking and collective marketing) to financial institutions to strengthen awareness of producer groups, their need for support, and to promote their inclusion.

Under **Output 3.1.2 An inclusive financial mechanism and training program are operational to strengthen the capacity of farmers and farmer organizations to engage in SLM**, the following activities are planned:

? Participatory analysis of existing endogenous financing mechanisms for women

? The establishment of a ?Dekkil Suuf? Financial Window from co-financing partners such as FNDASP for women

? Support financial services linking and develop tailor-made credit products to support input and farm equipment access to boost production**.** The project will continue strengthening savings and credit and other financial management functions of women and youth based farmer organization (FOs), marketing groups, cooperatives, associations. This will focus on building their capacity in planning, record keeping, resource mobilization and investment with the aim of attaining more formal and legal status to autonomously undertake the functions.

? Financial literacy training targeting farmer organization members will be intensified. Additional ToTs will be trained and equipped with necessary tools to intensify the reach to more farmers.

? Increase access to, and utilization of savings and credit services by the FOs, by strengthening savings and credit schemes through trainings and business development support services, and financial linkage forums will be organized with formal financial institutions (MFIs).

? Communication and public awareness activities carried out to sensitize populations on the availability of resources and conditions for Dekkil Souf related financing.

Under **Output 3.1.3 Development and implementation of a sustainable strategy/action plan to improve local value chains (millet, cowpeas, rice, NTFPs, oysters farming, mangrove beekeeping) and mainstream biodiversity into SLM,** the following activities are planned:

? Selection and validation procedures established for supporting sustainable value chains and local initiatives which meet LDN indicators, support gender mainstreaming, and provide profitable livelihood opportunities

? Pilot farms selected on the bases of LDN, gender and socioeconomic indicators in which to carry out demonstrations, restore degraded lands and support sustainable production

? Trainings and capacity building provided to streamline community procurement procedures and improve participatory funding and monitoring

? Supporting different actors along the value chains. At present it was observed that many of the women in target sites are doing all the jobs along the value chain from production to distribution. The project will support actors along the value chain with task-specific trainings to help relieve women of labour and time and to optimize various roles along the value chain.

? Diversification of crops (maize, fonio- *Digitaria excilis*, market gardening, watermelon, vegetables) and sources of income with the creation of small forestry and agricultural enterprises (baobab fruit, groundnuts etc.).

Under **Output 3.1.4. Women-led micro-credit mechanisms (5 per commune) proposed for scaling-up SLM**, the following activities are planned:

? Capacity building of micro-credit organizations which support SLM activities for women

? Identification of sources of sustainable financing for credit systems directed towards women and young people

? Support for micro-credit for women in the financing of SLM actions

? Capitalize, strengthen, professionalize and scale up endogenous credit models developed by women's organizations and local platforms to facilitate women farmers' access to basic production factors (seeds, equipment, labor) and the modernization of the various links in the value chains

Under ***Component 4- Learning, knowledge management and communication***, the project will ensure effective project monitoring and evaluation process to ensure adaptive management, transparency, optimization of resources, value-added and high level of results achieved. Activities under this component will serve to inform national decision-makers of the results and best practices resulting

from the implementation of the project's actions under the first, second and third components in the form of policy briefs. It will develop a M&E manual, and a clear communication and dissemination plan. Component 4 encourages dialogue with key stakeholder groups at national and local levels to build consensus on good practices and policies. One outcome is envisaged as a result of this work.

Under ***Outcome 4.1- Learning and political engagement for scaling up and sustainability of project achievements*** the project will establish effecive monitoring and evaluation processes, which will be delivered by activities under two outputs (4.1.1, 4.1.2). Reporting to the GEF and national stakeholders will be carried out in a timely manner so that activities can be adapted based on the results being achieved. Given the focus on women, rigorous attention will be paid to ensure that women are receiving the support and benefits from the project during the rollout and unforeseen consequences will be monitored continuously. The collaborations with various interventions currently underway, also ensure that the lessons learned from other initiatives are incorporated into project rollout.

Under **Output 4.1.1. Project monitoring system is operational, providing systematic information on the project progress made and capture of lessons and knowledge**, the following activities are anticipated

? Development of the project monitoring and evaluation system. This will include reporting against GEF indicators, project indicators, LDN indicator, identification of actors and clarification of reporting roles, data flows, reporting formats, and dissemination plan.

? Operationalization of the M&E system

? Establishment of feedback system for adaptive management

? Establishment and implementation of a communication plan for the project

? Organization of annual project review workshops and validation of the Annual Work Plan and Budget (PTBA)

? Establish Gender and LDN Quality Circle Observatory as an institutional mechanism for boosting and monitoring progress at the local level and throughout the project intervention area

Under **Output 4.1.2. Mid-term and final evaluation conducted, project best practices and lessons learned developed and disseminated**

? Establishment of the baseline situation in relation to the GEF, LDN, GHG indicators

? Conducting a Mid-term evaluation, disseminating results and developing action plan to achieve any recommendations

? Conducting a Final evaluation of the project

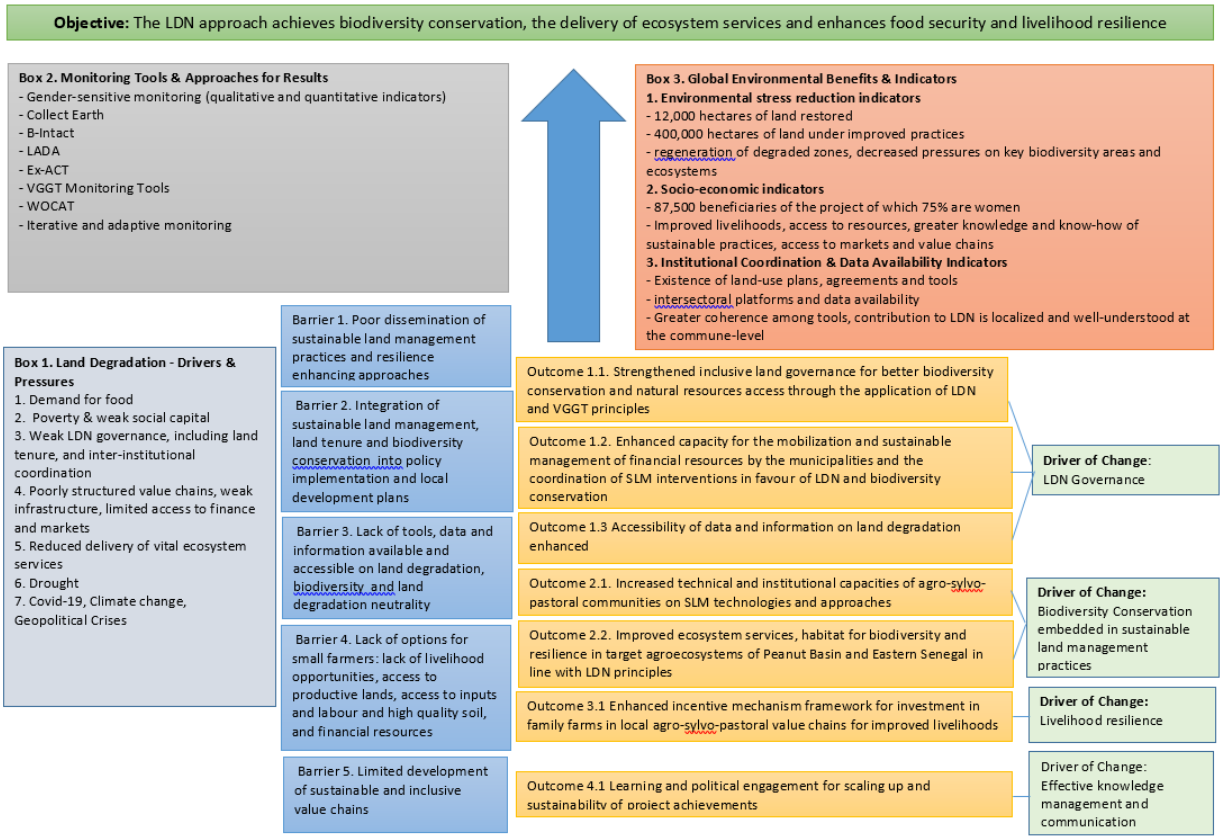
? Annual evaluation of the partnerships established

? Contribution to the annual country report on the monitoring of LDN indicators

? Contribution to informing GEF indicators and submission of PIRs

? Annually reviewing the means of verification, the targets and milestones and reviewing whether any targets need to be readjusted or what steps need to be taken to achieve them

4.3 Theory of Change Diagram



The theory of change reflects the considerations that inform the transformational design of this project.

Box 1. Drivers and Pressures reflects the various drivers and pressures that are likely to worsen land degradation and biodiversity loss, which include:

1. Demand for Food: increasing reliance on food imports which are costly and more challenging to obtain due to international crises. Imports account for almost half of cereal requirements. Croplands have increased dramatically over the last twenty years, and are anticipated to spread into vulnerable, biodiverse zones, in an unsustainable manner, to meet the demand for food.

2. Poverty and weak social capital that results in migration: Senegal ranked 168th out of 189 in the Human Development Index (2020) and 57% of the rural population are classified as poor. The lack of lucrative business opportunities in agriculture is often a driver for rural migration towards urban centres. Those left behind, especially women, children and the elderly are particularly exposed to food insecurity and tenure risks. Gender disparities are widespread in rural areas

3. Weak LDN Governance, including land tenure and institutional coordination: Land access and use is primarily regulated by customary law in rural areas that can neglect small farmers. Land disputes are

common and inclusive land governance through greater involvement of local and regional authorities, and effective coordination mechanisms are missing. Women are often at a disadvantage for inheritance, for land ownership and use, and are often forced to work on parcels of land with poor soil and poor outcome potentials. Practices of the informal sector is a constraint for private sector engagement, followed by access to finance, electricity and land.

4. Poorly structured value chains, weak infrastructure, limited access to finance and markets: Access to agricultural inputs, markets, micro-lending and insurance is poor. Plan Senegal Emergent identified weak value chains structure as a major constraint to agricultural development. The available financial instruments are limited in their range, diversity and do not meet the needs of small and remote farmers who do not want to take on excessive debt and interest rates. The sector is primarily composed of family small holdings (90%), removal of barriers for families to participate in sustainable activities that can receive some financial inflow is necessary for sustainable value chain development.

5. Reduced delivery of Vital Ecosystem Services: 59% of the costs of land degradation is due to the decline of provisioning ecosystem services. The decrease of wood available, water resources, diverse native vegetation, is forcing communities and livestock to exploit new forests and areas.

6. Drought: Drought events result in reduced food production, inflation of food prices, food and nutrition insecurity. Drought events happen at several levels: agriculture- (loss of revenue from groundnut and vegetable production, food insecurity due to failure of grain production, livestock loss due to unavailability of natural pasture) , water supply(water shortages, drying of wells, gullying), environmental (disappearance of vegetable, plant and animal species, soil cover degradation and soil erosion).Drought exposure can force migration to areas resulting in conflict and greater demand for scarce natural resources.

7. Covid-19, Climate Change, Conflict in the Ukraine, Closure of border between Mali and Senegal are all exacerbating the availability of food, the cost of imports, and may force people into unsustainable actions to meet local demand for sustenance.

The barriers being addressed by the project are present in the blue boxes. They summarize the broad category of barriers that have limited appropriate sustainable land management, biodiversity conservation and the strengthening of resilient livelihoods in the designated sites. Outcomes meant to target these barriers are presented in yellow boxes, adjacent to the barriers. The activities that will render these outcomes possible have been expanded upon in the previous sub-section. The outcomes are linked to drivers of transformational change. These are critical elements in achieving the desired results of the project.

Box 2. Reflects the monitoring tools that will be used to measure the achievement of project results. Although these are not often included in theories of change, this project wants to ensure that monitoring is iterative and promotes adaptive management of the project. Project activities, and in

particular impacts on women will be monitored rigorously to ensure that benefits are being generated, and that there are no unintended consequences. Monitoring has also been seen as a weakness of other sustainable development projects in the country and thus is being incorporated as a central feature to apply this lesson learned.

Box 3. Reflects the broader benefits the project will generate through its interventions in the intermediate stage. Other indicators present in the project design meant to measure results include the following:

Environmental stress-reduction indicators:

? *Number of hectares under reduced or reversed degradation from SLM measures and management*

? *Number of biodiversity conservation and sustainable land use plans available for each commune*

Overall goal: 12,000 hectares of land restored and 400,000 hectares under improved management (including climate resilient SLM) in four region; Increased C02 sequestration in agro-sylvo-pastoral systems (6,818,889 M/ton) due to SLM measures

Socio-economic Indicators

? *Number of producers, disaggregated by gender, that have access to SLM practices in line with LDN principles*

? *Number of financial mechanisms for producers*

? *Number of producers whose income has improved from the baseline.*

? *Number of micro-credit enterprises established to support women in agricultural value chains*

? *Number of integrated community agricultural farms (ICAF) set up*

? *Number of people (gender-disaggregated) who benefit from ICAF-related livelihood*

Overall goal: 87,500 (of which 75% women) beneficiaries who have received benefits from the project

Data & Institutional Indicators

? *Percentage of municipalities in selected landscapes with land governance management tools in place*

? *Number of biodiversity conservation and sustainable land use plans available for each commune*

? *Number of individuals, disaggregated by gender, with enhanced capacity in LDN at the national and sub-national levels*

? *Percentage of commune budgets dedicated to supporting SLM activities for the benefit of LDN and biodiversity conservation*

? *Number of national frameworks which contain LDN and biodiversity conservation principles*

? *Number of information system on degraded lands and vegetation is available at national and local level*

? *Number of Masters and Doctorates supported on SLM/LDN which fill national level gaps*

? *Number of technical guides on SLM/LDN produced and distributed*

? *Number of monitoring systems established*

? *Number of M&E manuals assessing qualitative and quantitative impacts on women, LDN and biodiversity-results established*

? *Number of communication plans established*

Activities and Outputs highlighted in the previous section are intended to produce the outcomes necessary to address the barriers and limitations to SLM, biodiversity conservation, challenges to food security and livelihoods, poor governance and incorporation of LDN at the local level. These will achieve the benefits listed under Box 3, which will be measured rigorously through Box 2 tools and approaches. Overall, the project seeks the **objective** that the LDN approach achieves biodiversity conservation, the delivery of ecosystem services and enhances food security and livelihood resilience.

4.4 Alignment with GEF focal area

The following table reflects how project outcomes align with GEF 7 focal areas.

Table 7. Alignment with GEF Focal Areas

GEF Focal Area	Project Alignment with GEF Focal Area

LD- 1.1: Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods through Sustainable Land Management (SLM)	Outcome 3.1 will leverage and support SLM-friendly agro-forestry and agro-sylvo-pastoral value chains for enhanced livelihoods and food production. Some key initiatives that the project will carry out to achieve this include: Development and implement sustainable strategies and action plans to improve local value chains (millet, cowpeas, rice, NTFPs, oysters farming, mangrove beekeeping) and mainstream biodiversity into SLM Restoration and rehabilitation of degraded lands to support value chain development Selection and validation procedures established for supporting sustainable value chains and local initiatives which meet LDN indicators, support gender mainstreaming, and provide profitable livelihood opportunities Pilot farms selected on the bases of LDN, gender and socioeconomic indicators in which to carry out demonstrations, restore degraded lands and support sustainable production Conduct trainings and capacity building activities to streamline community procurement procedures and improve participatory funding and monitoring

LD-2.5: Create enabling environments to support scaling up and mainstreaming of SLM and LDN	Outcomes 1.1 and 1.2 are dedicated to strengthening the enabling environment to scale up and mainstream SLM and LDN. The project seeks to strengthen the enabling environment by (i) enhancing governance; (ii) increasing access to sustainable financial resources for SLM and (iii) generating and promoting application of usable, quality data, information and knowledge, which can inform policy-making. The project recognizes that a conducive enabling framework, with inter-sectoral approach and buy-in is essential for LDN investments to be effective. The project will embed the LDN concept into existing planning frameworks and participatory land-use planning, while promoting policy work at national levels. The following are key activities that will be carried out to to foster an enabling environment: Establishment of the Municipal Commission for Territorial Planning and Development Integration of LDN in the Communal Planning and Territorial Development plan Strengthen land tenure for the most vulnerable Training of local and territorial actors on the Voluntary Guidelines for Responsible Governance of Land Tenure (VGGT) and the FAO Land Resource Planning Toolkit for better integration into Communal Planning and Territorial Development Plans Strengthening land information systems (*syst?mes d?information fonciers- SIF*) in target municipalities by integrating spatial monitoring technologies. Capacity building on SLM will be provided to women and youth through farmer field schools (FFS) Mobilizing sustainable funding for the implementation of SLM/LDN and biodiversity conservation action plans and their integration into municipal annual budgets. Promote agricultural commodity production, enhance market access and financial service linking to support LDN Training of trainers will be conducted on LDN and gender for Department of Water and Forest, Hunting and Soil Conservation (DEFCCS) agents, LDN focal points and key actors in ANCAR, INP, ISRA and other local actors, who can then disseminate trainings under their own programming. Integrate LDN and gender in the curricula of the Training Centers for Water and Forest Technicians. Integrate gender considerations into the National Strategic Investment Framework for SLM (CNIS-GDT), and disseminating it at the municipal level. Support the creation and operationalization of the National Council for Sustainable Land Management of the CNIS-GDT Establish a mechanism for monitoring the planning and implementation of LDN action plans and biodiversity conservation both at municipal and landscape level (inter-municipality) Trainings on land degradation and biodiversity technologies (B-INTACT (state of biodiversity), EX-ACT and ABC ? MAP tools for monitoring SLM indicators) will be provided to staff in: Centre de Suivi Ecologique (CSE), Institut National de P?dologie (INP), Feed

BD- 1.1: Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors	Biodiversity protection will be entrenched within restoration and rehabilitation activities. It is understood that land degradation and biodiversity are inter-connected: Land degradation affects biodiversity through loss of suitable habitat for individual or multiple species. Soil biodiversity is impacted by land degradation processes that reduce chemical and physical fertility, which in turn further reduces soil health.[74][74] Sustainable land management practices and strategies can enhance biodiversity and bioproductivity on-farm, and reduce off-site impacts on natural ecosystems.[75][75] With this rationale in mind, biodiversity in mainstreamed across sectors and is integrated within improved land use planning. Outcomes 2.1 and 2.2 seek to SLM and biodiversity conservation using a landscape approach. The following project activities are examples that demonstrate strong alignment with BD 1.1: Restoration and rehabilitation of degraded lands and conservation of biodiversity will take place within prioritized zones as identified by communities Work with pastoral populations to set up protected plots and natural barriers Implement agroforestry technology for the recovery of degraded land threatened by erosion, strengthening the fertility of poor soils and the regeneration of mangroves Install/rehabilitate/strengthen community nurseries Strengthen village and community forests Support for village environmental monitoring committees on environmental monitoring and the fight against bush fires Implement soil quality monitoring activities Implement appropriate restoration and rehabilitation practices on degraded lands, targeted to benefit women and youth Strengthening ongoing initiatives on composting Participatory identification of which native and climate-resilient species are to be fostered in each community Establishment of a partnership framework for the supply of quality forest seeds with collaborations with Commission Nationale de R?forme Fonciere (CNRF), PRONASEF and local organizations The production, collection, processing, packaging and supply of forest seeds through the partnership framework established

4.5. Incremental/additional cost reasoning and expected contributions from the baseline

The following table provides a snapshot of the business-as-usual scenario with the alternative scenario made possible by GEF financing.

Table 8. Incremental Cost Reasoning

Area of focus under each Component	**Baseline (Business-as Usual)**	**With GEF Financing (Incremental Cost)**	**Incremental Cost $**

Enabling environment (Component 1)	**Projects/Initiatives in the BAU:** The Senegal Cadastre and Land Tenure Improvement, the Municipalities and Agglomerations Support Program (PACASEN) focuses on land tenure (See Section 3 on Baseline projects). Support for Improving Land Management project also addresses land tenure Senegal has a National Land Reform Commission (CNRF) in place to support considerable reforms in land tenure in Senegal. Senegal has adopted a territorial approach to planning, and has laid the foundation community-based sustainable development **Issues/Weaknesses in the BAU:** Weak capacity in adopting SLM practices Lack of tools and technologies addressing land degradation	**Alternative Scenario** Regulatory frameworks, territorial and municipal frameworks include specific considerations for LDN/SLM Municipal commissions on territorial planning are established Tenure-friendly agreements are made allocating land for women; key actors are trained on VGGT Land Information Systems (SIF) are strengthened to better support tenure and land use planning Improved governance at the central, landscape commune and community level. Coordination is enhanced across these actors. Farmer field schools are established with high-level training as per needs of the community Financial resources are made available to municipalities for LDN Access to market enhance for agricultural produce Capacity building of key government staff Multi-scale data is available A national platform/information system (management tools and data dissemination) on degraded lands and vegetation cover is set up	1,212,195

Status of Biodiversity Conservation and Land Management (Component 2)	**Projects/Initiatives in the BAU:** (CSE, MAER, MEDD, Wetland International, BothEnds, WFP and FAO) focus on capacity development of local communities on sustainable land and forest management practices in areas of: resilient production systems, biodiversity conservation, protecting habitat loss due to erosion and other climate induced triggers for degradation. National Agricultural Development Program, the National Livestock Plan and the Great Agricultural Initiative for Food and Abundance (GOANA). Resilience and Intensive Reforestation Project for the Safeguarding of Territories and Ecosystems in Senegal Global Transformation of Forests for People and Climate: a focus on West Africa Climate Change Resilience and	**Alternative Scenario** Integrated land use plans developed Adoption of SLM tools and practices Climate-smart villages established Increased capacity building on rehabilitation, regeneration and biodiversity protection Choice of resilient varieties and good climate change adaptation practices Practice of agroforestry with fruit trees with a short production cycle Farmer managed natural regeneration scaled up Concerted management of inter-village sylvo-pastoral spaces Planting of priority forest fruit trees SLM technical guides developed New curriculum, trainings and research fostered to fill country gaps on LD issues Restoration, rehabilitation and desalinization of lands Seed/seedling production	2,323,073

Rural Employment of Livelihoods (Component 3)	**Projects and Initiative in the BAU:** Water Management for Value Chain Development project (PROVAL-CV) invests in the development of entrepreneurship and key value chains, contributing to improved income for rural populations Building the climate resilience of food insecure smallholder farmers through integrated management of climate risks (the R4 Rural Resilience Initiative) project invests in risk transfer mechanisms providing farmers with compensation in case of climate shocks, also building a sustainability path transitioning them to the commercial insurance market. Support Program for Agricultural Development and Rural Entrepreneurship in Senegal **Issues/Challenges in the BAU:** promotion of smallholder access to markets presents bottlenecks along the value chain	**Alternative Scenario** Strengthening the cashew, groundnut, honey, oyster, rice, millet, NTFPs value chains (to be finalized at inception) Increasing value chain partners and engaging the private sector Trainings and green inputs to enhance production while sustainable Increasing financing opportunities for women Partnering with other projects to increase access to low-interest credit and support Scaling up women?s micro-credit and lending practices	1,265,750

Learning, KM and Communication (Component 4)	Other GEF projects employing similar reporting schedules	Improved monitoring of project results on women Adaptive implementation to incorporate lessons learned and feedback	709,528

In general terms, the proposed project has the scope to address the main gaps and barriers regarding weak capacity in adopting SLM practices to cope with degraded land-induced threats, lack of tools and technologies addressing SLM strategies and a weak institutional capacity to support policies and programmes to strengthen a pro-active preparedness approach for a sustainable development plan. Identified baseline projects address some community based project implementation approaches, capacity building of farmers through the FFS approach, sustainable agriculture based on SLM approaches, capacity building in agricultural value chains and monitoring SLM. However, community-based grassland management still is not adequate, SLM practices need further mainstreaming and upscaling, and the enabling environment is not conducive to including LDN considerations.

The promotion of smallholder access to markets presents bottlenecks along the value chain that need to be further focused and rural activities need to be diversified. Pastoral smallholder food security still needs to be improved and implementation of existing laws needs to be stepped up. The government is implementing several programmes which involve territorial communities. Existing tools which are validated need to be further applied at a decentralized/local scale. The proposed project intervention is needed to fully address the need for a more integrated approach to address land degradation, which takes into account the complex interactions between agricultural and pastoral production in, and with particular emphasis on, key productive landscapes shared by agriculturalists, agropastoralists and herders. The project intervention will boost the adoption of SLM tools and practices, increase capacity building, and support coordinated policies and programs to shift from a reactive response towards a pro-active preparedness approach to climate events.

The proposed project marks a shift from previous SLM initiatives by implementing an intensification / integration strategy based on the pillars of the Climate Smart Village (CSV) (I) the use of climate predictions and information; (II) the choice of resilient varieties and good climate change adaptation practices; (III) the practice of agroforestry with fruit trees with a short production cycle; (IV) management of natural regeneration assisted by producers; (V) the concerted management of inter-village sylvo-pastoral spaces; (VI) the planting of priority forest fruit trees in the concessions; (VII)

diversification of crops (maize, market gardening, watermelon, vegetables) and sources of income with the creation of small forestry and agricultural enterprises (baobab fruit, peanuts, poultry farming, etc.).

While capitalizing on the results of the first operationalization initiatives of the CSV model, the proposed project will establish cross-sectoral and multi-stakeholder partnerships to develop agro-sylvo-pastoral practices adapted to the context of the small producer. The implementation of the project at the municipal and inter-municipal level will promote a scaling up of good practices and a more coherent intervention that will make the best use of the combination of local knowledge and technical expertise in terms of collection, treatment, analysis and monitoring and dissemination of data and information for the purpose of improving food production systems.

In particular, the GEF investments articulates with the baseline investments in the following way:

Component 1: As highlighted earlier, Senegal has adopted a territorial approach to planning, establishing the foundations for the sustainable development of local communities. A number of land tenure and land use planning investments have been mobilised as supporting component 1 of the GEF project in particular, including the ***Senegal Cadastre and Land Tenure Improvement***, the ***Municipalities and Agglomerations Support Program*** (**PACASEN**) and the ***Support for improving land management*** projects. These investments secure the set up and development of the infrastructure and human/institutional capital to implement a decentralized landscape management approach, for instance investing in training of locally elected representatives, in improved land use and property rights registration systems, in improved supervision of field operations, and much more (see details in baseline investment section). The proposed GEF project will build on the results of these investments, ensuring integration of LDN principles on land governance alignment with the national development objectives.

Component 2: A cohort of investments from a number of different partners (CSE, MAER, MEDD, Wetland International, BothEnds, WFP and FAO) focus on capacity development of local communities on sustainable land and forest management practices oftentimes in order to build more resilient production systems and at times to help conserve biodiversity, protecting habitat loss due to erosion and other climate induced triggers for degradation. Baseline projects and programmes invest in water management and other basic infrastructure in support of a resilient rural development effort. The proposed project will benefit from the infrastructure and capacities at the local and regional levels catalyzed by the baseline, further build upon them and align and expand practices and approaches contributing to Land Degradation Neutrality.

Component 3: The GEF investment ensures that a transition towards SLM and biodiversity conservation is compatible with livelihood development and resiliency efforts, making use of and

building upon existing investments, including particularly the ***Water Management for Value Chain Development*** project (**PROVAL-CV**) invests in the development of entrepreneurship and key value chains, contributing to improved income for rural populations. The ***Building the climate resilience of food insecure smallholder farmers through integrated management of climate risks (the R4 Rural Resilience Initiative)*** project invests in risk transfer mechanisms providing farmers with compensation in case of climate shocks, also building a sustainability path transitioning them to the commercial insurance market. Technical solutions for the financial instruments used in this project will be capitalized under Outputs 3.1.1 and 3.1.2 of the GEF project.

Component 4: The main baseline investment for this component is the Municipalities and Agglomerations Support Program (PACASEN) project. Its investments facilitate local capacity building and create space for multi-stakeholder dialogue. This is a solid basis for learning and communication activities planned under the GEF project, and allowing this project to focus at the commune level.

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

The proposed project will address desertification, deforestation, and degradation. Interventions have been designed to strengthen agro-ecosystems and support sustainable production, promote the conservation and sustainable use of biosiversity in productive landscapes. Agroecological approaches will contribute to a diversification of natural habitats and an increase of the fertility of the grounds, and the rehabilitation of the hydrological cycles. The targeted areas under this project provide spatially explicit geographies defined on the basis of their global importance for ecosystem services and food production. These investments will support the conservation of globally significant biodiversity, support healthy ecosystems, and promote sustainable use of natural resources. The global environmental benefits of land degradation control include afforestation which will also allow enhanced carbon sequestration, the protection and/or rehabilitation of adequate biodiversity habitats and community-based biodiversity management.

The project also seeks to support Senegal to reach LDN by 2030, which will in turn support global United Nations Convention to Combat Desertification (UNCCD) objectives. Achieving land degradation neutrality (LDN) was adopted by countries in 2015 as one of the targets of the global Sustainable Development Goals (SDGs). LDN aims to avoid further land degradation while balancing losses in land-based natural capital and associated ecosystem functions and services with measures that

produce gains through sustainable land management (SLM) and restoration or rehabilitation measures,[76][76] to which initiatives under this project are contributing.

The project is well-aligned with the **post-2020 Biodiversity Framework** and seeks to halt and reverse the loss of biodiversity, to support nature-positivity. In particular, the project aligns with the implementation supports (resource mobilization, capacity development, knowledge management, innovation and cooperation) and enabling conditions (participation, partnerships and synergies) to help achieve the action targets of reducing threats to biodiversity, meeting peoples? needs and increasing the tools and solutions to do so. The following table reflects how the project seeks to achieve these:

Table 9. Project Alignment with the Post-2020 Biodiversity Framework

Post-2020 Biodiversity Framework Strategies	**Project Activities**
Implementation Supports	
Resource Mobilization	The project will facilitate credit for women to conduct bio-diversity friendly livelihood activities. Micro-lending, micro-credit, community funding circles and partnerships with the private sector will be sought to inject capital for sustainable activities. See Component 3.
Capacity Development	Capacities will be forged through learning-by-doing approaches, pilots, demonstrations, peer exchanges, and farmer field schools. Innovative SLM technologies and approaches will be disseminated to reduce land degradation, restore degraded land and contribute to biodiversity conservation. See See Component 2/
Knowledge Management	Land-use planning, development, and reforestation initiatives, may at times ignore pressing biodiversity concerns or inadvertently undermine them. This project seeks to render biodiversity integral to land-use planning and LDN measurement, so that any regeneration, takes into account the biodiversity needs of various ecological zones, as well as the ecosystem services these generate. Biodiversity considerations will this be folded into farmer field schools, into the currciulum development, and into the generation of pilots and demonstrations. Seeds and species that promote diversity and build resilience, will be employed, and knowledge of these will be generated from traditional communities and disseminated through project activities. Municipal level data on species will be recorded to be sent upstream for cohesive monitoring from the national level, and to integrate knowledge and lessons learned for updates to the NBSAP. Master?s proposals which address critical biodiversity and land management capacity gaps at the national level, will be supported by the project. See Component 2.

Innovation	The project will support biodiversity considerations into LDN-geared interventions. These will be piloted at the municipal levels, and integrated into local-level territorial development plans that have not yet been designed.
Cooperation	The project was designed through collaborations with various projects and government ministries. It addresses cross-cutting issues that are relevant to various sectors (women?s empowerment, food security, territorial development, land tenure, environment). The project will continue to support collaborations and cooperation within municipalities (mayors and local communities), among municipalities, among landscapes and with national level partners to generate greater understanding and cohesion among activities designed to improve biodiversity protection. Collaborations with customary and traditional leaders will also ensure socio-cultural cooperation within communities, and opportunities for shared knowledge on biosiversity conservation.
Enabling Conditions	
Participation	Women, youth, and the disenfranchised will play the main role in benefiting from and carrying out project activities. They will drive interventions through participation on multi-stakeholder platforms, Dimitra clubs, farmer field schools, peer exchanges and land-use planning committees. Key among this participation will be to leverage and promote traditional knowledge-sharing and giving voice to those who do not have access to such spaces.
Partnerships	See Cooperation line above.
Synergies	

The Dekkil Suuf project also supports the **Bonn Challenge and AFR100** (the African Forest Landscape Restoration Initiative). This is a global initiative launched at a ministerial conference in September 2011, which aims to restore 150 million hectares of degraded and deforested land by 2020. In this regard, Senegal is committed to restoring 2 million hectares of degraded forests and landscapes by 2035.

The proposed project is expected to **deliver significant global environmental benefits**: 12,000 ha of land restored; 60,000 ha of landscapes under improved management to benefit biodiversity; 340,000 ha of landscapes under sustainable land management in production systems; 6,818,889 metric tons of CO_2e mitigated (direct), 13,915,692 metric tons of CO_2e (indirect) mitigated.

The expected project results with respect to the GEF Core Indicators are outlined below in Table 8, and recorded in the Core Indicator Worksheet in Annex 7.

Table 10. Global Environmental Benefits per Core Indicator

GEF Core Indicators	Proposed end-of-project targets and descriptions
Core Indicator 3: Area of land restored (hectares)	**End-of-project target: 12,000 hectares (ha)** This will be achieved through rehabilitation of native vegetation, restoration of mangrove ecosystems, restoration of salinized lands, conservation, crop rotation, agroforestry/plantation of high value tree species.
Core Indicator 4.1: Area of landscapes under improved management to benefit biodiversity	**End-of-project target: 60,000 (ha)** This will be achieved through enriched natural regeneration, seeding and planting diversified native species, cultivation of non-timber forest products (NTFP) species for income generation and development of climate-resilient value chains.
Core Indicator 4.3: Area of landscapes under sustainable land management in production systems	**End-of-project target:340,000 (ha)** The project will support the collaboration among local authorities in landscapes to rehabilitate and sustainably manage the production systems, in target sites. The project will support the strengthening of communal/municipal land use/development plans, as well as supporting decentralization efforts to strengthen local governance and management of national resources. Appropriate capacity building support will be provided to local actors to manage and monitor sustainable land practices in production systems.
Core Indicator 6: Greenhouse gas emission mitigated	**Target: Project will contribute to mitigating GHG emissions estimated at 6,818,889 (direct) and 13,915,692 (indirect)tCO2-e during a 20 year accounting period** Estimated mitigation co-benefits are based on restoration activities to be achieved under core indicator 3. Restoration of ecosystems? natural capital from barren lands to robust dryland ecosystems has large mitigation benefits from increased soil organic matter and above ground biomass. This will be supported by the establishment of climate-smart villages where smallholders can adapt agricultural practices to more resilient means, employing technologies and inputs that are adaptive in nature and support the decrease of greenhouse gas emissions. SLM activities will have the co-benefit of increasing carbon sequestration.

GEF Core Indicators	Proposed end-of-project targets and descriptions
Core Indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	**End-of-project target: 87,500 (65,625 women and 21,875 men)** The number of direct beneficiaries are based on percentages of commune populations that will be directly targeted with interventions, within each landscape. It is anticipated that project beneficiaries will receive capacity development, improved skills, investments for biodiversity protection and sustainable land management, enhanced livelihoods, opportunities for synergies and partnerships, improved access to land and food security.

The project will contribute to several SDGs through its intersectoral approach. The following table reflect how the project will contribute to these global goals.

Table 11. Project?s contribution and attribution to SDGs

SDG Goal Number	SDG	Project Contribution to SDG
1	**No Poverty**	The project recognizes that unless economic realities of communities are addressed, SLM/LDN activities will be unsustainable. A livelihoods approach is folded into the project to enhance peoples? incomes. Alternative and lucrative livelihoods will be invested in. Investment schemes for SLM/LDN activities will be strengthened. Funding mechanisms and lending for SLM-friendly production will be sought. Partnerships with the private sector will be established to strengthen relationships between producers and other actors in green value chains. These investments also focus on ensuring food security and access to nutrition. The most vulnerable will be targeted to lift them out of poverty.
2	**Zero Hunger**	Agro-ecosystems are the lens through which much of the SLM work will be carried out. The reason for this is that food security and nutrition are critical especially given potential climate shocks or economic downturns (covid 19, growing costs for imports, supply chain challenges). Self-sufficiency, enhanced and resilient production will be targeted by the project. Tenure-positive arrangements will be sought so women have productive lands on which to grown food and support their dependents. Lending mechanisms and sources of credit/financing will be established so that women, in particular, have the resources to invest in themselves and their food security.

5	**Gender Equality**	The project will contribute to the equality and empowerment of women by supporting capacity building, livelihoods, value chain development that benefit women, enhancing their knowledge and skills on SLM/LDN for improved sustainability, increasing their access to financing and credit, targeting sites where women are most vulnerable, facilitating partnerships and cross-level exchanges, facilitating farmer field schools and Dimitra clubs, and increase access to land and facilitate tenure.
13	**Climate Action**	The project will implement climate smart villages, and support climate-friendly SLM/LDN practices. Through the rehabilitation of forests and landscapes with native, resilient varieties, the project aims at improving adaptive capacity and sequestering carbon. The project will support sustainable agro-forestry to decrease vulnerability to future climate shocks such as droughts.
15	**Life on Land**	Project will help restore and sustainably manage degraded forests. The project will support community monitoring and management of forest resources. Value chains and livelihoods that decrease pressures on valuable forest resources will be invested in. SLM activities that support the desalinization, rehabilitation, mangrove restoration will be carried out. Biodiversity-friendly measures will be carried out to restore native resilient species, promote diversity and enhance ecosystem services for communities.
16	**Peace, Justice and Strong Institutions**	The projects will enhance governance at all levels and ultimately the government of Senegal will benefit from enhanced coordination, inter-sectoral collaboration, decentralization. Institutional data generation capacities will be strengthened through trainings and technologies, increasing evidence-based information that can be applied to policy-making.

4.7. Innovativeness, Sustainability and Possibility of Scaling Up

Given the baseline of the context in which this project will be implemented, it is essential that is provides value added to the work already conducted. The following are ways in which the project contributes to Innovativeness, Sustainability and the Possibility of Scaling Up.

4.7.1 Innovativeness

Land Degradation Neutrality- LDN offers a new paradigm to reach land productivity and delivery of vital ecosystem services. While the Government of Senegal has endorsed LDN, integrating it and mainstreaming into plans, policies, interventions and reporting is nascent. This project will integrate LDN at various aspects of governance, and apply it as a lens by which to support sustainable development. The project will also enhance multi-level collaboration and coordination to support the acceleration of other SDGs. Through cross-project collaboration, it is anticipated that other relevant projects will begin to consider LDN features. Building on the stakeholder-driven approach, the project

will apply a participatory process for implementation by including land users and relevant representatives of local government in LDN measures. The project will strengthen the enabling environment for LDN, land-use planning processes, and security of tenure rights with the specific focus on Peanut Basin and Eastern Senegal. It will be followed by implementation of the LDN hierarchy of responses (avoid>reduce>reverse) under Component 2 to enhance the productivity and restore degraded land and based on the status of land degradation in target land use systems. The project will also innovate by incorporating these LDN considerations into municipal level planning mechanisms so as to formalize and implement them. Investments in information systems and data will further drive LDN data upstream for better accounting and monitoring.

Municipal Planning and Territorial Development Plan (SCADT)- Though SCADTs are mandated, the majority of communes do not have them. The project has the opportunity of supporting municipalities in establishing novel territorial plans which take into account LDN, SLM and biodiversity conservation.

Women?s Agency and Empowerment- This land and biodiversity project focuses on women. They are the central beneficiaries whose circumstances the project seeks to transform. The innovative aspect of this project will be to make women central actors in LDN/SLM implementation, and provide them with lending and investment opportunities to govern their own livelihood development. The project will facilitate capacity building, training, green inputs, marketing and value chain development. The project will also advance on the work that has been done nationally on land tenure, and seek out tenure-positive arrangements and agreements. The project will target its M&E exercises on measuring the qualitative aspects of gender empowerment and equality, and go beyond just a head-count approach. Ongoing support and accompaniment will ensure that capacity is truly gained and can be applied and shared within communities. This project will also take into account social aspects of women, that often go ignored in projects: access to time, labour stressors, challenges in transportation, social limitations in working with male extension services, and land insecurity. Please see Section 5.2 on Gender Analysis and Equality.

Integration of information systems- The project will support the integration of land-based

information systems so that they may generate LDN related figures that Senegal needs for its UNCCD reporting. ***Adoption of the CNIS/GDT***- In conjunction with the RIPOSTES project, the proposed project can serve as a benchmark at the institutional level to promote the scaling up of LDN practices, while collecting LDN data which is currently missing. The Dekkil Suuf project will contribute to the data baseline for the formulation of the eight national projects planned in the CNIS/GDT scaling up strategy. The implementation of these projects, which cover the management of soils, water, salinized lands, pastures and forests, will allow a capitalization of the results achieved within the framework of the Dekkil Suuf project. In addition to the basic documentation, the synergies between the Dekkil Suuf project and the RIPOSTES project will be mobilized to facilitate the creation and operation of the

National Council for Sustainable Land Management (CNGDT), responsible for coordinating the implementation of the CNIS/GDT. National and regional workshops will be organized for proper ownership of the CNIS/GDT by local authorities, producer organizations and technical partners of public structures and private organizations.

The strengthening of ***land information systems (SIF)*** in the municipalities where the PROCASEF and Seen Suuf (GIZ) projects do not intervene is a major innovation for the local authorities concerned. In the 8 municipalities where this will be piloted for the first time, the project will enable the integration of space technologies (GPS, cartography) in the management of land databases. This will facilitate the intervention of land registry services in setting up a SIF connected to national land databases like the systems put in place by the PROCASEF and Seen Suuf projects in other communes.

Support for obtaining land use titles for vulnerable groups, in particular women, and the signing of land security agreements by customary authorities is also a major innovation in the communities where the project will be implemented. In particular, the VGGT approach which support local solutions acceptable to all parties to facilitate access to land for women and young people, will be an introduction in most project sites.

Demonstration of innovations by the private sector to communities is an important innovation. It makes it possible to reduce the asymmetry of information in relation to innovative solutions with communities to enable them to make choices based on their assessment of the usefulness and effectiveness of the technologies to be adopted, especially in the implementation of the component. 3. The project will make it possible, following conclusive demonstrations, to place direct supply orders with private individuals who have succeeded in meeting the needs of the communities.

This avoids delayed procedures which may sometimes not be adequate for certain acquisitions and the purchase of technologies which have not yet been mastered. Partnerships with the private sector in such a fundamental way is innovative in of itself.

The implementation of the project by a partner (OPIM) as part of the implementation modality, is the first of its kind for an FAO project. This is an opportunity to enhance country ownership, strengthen institutional know-how, and provide capacity to country-based implementing partners to manage this project.

4.7.2 Sustainability

The sustainability of this project is predicated on the principle that global environmental benefits can be produced and maintained through community-based sustainable development projects, as long as they provide livelihood incentives and are supported by an effective enabling environment. For that reason, this project acts on the institutional level, the community level, while maintaining a focus on livelihoods and food security to answer to people?s most pressing needs. Women, often household managers, and often involved in collective work, can lead the continuity of initiatives, through this central role in family and community life.

The sustainability of project results will be enhanced by creating the necessary institutional frameworks (development plans, policies, community plans) which will live on beyond this project. Training and capacity building of key actors at government, local and community levels will disseminate knowledge and skills which can be carried through these roles. The project even incorporates activities such as new curriculum development for DEFCES staff, supporting of masters and research projects to fill long-term LDN gaps. Investments into information systems, data management by intersectoral partners, promises to strengthen cross-sectoral knowledge of LDN.

Learning-by-doing approaches seek to support skill development that will be usable beyond project results. Access to lending and credit from other institutions seeks to create ongoing relationships with private sector partners, and hopefully create capital investments in activities that are lucrative in the long-run.

Partnerships with other projects, and playing the role as a bedrock project for the CNIS/GDT means that project results will be leveraged beyond its life, to feed other initiatives.

The following table reflects some of the interventions the project will undertake to promote sustainability beyond the life of the project.

Table 11. Sustainability of Results

Environmental	**Economic**	**Social**	**Institutional**

Regeneration of degraded lands with resilient species	Increasing access to resources for sustainable livelihoods activities	Enhanced alignment of communities under the landscape approach	Municipal plans, frameworks incorporate LDN considerations
Improved SLM/LDN measures in buffer zones to avoid pressures on KBAs	New partnerships with the private sector in value chain development	Advancement and empowerment of women	Trainings of key staff in intersectoral institutions on LDN
Natural hedges established, barriers to protect soil from erosion	New production on previously degraded lands bring new revenue	Collaborative spaces (e.g. Dimitra club) for social engagement, collective discussions	LDN accounting enhanced through improved coordination mechanisms
Installation/rehabilitation/strengthening of community nurseries	Bringing production to scale at landscape level	Farmer Field Schools & trainings, hand-on opportunities, pilots and demonstrations for skill development	Information systems, data collection more inclusive of various sectors, producing data that is usable for a variety of users, establishing protocols of use.
Initiatives on improving soil quality		New production on previously degraded lands: food security	
Farmer field schools, demonstrations, on-site pilots, learning by doing opportunities			
Improving professional curriculum of staff in key ministries to include LDN/SLM considerations			
Financing long-term research opportunities to fill environmental knowledge gaps and create expertise			

4.7.3 Possibility of Scaling Up

Overall, the project seeks to achieve results at a national scale, particularly for achieving LDN and biodiversity conservation, with clear benefits for women. In order to do so, the project is targeting local

sites, with the aim of fulfilling national level legislation. Particularly on LDN, the interventions are being carried out in strategic sites, with goals for replication, with the eventual goal of having common LDN measurement tools enacted across the country. As LDN governance is in its infancy in Senegal, the project is putting in place the first few mechanisms to have these proliferate and to be able to generate not only LDN results, but measurable national achievements against agreed upon national targets that can be reported on annually.

With biodiversity, the target sites have been selected with the clear intention of supporting areas that buffer protected areas or those including key biodiversity. By working in strategic zones, the project is broadening the scope of previously protected zones, and upscaling protective measures to reinforce biodiversity and ecosystem goals. The project KM and learning strategy will ensure lessons are captured and made available for potential replication in PAs and KBAs outside of the pilot sites of the project, considering the national scope of the project.

Similarly, investments on value chain strengthening and development seek to strengthen local and mid-sized enterprises, so as to bolster small producers and strengthen the productive sector as a whole. Working along the value chains and facilitating cross-landscape collaborations, distribution and marketing, seeks to broaden the reach of sustainable goods and combat food insecurity. With rising food costs, supply chain concerns, closing of the border between Mali and Senegal, there are growing challenges for food security, and sustainable production through green value chain development is intended to serve more people than just at the community level. Upscaled production and enhanced collaborations between actors are directed to strengthen the productive sector as a whole.

Multi-stakeholder platform groups are intended to upscale the activities being conducted at the local level, enhance collaborations between various stakeholders, enhance collaborations between the private, public and CSO sectors, and achieve greater results at the landscape levels. Using the landscape allows greater alignment among activities at the community-level so as to achieve higher-scale results.

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

There are no substantial changes in the project design from the PIF. During the PPG, the activities, partnerships, synergies and budgeting was clarified, reinforcing that the original logical framework was sound. The minor changes made to the PIF were the following:

Table 12. Changes from the PIF

Change from PIF	**Justification**
In Target (a), under outcome 1.2 the words ?at least? were added: (see text in red) *(a) At least 25% of target communes increase the share of their budget by at least 5% intended to support SLM activities for the benefit of the LDN and biodiversity conservation*	The reason ?at least? was added was that the PPG analysis suggests that the potential is actually higher than 5%. By adding ?at least? there is the possibility of aiming higher, without artificially inflating the target amount and creating challenges for communes.
Target (c) under 1.2 was also altered. ?50 people? was added and replaced the original ?30? that were listed.: *(c) 50 people (of which 50% are women) with enhanced capacity in LDN at national and sub-national levels*	It was felt that 30 was too low a target and that 50 was attainable and realistic given the size of various national and sub-national entities.
Target (c) under Outcome 2.1 was changed. ?4? replaced ?3? in the following: *(c) 4 technical guides on SLM/LDN produced and distributed*	The number of technical guides were increased to reflect 1 per landscape.
Target (a) under Outcome 3.1 was changed and the text ?is operational? was added: *(a) A functional framework for promoting sustainable local value chains (suppliers, producers, support-advice, financiers, traders) is operational*	It was felt that just having a functional framework was not sufficient to observe the benefits in livelihoods and SLM that are anticipated by the project. The PPG process revealed that the framework should be produced in the earlier phases of project implementation and should be put to practices. For that reason it is anticipated that it should be operational
Target (c) under Outcome 3.1 was changed and the words ?from the baseline? were added. *(c) 7,500 producers, (75% youth and women) supported in improved local value chains with increased income from the baseline of 25%*	The reason for adding this text was to clarify how the change in livelihood would be measured, and against which data the information would be compared.

Target (e) under Outcome 3.1 was changed. ?100? replaced ?1,000? *(e) 50 Integrated Community Agricultural Farms (ICAF) of 1 ha each set up, functional and generating decent jobs for 100 young people (75% women)*	The 1,000 was a typo in the PIF. It has been corrected.
Co-Financing has changed substantially. The total co-financing amount has increased to a total of *36,000,000* when the amount proposed in the PIF was *32,800,000*. Many of the co-financing partners have also changed.	The PPG process allowed deeper engagement of partners to identify which could provide the kind of anchoring and financial support to the project. Given the challenging economic situations, many programs and projects also foresee financial challenges and were unable to commit the sources. Despite this, the co-financing amount now exceeds what was planned. The rationale for the three new co-financing sources Programme de D?veloppement de la Chaine de Valeur Riz (PDCVR), Programme de Comp?titivit? de l?agriculture et de l??levage (PCAE), Projet de D?veloppement Durable des Exploitations Pastorales au Sahel (PDEPS), is because they all focus on sustainable value chain strengthening.

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[3] FAOSTAT.

[4] IFAD. Senegal. Available online at: https://www.ifad.org/en/web/operations/w/country/senegal

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[12] https://www.food-security.net/en/visualise/

[13] https://www.globalhungerindex.org/pdf/en/2019.pdf

[14] ?System? is defined as ?a set of elements or parts that is coherently organized and inter-connected in a pattern or structure that produces a characteristic set of behaviors, often classified as its functions or purpose?. From the book ?Thinking in Systems?, by Donella H. Meadows

[15]?Feedback loop? is defined as ?an amplifying or enhancing feedback loop, reinforcing the direction of change?. From the book ?Thinking in Systems?, by Donella H. Meadows

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[29] Ibid.

[30] *Faidherbia albida* is a leguminous nitrogen-fixing acacia-like species that is indigenous all over Africa. Faidherbia has a unique compatibility with cropping systems due to its ?reverse leaf phenology?. It remains dormant during the wet season and drops its leaves to fertilize associated crops. Its leaves only grow during the dry season and provide nutritious livestock fodder during critical periods of drought. Source: World Agroforestry Centre. Available online at: https://www.worldagroforestry.org/sites/default/files/F.a_keystone_of_Ev_Ag.pdf

[31] Groundcover being defined as any material on or near the soil surface that protects the soil against the erosive action of raindrops and overland flow

[32] Senegal-Investing in Land Degradation Neutrality: Making the Case: An Overview of Indicators and Assessments. Available online at: https://www.unccd.int/sites/default/files/inline-files/Senegal.pdf

[33] ?System? is defined as ?a set of elements or parts that is coherently organized and inter-connected in a pattern or structure that produces a characteristic set of behaviors, often classified as its functions or purpose?. From the book ?Thinking in Systems?, by Donella H. Meadows

[34]?Feedback loop? is defined as ?an amplifying or enhancing feedback loop, reinforcing the direction of change?. From the book ?Thinking in Systems?, by Donella H. Meadows

[35] UNCCD. "The Global Land Outlook, first edition" (Bonn, Germany, 2017).

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[53] World Bank. 2017. Senegal Investment Climate Assessment.

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[56] When referring to family farms, the project document recognizes the varied meanings of such terms. The project document adheres to the FAO?s concept of the family farm articulated in Garner. E & Campos, A.P. 2014. Identifying the ?Family Farm?: An Informal Discussion on the Concepts and Definitions. ESA Working Paper No 14-10. Available online at: https://www.fao.org/3/i4306e/i4306e.pdf . The broad understanding of family farms in this text can be understood as the following: ?The definition of family farm varies across countries and context?the majority of definitions recognize the role of family labour and the role of the family in managing the farm operation. However, the notion of family farming seems to go beyond farming capacity, size and orientation. The term is sometimes also used to capture ecological, social, cultural and environmental objectives and therefore has close ties to the local culture and the rural community?.a uniform definition of the term ?family farm? is difficult because the term is not applicable to all contexts?we propose a concept of the term that highlights the most defining characteristic of family farms - the reliance on family labour - and that recognizes the linkages between its agricultural functions and its economic, environmental, reproductive, social and cultural functions.?

[57] Dixon, John, Aysen Tanyeri-Abur and Horst Wattenbach (2004). Framework for analyzing impacts of globalization on smallholders. In. ed. J. Dixon, K. Taniguchi, H. Wattenbach, and A. Tanyeri-Arbur (Eds.), Smallholders, globalization and policy analysis. Rome: Food and Agriculture Organization (FAO). For whom the term ?smallholder? refers to the limited resource endowments of farmers compared to those of other farmers in the sector--smallholder farmers can cultivate as little as one hectare or as much as ten hectares or more, depending on population density and agro-ecological zones.

[58] International Initiative for Impact Evaluation/WACIE/ACED. Quels sont les facteurs qui influencent positivement l?adoption des technologies agricoles par les petits exploitants ?

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[64] FAO. The 10 Elements of Agroecology: Guiding the Transition to Sustainable Foods and Agricultural Systems. Available online at: https://www.fao.org/3/i9037en/i9037en.pdf

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[66] FAO. December 2019. Perspectives de r?colte et situation alimentaire. Rapport mondial trimestriel.

[67] More information can be accessed here.

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[69] UNCCD. 2019. LDN Contributing to Global Biodiversity Goals. Available online at: https://www.unccd.int/news-stories/stories/report-ldn-contributing-global-biodiversity-conservation-goals-0#:~:text=According%20to%20the%20report%2C%20LDN,therefore%20strongly%20reinforce%20each%20other.

[70] UNCCD/UNCBD/GEF/. 2019. Briefing Note: Land Degradation Neutrality for Biodiversity Conservation. Available online at: https://catalogue.unccd.int/1339_Briefing_Note_Biodiversity.pdf

[71] https://ccafs.cgiar.org/climate-smart-villages

[72] With pastoral communities, promotion of Rotational grazing (also known as management-intensive grazing, MIG) which differs from continuous grazing in that land is separated into smaller paddocks and the group of animals aremoved regularly between paddocks. This intensifies grazing pressure for a smaller period of time (e.g., 1?3 days for ultrahigh stocking density or 3?14 days for typical rotationally grazed), leaving a rest period for regrowth in between.

[73] Ou?draogo M, Jaquet S, Sall M. 2020. Projet UE-FIDA ? D?veloppement de cha?nes de valeur et de paysages intelligents face au climat pour accroitre la r?silience des moyens de subsistance en Afrique de l?Ouest ? Rapport d?activit? : Atelier des acteurs pour le d?veloppement de profil de risque climatique de Kaffrine. CCAFS workshop report. Dakar, Senegal: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

[74] GEF. 2018. Henry, B., Murphy, B., Cowie, A. Sustainable Land Management for Environmental Benefits and Food Security. Available online at: https://stapgef.org/sites/default/files/publications/SLM-Henry_Murphy_Cowie.pdf

[75] Ibid.

[76] Cowie A.L., Orr B.J., Sanchez V.M.C., Chasek P., Crossman N.D., Erlewein A., Louwagie G., Maron M., Metternicht G.I., Minelli S. Land in balance: the scientific conceptual framework for Land Degradation Neutrality. *Environ. Sci. Policy.* 2018;79:25?35

1b. Project Map and Coordinates

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

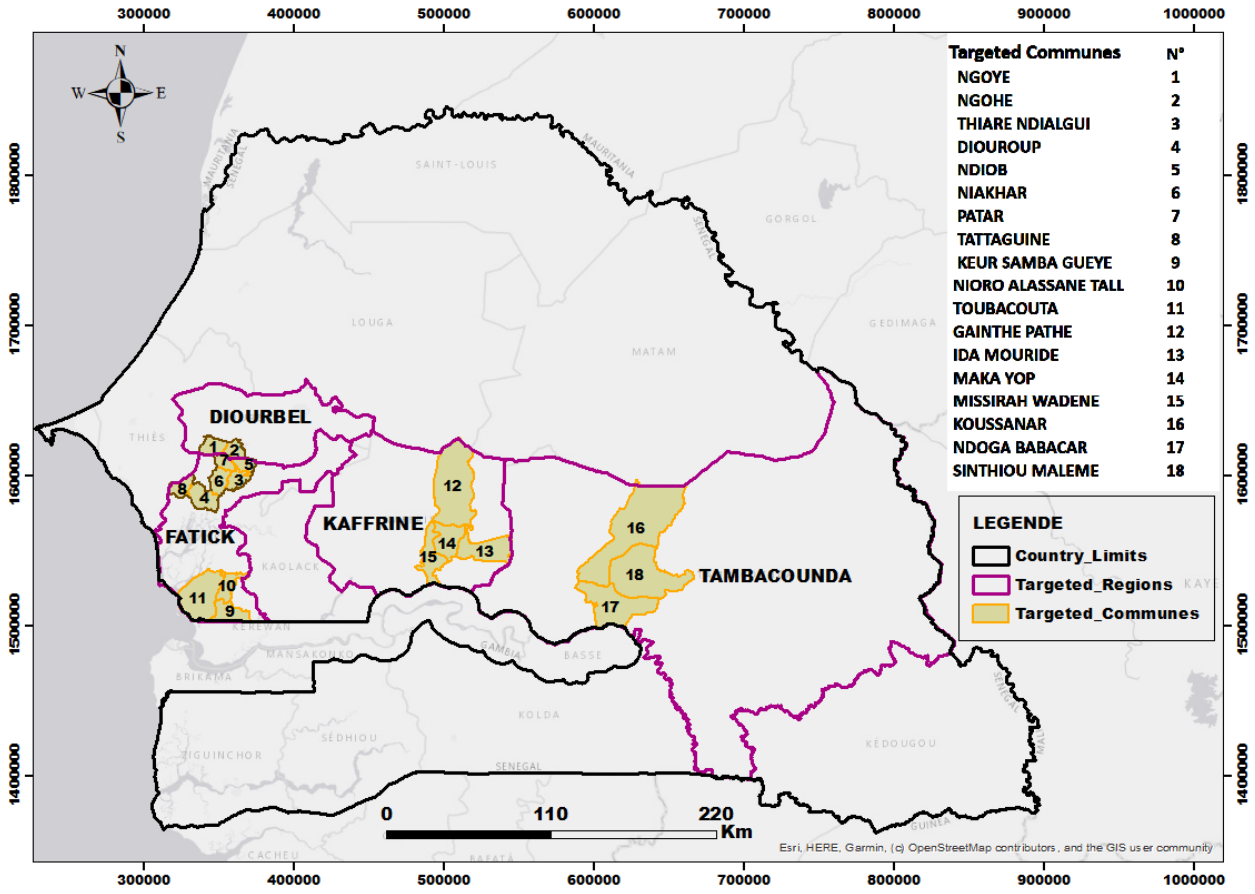


Table 13. Project Geo-Coordinates

Region	Latitude (N)	Longitude (W)
Diourbel	14,51439749	-16,68708863
	15,02707436	-15,43637020
Fatick	13,59331609	-16,79206973
	14,75239323	-15,46221817
Kaffrine	13,74316116	-15,86290161
	14,72318799	-14,58259748
Tambacounda	15,11116958	-11,86417821
	12,62993911	-14,83359495

Source *EPSG:4326 - WGS 84 - Geographic Coordinates in UTM*

1c. Child Project?

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

N/A

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

To ensure inclusive participation and consultation, the following stakeholders have been identified to be consulted on an ongoing basis in the implementation of the Project. The list includes identified social groups and people who are associated with the project in different ways at all stages:

? the people and social groups affected directly or indirectly by the results of the project;

? the people and social groups who participate directly or indirectly in the project;

? the people and social groups who are in a position to influence the results and the way the project is implemented or make decisions based on the results of the project.

It is worth noting that these categories are not mutually exclusive. It is also worth noting that stakeholders? roles may differ through different phases in project implementation Stakeholders have been identified according to the above classification, in the table below:

Table 14. Engagement in the Project

People and social groups affected directly or indirectly by the results of the project	People and social groups who participate directly or indirectly in the project	People and social groups who are in a position to influence the results and the way the project is implemented or make decisions based on the results of the project

Communities in the landscapes Women and youth involved in the use or management of natural resources as well as the Non-governmental organizations (NGOs) and civil society organizations (CSOs) operating at local, regional, national and international level (including environmental organizations) Grassroots Community Organizations (OCB) made up of Women's Advancement Groups (GPP), Economic Interest Groups (GIE) and local women's and youth associations. Projects and programs operating in the Peanut Basin and Eastern Senegal in land, land restoration, SLM, biodiversity conservation and agricultural entrepreneurship	Operational partner for the implementation of the Project. GEF and LDN Focal Point National agencies involved in scaling up and financing good SLM practices (see below) Research and development institutes/centers involved in the implementation and monitoring of SLM indicators Community-Based Organizations of Women and Youth Village environmental monitoring committees Pastoral units GIE of women and young people Local and national NGOs and CSOs Multi-stakeholder platforms Private sector (suppliers of organic inputs, biopesticides, development of agro-sylvo-pastoral areas, marketing platforms for agricultural products)	Ministry of Finance Ministry of Agriculture and Rural Equipment Ministry of Environment and Sustainable Development Ministry of Local Authorities, Development and Regional Planning Communes ●The regional directorates of technical ministries ●The regional directorates of development agencies ●Local authorities (administrative authorities) and local elected officials (city and district councillors). National Strategic Investment Framework for Sustainable Land Management (CNIS/GDT) Projects and programs that participate in the financing of the project (co-financing)

The project will collect and analyze stakeholder expectations and concerns on an ongoing basis so as to incorporate feedback, monitor for risks and promote adaptive project management. The following stakeholders have been instrumental in project formulation and will play a key role in implementation (for more information see the Stakeholder Engagement Matrix in Annex X).

Ministry of Environment and Sustainable Development (MEDD)

The Ecological Monitoring Center (CSE)- The CSE is a public utility association placed under the supervision of the MEDD. The CSE is a structure based in Dakar, however, the use of space

technologies (mapping, remote sensing) gives it capacities in the monitoring of SLM indicators, the implementation of territorial planning tools, strengthening on SLM and biodiversity. The CSE is one of the national structures that participated in the development of the national profile on LDN by producing maps on land use, land degradation, several data to define national objectives. The CSE can thus bring capacity in the implementation of component 1 of the Project and in the reinforcement of the capacities of the institutions of the MEDD in the LDN.

The Senegalese Agency for Reforestation and the Great Green Wall- (ASERGMV)- Through its mission, ASERGMV will be a key partner for the implementation of the objectives of afforestation, restoration and rehabilitation of degraded land in agro-sylvo-pastoral systems. The establishment of 50 agricultural farms as well as the operationalization of the CNIS-GDT will be co-financed by ASERGMV through the RIPOSTES Project (Resilience and intensive reforestation project for the safeguard of territories and ecosystems in Senegal).

The Department of Water and Forests, Hunting and Soil Conservation (DEFCCS)- The DEFCCS is responsible for developing and implementing national forest policy. It exercises the prerogatives of the State in the areas of soil conservation, wildlife management and forest ecosystems. It contributes to strengthening the technical capacities of State agents, local elected officials and grassroots community organizations, and to developing their management and organizational capacities. Its field system supports the interventions of local authorities. The DEFCCS is represented at the municipal level by a water and forest Brigrade which itself is under the jurisdiction of the departmental sector headed by the Regional Water and Forest Inspectorate (IREF). The DEFCCS is a resource for ASERGMV on issues related to reforestation.

Department of the Environment and Classified Establishments (DEEC)- The DECC is responsible for piloting the monitoring and evaluation system of the NDC. Initiatives are underway with the Adapt'Action project funded by the French Development Agency (AFD) to support the establishment of an adaptation NDC monitoring system.

Ministry of Agriculture and Rural Equipment (MAER)

National Institute of Soil Science (INP)- The INP will mainly intervene in the classification and monitoring of agro-soils. Given its experience and presence in certain municipalities, the INP will participate in carrying soil defense and restoration works (DRS). It will also take part in all actions affecting the CNIS/GDT. The INP is anchored in the project area.

National Agency for Agricultural and Rural Advice (ANCAR)- ANCAR has skills and a close network in the target municipalities to support the implementation of the project, especially with regard to Component 2, to restore degraded land and conserve biodiversity. In the implementation of component 3, ANCAR will be able to provide substantial support in the establishment of the financing mechanism. It will support the implementation of activities related to the institutional and organizational development community groups (structuring, capacity building, support and facilitation). It will mainly provide technical advice on agriculture and animal husbandry. Community groups and cooperatives specializing in the production of selected seeds will ensure the production of these seeds in conjunction with ISRA and the private sector.

Senegalese Institute of Agricultural Research/National Center for Forestry Research (ISRA/CNRF)- ISRA/CNRF will promote agroforestry and the scaling up of climate-smart villages. It will facilitate ANCAR and the private sector, to form a sustainable system of production of seeds and forest plants to support the implementation of restoration actions. ISRA will also participate in the supervision of masters and doctoral theses on SLM, biodiversity conservation and LDN.

National Agrosilvopastoral Development Fund (FNDASP)- The FNDASP is the technical and financial arm of the national agricultural advisory system, but also an instrument at the service of rural populations to finance the training of value chain actors and the dissemination of technological innovations. A financing mechanism for farmers' organizations will be set up by the project called ?Guichet Dekkil Souf? as part of support for the implementation of activities contributing to SLM and biodiversity.

National Agency for Civil Aviation and Meteorology (ANACIM) will contribute to the dissemination of climate information to enable farmers to better cope with climate impacts that threaten their agricultural productivity. It will thus participate in the implementation and management of smart climate villages with ISRA/CNRF.

Ministry of Territorial Collectivities, Development and Territorial Planning

***The National Agency for Spatial Planning (ANAT*)-** ANAT's mission is to promote and implement the Government's policy in terms of regional planning and geographic and cartographic work, provides an original response to the need to better coordinate organization and territorial development policies. in urban and rural areas. To this end, ANAT will support the coordination of the development of departmental and communal land use and development plans. It will work in close collaboration with the ecological monitoring center for the implementation of Component 1.

The Ministry of Finance and Budget

The Cadaster and Land Security Project (PROCASEF)- PROCASEF will support the project in the implementation of processes for securing land tenure and improving access to land for vulnerable people (women and young people). It will also participate in the improvement of land information systems (SIF) by integrating the spatialization of land use titles and the automation of registrations.

Private sector actors

Organic input suppliers- The suppliers of organic amendments, fertilizers and biological pesticides will intervene in the demonstration of their products for the establishment of a framework of collaboration with the beneficiaries of the project for a better professionalization of the supply of inputs. ANCAR will support the signing of protocols between input suppliers and beneficiaries for sustainable partnerships.

Suppliers of forest seeds and seedlings- Suppliers of inputs and forest seedlings will set up partnership frameworks with ISRA/CNRF and local organizations to support the supply of forest seeds and the implementation of actions to restore degraded land through the planting of resilient species. The benefits derived must be environmental as well as economic and financial to ensure sustainability.

Suppliers of innovative solutions (solar kits, irrigation systems, etc.)- The suppliers of innovative solutions on the various links of the identified value chains will set up, in conjunction with ANCAR, ISRA and the beneficiary communities, actions to demonstrate the effectiveness of their products. Based on the agreements in place, access to innovative technologies will thus be more transparent, supervised and documented.

Multi-stakeholder platforms- The project will strengthen the coordination of the "**Saloum mangrove platform"**, which is a framework for consultation and harmonization of the interventions put in place to reconcile the preservation of natural resources and their sustainable use, in accordance with the principles of the Sine Biosphere Reserve. In addition, the "Saloum Mangrove Platform" established with the support of Wetlands International Africa (2015) provides a framework for consultation and harmonization between the interventions of line ministries and local authorities to ensure the sustainable use and conservation of natural resources in accordance with the principles of the Sine Saloum Biosphere Reserve.

The multi-stakeholder national platform on land governance in Senegal, brings together members of the ministries concerned (Agriculture, Fisheries, Livestock, Environment, local authorities) and more recently, the Ministry of Finance and Budget and representatives of CSOs, research institutions, the private sector and local government and farmers' organizations.

Non-Governmental Organizations (NGO), Civil society (CSO) and Development Agencies

The Deutsche Gesellschaft f?r Internationale Zusammenarbeit (GIZ)- GIZ is the German international development cooperation agency. Through the Seen Suuf project, GIZ will support the land tenure security project, access to land for vulnerable groups and support for tenure information systems.

Enda Pronat- ENDA Pronat is an NGO that contributes to improving food security and producer incomes by promoting production systems and adding value to agricultural products through the promotion of agro-ecological techniques. Through the application of the TAPE approach, Enda pronat will monitor indicators including the mid-term ecological transition and the closure of the Project. Through its field teams, Enda Pronat will participate in the implementation of activities wherever it is present.

The Senegalese Association for the Promotion of Small Grassroots Development Projects (ASPRODEB)- APRODEB is a tool that provides Farmer Organizations with technical and organizational capacity building, financial management and advisory support services. ASPRODEB will provide support to grassroots communities through the implementation of activities aimed at developing cereal agriculture and agroforestry value chains and promoting agro-ecological practices to support the resilience of pastoral communities and vulnerable agro-pastoralists

Municipalities of the target landscapes

Decentralization has transferred nine powers to municipalities in the following areas: environment and management of natural resources, health, population and social action, youth, sports and leisure, culture, education, planning, regional development, and town planning. Thus, the municipalities will lead the development of integrated land management and land-use plans by first setting up the related commission. The municipalities will also be stakeholders in the choice of sites and beneficiaries of project actions, monitoring and evaluation of indicators, particularly those related to LDN.

University of Senegal- Partner in supporting Master?s and Doctorate students pursuing critical research related to biodiversity conservation, sustainable land management and LDN.

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

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Sectoral ministries	MAER, MEDD, MFB, MTCDRP, MCDSTE, MLAP, MHTIS,	Project orientations / Decision making Validation of processes; verification of compliance with government priorities Facilitation of interactions with the private sector	Periodic meetings Periodic Reports Workshop	Month 1 Quarter 1; 2; 3; 4
GEF implementing agency	FAO	Harmonizes the contribution of multiple actors Coordinate the implementation of integrated plans Stimulate cooperation between stakeholders Maintaining dialogue with ministries and parastatal organizations and certain community groups, NGOs and the international community.	Workshop organization Field visit Visit of partners Periodic meeting Videoconference	Permanent

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Executing agencies	ANCAR, FNDASP, CSE	Project implementation Organization of diagnostics Training of direct beneficiaries Contracting with other service providers	Workshop organization Field visit Visit of partners Periodic meeting Training	Permanent
Direct beneficiaries	Any owner of plots to restore Beneficiaries of the identified localities Youth and women groups Community of producers	Definition of needs and interests Commitments to building a common vision Participation in the planning process Participation in	Focus group Village meeting Workshops	Periodic during implementation

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Farmers associations	Food producers; Cooperatives	platforms Participation in training courses and various meetings Participation in decision-making Sharing knowledge and experiences Implementation of technologies resilient to climate change Participation in monitoring and evaluation of the project Are informed of the environmental and social consequences of the implementation of the project and assured of the possibility of feedback.	Exchange of experiences	

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Local communities	Traditional chiefdom Mutual development; Cooperatives	Commitments in socio-cultural transformation Community mobilization Facilitation of transformations of gender equality and access of women and the disadvantaged to resources Participation in local development plan processes	Platform meetings	Quarter 1; 2; 3; 4; 5; 6; 7; 8
Territorial communities	Regional councils; Town halls	Provides the secretariat for the dialogue framework Convening platforms. Facilitates the participation of farmers in the development of action plans Lobbying and defending the interests of the disadvantaged Mobilization of decision-makers at the local level	Planning Workshops Platform meetings Follow-up Visits in the field Advisory board meetings	Quarter 1; 2; 3; 4; 5; 6; 7; 8

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Administrative authorities Local governments	Prefectural body; Community leaders Political authorities Mayors of the communes of Ngoh? , Ngoye , Patar , Thiar? Ndialgui , Diouroup , Keur Samba Gueye, Ndiob , Niakhar , Nioro Alassane Tall , Tataguine , Toubakouta , Gainte Pathe , Ida Mouride, Maka Yop , Missira Wadene , Koussanar , Ndoga Babacar , Sinthiou Maleme	Establishment of Municipal Commissions for Territorial Planning and Development (CCADT) and any other mechanisms necessary for the smooth running of the project. Improved land tenure security and access to land for women and young people. Identification of sites, beneficiaries and monitoring of implementation .	Validation meetings Platform meetings Document analysis	Quarter 1; 2; 3; 4; 5; 6; 7; 8
Government agency	ARD (Regional Development Agency) Diourbel, Fatick, Kaffrine and Tambacounda	Participation in SCADT development activities through the municipal land management and development commissions (CCADT)	Project orientations / Decision making Technical and validation meetings and workshops, information and consultation missions with the populations, provision of regional data	Periodic in relevant quarters

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
	ANCAR (National Agency for Agricultural and Rural Advice)	Scaling up best practices	Animation of Farmer Field Schools (CEP), Smart Climate Villages, activity reports, choice of sites and beneficiaries, monitoring of activities	
	ANAT (National Agency for Spatial Planning)	Coordination of the development of Communal Planning and Territorial Development Plans (SCADT)	Information note on the implementation of the process, technical and validation workshops, monitoring of SCADTs, validation workshops, verification of compliance with government priorities	
	ANACIM (National Agency for Civil Aviation and Meteorology)	Provision of climate information	SMS, weather reports, field visits to climate-smart villages	
State and para-state supervisory structures Research institutions	CSE (Centre for Ecological Survey)	Development of SCADTs, training of trainers on LDN and monitoring of indicators, monitoring of LDN indicators and greenhouse gases	Planning Workshops Platform meetings Follow-up Visits in the field Capac Advisory board meetings	Quarter 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12
	National Institute of Pedology (INP)	Soil quality monitoring Policy orientations Information Facilitation and contact		

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
	CNRF (National Forest Research Center)/ Institute for Agricultural Research (ISRA)	Implementation of Smart Climate Villages		
	DEFCCS (Department of Water, Forests, Hunting and Soil Conservation)	Training of local actors on LDN and monitoring of indicators, implementation of activities in protected areas		
	UADB (Alioune Diop University of Bambey) ENSA (National School of Agriculture) LTA/UCAD (Laboratory of Applied Remote Sensing of the Cheikh Anta Diop University of Dakar)	Capacity building of expert in LDN and biodiversity conservation	Planning Workshops Platform meetings Follow-up Advisory board meetings	
Government, project/program	PDZP/PNDL	Choice of sites and beneficiaries, synergies of actions with the Dekkil Suuf project	Project orientations / Decision making Validation of processes; Facilitation of interactions	Periodic in relevant quarters

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
	FNDASP (National Agro -Sylvo - Pastoral Development Fund)	Choice of sites and beneficiaries, synergies of actions with the Dekkil Suuf project	with the private sector	
	PROCASEF	Sharing of land tenure security methodologies, development of the SCADT of Ngoh? , Ngoye , Keur Samba Gueye, Nioro Alassane Tall , Toubakouta , Ida Mouride, Koussanar , Ndoga Babacar and implementation of SIF		
Government, funding Institution	FNDASP	Support producers access to finance and credit	Workshop organization Field visit Visit of partners Periodic meeting Training	Periodic in relevant quarters
NGO	ENDA PRONAT	Implementation of the TAPE survey (evaluation of the ecological transition, etc.)	Planning Workshops Platform meetings Advisory board meetings PTF Taskforce	Periodic in relevant quarters
	Project Seen Suuf (GIZ)	Sharing of land tenure security methodologies, development of Ida Mouride's SCADT and implementation of the SIF		

Type of stakeholder	Stakeholder	Mode of participation	Consultation Methodology/Mobilization	Planned schedule
Civil society	National Rural Consultation Framework (CNCR)	Represents civil society in landscapes, in platforms and participatory meetings. Contributes to execution in case of comparative advantage Awareness information on land activities	Planning Workshops Platform meetings Visits in the field Advisory board meetings	Periodic in relevant quarters

[1] See FAO Operational Guidelines for Stakeholder Engagement

[2] 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.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain)

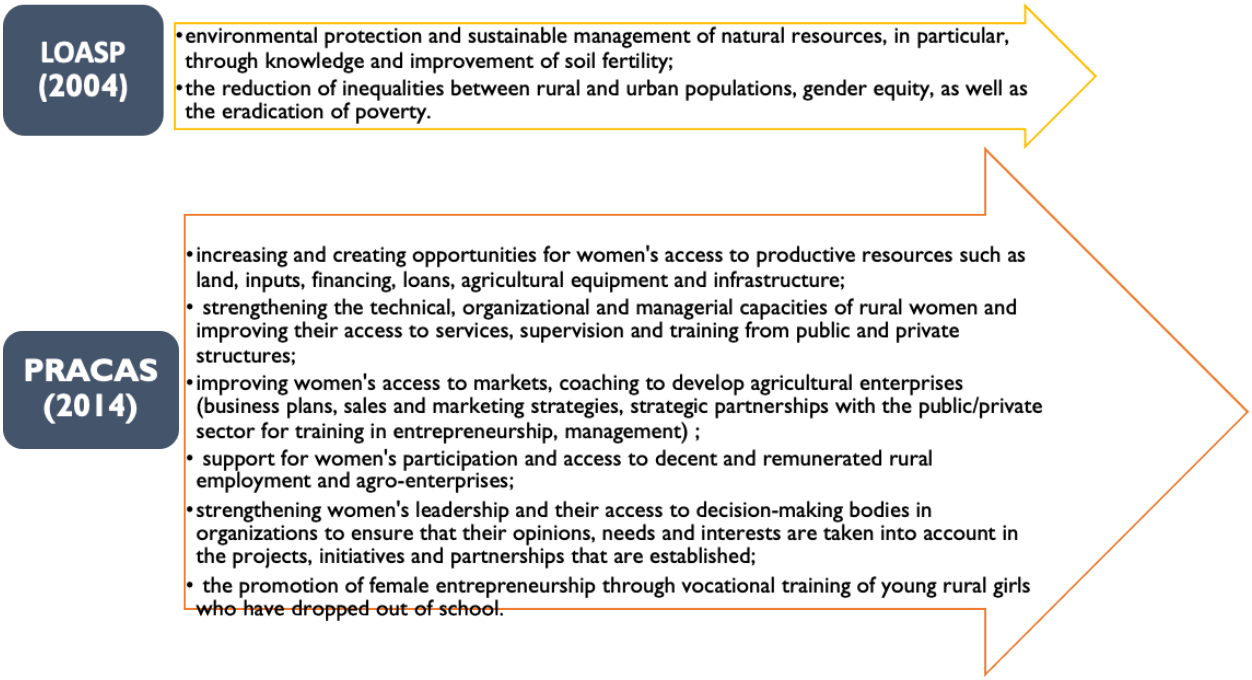
3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

In almost all rural areas of Senegal, the division of labor in rural areas, the choice of agricultural activities, the allocation of land, technical training and financing vary according to gender and age group. The long-term success of SLM initiatives lies in understanding the factors that determine the adoption of soil improvement practices by different categories of farmers in their specific contexts, particularly by women. The challenges, constraints and barriers that women face in adopting sustainable measures, are also crucial to identify, to deliver gender-favorable project activities.

In 2014, the Government of Senegal adopted the Emerging Senegal Plan (PSE), which considers the agro-sylvo-pastoral sectors as priorities for national economic growth because of the major role they play in improving people's food supply, consolidating food security and poverty reduction.

For its implementation, the different sectors of agriculture, environment and livestock have developed and implemented many initiatives that align with the priorities of the Agro-sylvo-pastoral Orientation Law (LOASP) promulgated in 2004, such as the Acceleration Program for Senegalese Agriculture (PRACAS). The LOASP has defined, in its Article 6, a set of objectives that are associated with those of Article 54 which stipulates that "the State ensures parity in the rights of women and men in rural areas, in particular in the 'agricultural exploitation. In addition, easy access to land and credit are granted to women?. The following diagram captures the gender aspects of these initiatives:



In 2015 the Government of Senegal reviewed the National Strategy for Gender Equity and Equality (SNEEG) to better link it to the PSE. Despite the implementation of these significant legislative tools, several localized studies reveal significant disparities and gaps between men and women in the agro-silvo-pastoral sector. Since 2019, the Government of Senegal has implemented an innovative programme called PSE Vert, which makes conservation and sustainable use of the country's natural ecosystems a priority given the adverse effects of climate change. A Gender Strategy is being developed which will include a checklist and reference document for the innovative technical programs that are being formulated or implemented with a view to taking into account strategic and operational Gender and the promotion of gender equality.

Land insecurity is a major obstacle for small producers, especially women and young farmers wishing to invest in the protection and rehabilitation of agricultural land. This is a crucial constraint for investing in SLM. Research has revealed that land insecurity and neglect of farms managed by women are major barriers that affect their ability to invest in SLM (Koudougou & Stiem, 2017; Stiem-Bhatia et al., 2017).

In the **customary land governance** systems that prevail in most parts of West Africa, women only access land through male family members and have only land use rights. In Senegal, in the **absence of land law on traditional lands**, these are managed according to the right of use or family. The practice on the ground refers to customary law which rarely recognizes women's rights to land. Women do not traditionally have a right of direct access to land, with the exception of lowland cultivation plots over which they exercise a right that can go as far as transmission from mother to daughter. For women, the most common modes of access are inheritance, loan, rental, purchase, gift. Men generally control the land.

Access to land is unequal between men and women. Despite their significant contribution to community food security, women are considered to be small-scale farmers because they generally work on small areas. This situation is often linked to their status and social roles, which give them few rights to access and control land. In rare instances, women or women's organizations with a certain financial capacity or a political position can acquire land by purchase or by allocation from the communal council.

Land allocated to women is generally less fertile. A study reveals that women's plots receive little fertilizer, compared to men, they use on average four times less fertilizer and six times less selected seeds. (UNIFEM-Gender and Scientific Research Laboratory ? IFAN). The risk of losing land is even higher when women invest in improving its productivity. Once the fertility of the land has been restored, the landowner, most often the husband, does not hesitate to recover this land, which has

become fertile again, to develop cash crops. In discussions with farmers, it was found that men consider this rotation system, also called forced rotation, to be an efficient management of resources, while women are dissuaded from investing in sustainability in soil productivity. Thus, land insecurity limits the planting of (semi-) perennial crops, trees and other soil improvement technologies whose effects, such as improving soil organic matter and formation of micro-terraces by accumulation of sediments, are only visible after a few years.

Insecure land tenure discourages women and youth from investing in SLM. Women do not have the right to plant trees or erect permanent structures as this could allow them to claim ownership of the rented or loaned plot. Despite the existence of close links between perceived land insecurity and investment in SLM, few projects address land insecurity for women. Often, land tenure security processes are considered politically sensitive, long and often complex, and therefore considered incompatible with the duration of implementation of SLM projects. Thus, the neglect of land rights issues often results in less uptake of interventions by women.

Sustainable land management is labor intensive and labor costs and shortage limits women in experimenting with and applying various SLM technologies. Labor shortage hits women the hardest. Very often, the adoption of SLM technologies by women is strongly linked to their access to additional labour. Studies indicate that the lack of labor availability is more restrictive for women than for men in terms of decision-making power over the adoption of certain soil improvement methods (Quisumbing & Pandolfelli, 2010). Men can more easily adopt labor-intensive strategies since they have more decision-making power over the allocation of their wives' labor power than the latter have over them or their sons (Th?riault, Smale & Haider 2017). Scarce labor resources available are usually pooled and organized in order of priority to work in the fields managed by men. (Stiem-Bhatia et al., 2017).

Most women find it difficult to take care of their ?own? fields, which they only manage to cultivate when the work for the family, family land, and community, is finished. As women's fields are given less importance, **the support they receive from other family members in tasks such as plowing is often delayed**. ?We have our fields plowed by oxen very late. According to the women: ?The men first take care of their fields before coming to help us on ours. Therefore, in our activities, we often lag behind the rains. And the rains don't wait for us.?

The **limited financial resources of women translate into reduced access to labor**: due to their restricted access to financial resources, women have more difficulty than men in accessing paid work. According to data collected from 200 households, only 14% of women could recruit their own labor, compared to 51% of men. With limited time resources due to difficulties in recruiting additional agricultural labor, women very rarely invest in labour-intensive and time-intensive practices that

improve soil condition (Stiem-Bhatia et al., 2017). As a result, women pay less attention to experimenting with new SLM technologies.

Trainings, technologies and capacity building do not sufficiently take women into account. Women do not experience long-term benefits of trainings and technical support programs on technological innovations, financing and organizational development. Often, it is found that that the approaches in training conditions do not take into account women?s work schedule, their roles and social status. Women often benefit from programs and women's components that revolve around the domestic economy and are practically excluded from the real stakes of agricultural development. For the most part, women are involved in the various links of the value chains with artisanal know-how, which would benefit projects.

This situation is often linked to **persistent inequalities in women?s access to education, information, technical training and managerial skills.** Awareness and knowledge of soil protection and rehabilitation techniques and technologies are important for the adoption and development of SLM. Some studies in West Africa have shown that agricultural extension agents have fewer interactions with female farmers compared to male farmers. This is partly due to gender norms limiting women's interaction with male extension agents and partly because extension agents focus on cash crops that most often concern men.

It is also noted that female farmers may be more comfortable with female extension agents. Since there are likely to be fewer female agents than male agents, women's access to extension services is limited. **Gender norms also limit opportunities for women to participate in trainings** that often take place outside their localities. Indeed, women participate less in training on soil management because of perceptions, standards, their roles and obligations as mothers, care-takers and varying states of pregnancy.

Men also sometimes justify the exclusion of women from such training by citing the traditional perception that they have limited physical abilities and skills when it comes to learning.

Transfer of knowledge about SLM technologies and practices is often very technical

Training modules often include instructions on when to plant, spacing of seed lines, angles of plowing perpendicular to the slope, etc. Although these specificities are important for the adequate application of technologies and the improvement of productions, the socio-cultural factors that hinder the adoption of SLM technologies are rarely integrated into SLM trainings (Stiem-Bhatia et al. 2017).

Women face more challenges and difficulties than men in accessing agricultural equipment, credit and inputs, which translates into low levels of adoption of SLM technologies among women. Intra-household dynamics need to be better understood in order to reduce gender imbalances. A large body of research shows that women running small farms have more limited access than men to farm equipment and other inputs, resulting in lower levels of adoption of SLM technologies over the long term. term (Omonona et al., 2006; Mignouna et al., 2011; Lavison, 2013; Obisesan, 2014; Mishra et al., 2015; Muriithi, 2018).

Decision-making and the distribution of rights within the household have repercussions on the occupation of land, the use of labor and access to agricultural equipment; factors influencing women's ability to apply and scale up SLM technologies (Theis et al., 2018). Research results indicate that men are the decision-making poles within households. Women must ask their husband's permission to plant trees and, in some cases, consult them on the choice of crops. Therefore, women's low decision-making power impacts their choices of SLM technologies (Stiem-Bhatia et al., 2017).

Women's restricted access to agricultural equipment hinders the application of soil fertility enhancement technologies. Despite the difficulties associated with the application of soil fertility management measures, manure and compost represent an important alternative to mineral fertilizers for women. Extension agents often prioritize men (as heads of family farms and cash crop producers) over access to mineral fertilizers as well as credit (Stiem-Bhatia et al., 2017).

SLM projects often overlook gender imbalances within households. Most projects focus on levels of technology application, but few take into account women?s abilities and motivations to pursue technology application (Theis et al., 2018). Similarly, it is observed that restricted access to agricultural inputs and equipment is peripherally addressed in SLM technology training (Assogba et al., 2017; Koudougou & Stiem, 2017b). The neglect of these intra-household factors may also explain low levels of adoption after project withdrawal (Assogba et al., 2017; Koudougou & Stiem, 2017)

The disadvantaged position of women farmers compared to men, as well as the particular difficulties experienced by widows, are essential elements to take into account in approaches to gender-sensitive SLM. The differences observed between widowed and married women can be significant. In some regions studied, widows generally experience less land insecurity than single or married women (Koudougou et al., 2017) but are comparatively more affected by limited access to seeds, labor and equipment farmers as part of the sustainable management of their land.

The establishment of a mechanism, the design of gender-sensitive strategies and the collection of detailed data is essential in order to be able to monitor progress made in terms of gender-related indicators. Monitoring activities should go beyond assessing levels of women's participation and other measures to track progress towards gender equality and empowerment. Generally, few resources (financial, time, human) are invested in the collection of meaningful gender-disaggregated data and on research and unintended consequences on women. This results in a misunderstanding of long-term impacts on gender themes (Quisumbing & Pandolfelli, 2010).

A large knowledge gap on intra-household data exists. Studies documenting the gender gap in SLM have mostly focused on comparing male-headed and female-headed households (Theis et al 2018). Yet, understanding intra-household dynamics is particularly important to designing policies and programs that are appropriate for all women. Considering that only 26.2% of the total sub-Saharan households are headed by a woman, 18.1% in Senegal in 2012, (FAO, 2011, World Bank 2018), it is important to better understand the allocation and control of resources within the household (Meinzen-Dick et al. 2017).

Current Monitoring and Evaluation systems often lack qualitative data. It is often found that when monitoring and evaluation is carried out in agricultural or SLM projects, most reviews focus on quantitative indicators relating to women's participation and levels of application of SLM technologies. (Assogba et al., 2017; Koudougou & Stiem, 2017). Data on women's participation levels, tell little about the quality of participation. It is also observed that women are sometimes considered ?sensitized with trainings on SLM technologies?, but in reality they cannot apply the knowledge acquired due to land insecurity and their limited access to labor. work. and credit (Stiem-Bhatia et al., 2017).

Dekkil Suuf and Inclusion of Gender

The persistent gender gap in agriculture and sustainable activities can be challenged through thoughtful projects aimed at promoting realistic opportunities for women farmers, and supported by institutional and cultural elements. Women can only benefit fully from SLM interventions if they are truly empowered, that is, if they have the opportunity to significantly improve their social and economic situation and their livelihoods. Gender equality is often only associated with women, although it is an issue that concerns both women and men. The participation and engagement of men is key to promoting gender equality in SLM because men have traditionally controlled land and other resources. Indeed, changes and reconfigurations that strengthen women's interests and voice are unlikely to succeed unless men see themselves as partners and beneficiaries of this process (Farnworth et al, 2018). Therefore, men must be key players in the process of securing access to land for women in the Dekkil Suuf Project areas.

Access to Resources

In Senegal, women have a good knowledge of microcredit systems with the installation of Decentralized Financing Institutions (IFD) throughout the country. There are also many endogenous initiatives by women such as the ?Tontines? and the Savings and Credit Mutuals (MEC) managed within the framework of their organizations. Women represent on average 43% of the members/customers of Decentralized Financial Services (DFS) and mobilize nearly 27% of the deposits of DFS. In addition, they represent 53% of active borrowers and concentrate only 28.5% of the loan portfolio.

Access to subsidies and credits for the agricultural sector is a major problem for women and even for men because of the commercial logic of the financing structures present (banks, micro-finance institutions). They do not take into account the cycle of agricultural activities and the situation of women. The conditions put forward (contributions, guarantees, amounts, duration, interest rates) are not always compatible with the needs (subsidies, long loans, equipment, working capital) and possibilities (guarantees) of women in agricultural activities integrating SLM. Women need subsidies for agricultural equipment and long loans for working capital (acquisition of other inputs) to access labor and develop production activities, processing and marketing in all sectors.

However, it is essential to consider that **an adapted credit system** likely to significantly improve the means of subsistence of women must integrate the strengthening of their technical and management capacities, which generally remain very weak. This project will support such an adapted credit system to support access to resources for sustainable development.

Women?s Collaborative Spaces and Circles Concerning Natural Resources

The Gender and NRM Quality Circles tested by DEFCCS in Senegal (PROGERT) has shown great promise for replication, and has provided spaces for women to organize and foster cooperation with other institutional structures. It is a partnership framework for consultation and action at the regional level for the consideration of gender in strategies for sustainable management of natural resources. The circles bring together resource persons, technical Services of the state, NGOs, CBOs, local elected officials, Federative Associations of women and young people, programs, and research institutes that share the same development objectives for a common territory.

The members federate their actions and resources to ensure the following missions:

? analysis, monitoring and evaluation of situations in terms of participation of different social categories and actors in NRM

? Support-Advice in terms of actions to be undertaken for the promotion of Gender and NRM;

? Intermediation to meet the practical needs and strategic interests of women and youth in the field of NRM and thus reduce disparities;

? Advocacy for the promotion of Gender and NRM with local and national decision-makers (local authorities, administrative and technical services, etc.); access to land, authorizations (permits) for the rational and legal exploitation of natural resources and the environment;

? Technical, organizational and financial support for the implementation of pilot activities for the restoration of salty or degraded land, exploitation of non-timber forest products, reforestation, management and protection of forests, dissemination of cooking energy saving technologies , etc. ;

? Monitoring and evaluation of interventions;

? Dissemination of results, both nationally and internationally (replication, publications in specialized journals, presentation of successful cases during Seminars, Colloquia, Conferences)

These approaches are considered within the design of Dekkil Suuf to ensure better engagement of women, and ensuring the collaboration of various stakeholders to achieve greater levels of success.

Social Innovations to Improve Women's Access to Land

? **Intra-household land tenure** (developed in Burkina Faso). Between 2017 and 2018, TMG Research and GRAF (a network of Burkinabe experts specializing in land governance) developed, together with communities and local actors, an innovative instrument to secure land use rights for women, from the village of Tiarako, located in the district of Satiri in the southwest of Burkina Faso. Intra-household land tenure arrangements were negotiated between the head of the household and his wife or other female relatives. The objective of these negotiations was to change existing land arrangements with a view to enhancing equality and security for women. Today, the land use rights of 228 women in the pilot village of Tiarako have been clarified and stabilized for 189 plots (2.2 ha on average) equivalent to a total area of 400 ha.

? **Guidelines for Community-Led Land Tenancies** (developed in Western Kenya). TMG Research and Shibuye Community Health Workers (SCHW) - a community-based organization - have developed an innovative method to increase access to agricultural land, especially for women. Working with a local community in western Kenya, TMG Research and SCHW developed land lease guidelines aimed at improving landlord-tenant relationships and reducing land tenancy disputes. What is new about these land lease guidelines is that they have been produced by the community through a process based on

inclusion (disadvantaged groups, especially women and young people, having actively contributed) and consensus (agreements on the terms of the guidelines).

? Men played a crucial role in the land tenure project in Burkina Faso which was piloted by TMG Research with support from GRAF. Chiefs and opinion leaders were very much in favor of a permanent transfer of land use rights to women. Their endorsement of this process has convinced some land rights holders reluctant to cede land use rights to women. Awareness of the economic benefits of secure access to land for women has opened men up to new ideas of land management and control. Another important factor in persuading men towards this initiative was to involve them in decision-making. As heads of family farms, men were the first to suggest the terms of land agreements. It was important to grant this first level of control to men and to respect traditional arrangements linked to the bonds of marriage in order for men to accept the idea of improving the situation of women in terms of land rights. Indeed, a large number of men have accepted women's requests to increase the area of land concerned to then allow women to produce not only to ensure their subsistence, but also to market their products.

The project will build on VGGT guidelines and baseline activities underway, and support inclusion of SLM within land tenure agreements. It will provide collaborative spaces inviting local community members, customary authorities, stakeholders and national institutions. Given the appetite in the country to improve both SLM and clarify land tenure arrangements, the project will capitalize on this interest by showcasing how improved land access and sustainability actions driven by women can benefit entire communities. The main interventions of this project to benefit women, includes the following:

? Recognizing that land insecurity is a major obstacle to reducing land degradation for small producers, especially women and young farmers who are the most affected. Interventions will take this insecurity into account and support incentives for communities to improve tenure arrangements.

? Recognizing that gender-based discriminatory norms, attitudes and behaviors tlimit women?s access to information, training and technologies. Capacity building and trainings will be conducted in times and areas suitable for women. Follow up activities will be conducted to ensure that information was disseminated and taken up. Follow-up accompaniment will be provided to answer further questions, clarify doubts and provide supportive environments. Institutional arrangements will be clarified so other agents can also be mobilized to support women.

? Women face more challenges and difficulties than men in accessing technologies, credit and inputs, which translates into low levels of adoption of SLM technologies among women. Intra-household dynamics must be better understood in order to implement relevant methods to reduce gender imbalances. Intra-household dynamics will be considered in any interventions promoting livelihoods, sustainable development for women. The project will be careful not to put women in situations that increase familial or community conflict, by engaging men and customary representatives. Access to technologies, inputs and resources will be facilitated by the project.

? It is necessary to put in place funding models integrating SLM, accessible and sustainable for women and young people and integrating their endogenous experiences. The project will support financing mechanisms and community credit schemes that are favorable to women and support their unique needs. Partnerships with the private sector will be sought, as well as with the FNDASP to focus on women.

? Adaptive M&E is essential for effective gender-responsive projects. The monitoring systems will go beyond counting women, and focus on the knowledge gleaned, the capacity obtained, and the mechanisms created that facilitate ongoing support for women. Quality of participation will be key, and measurement will be based on site visits, consultations, demonstrations, exchanges among communities. Follow up visits will be continued in communities where interventions have taken place, so as to respond to follow up concerns, provide additional support and take note of any unintended consequences. Wherever possible, female participants will conduct demonstrations and conduct training sessions.

? Knowledge sharing and creation will be fostered by the project. Multistakeholder platforms, collaborative spaces such as Dimitra Clubs will be established with the very purpose of supporting knowledge exchange.

? The project will focus on women-friendly livelihoods. Instead of focusing on livestock, the project is focusing on production that matters to women, and where they can see socioeconomic benefits.

? The project will recognize the key role women play in food security, environmental sustenance, dissemination of information, and will support them in this role and as vehicles of information dissemination.

? The project will take into account women-specific risks and challenges: labour constraints, family constraints, transportation constraints, resource constraints, health constraints, and educational constraints.

Overall, it is necessary to understand the links between women's adoption of SLM technologies and their bargaining power, control and decision-making power in order to be able to effectively monitor progress towards their empowerment (Theis et al., 2018).

For the Gender Action Plan, please refer to Annex 11.

For a more detailed gender analysis report (French), please refer to Annex 15.

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.

The private sector will play various roles within this project (as touched upon in Section 5.1), and has to be an integral partner for sustainable land management and biodiversity protection to be achieved. The following reflect the various areas in which private sector engagement and participation is anticipated:

Supplier of sustainable inputs and services at national level- private sector partners will have to provide fertilizers, bio/organic pesticides, solar pumping systems, local irrigation, production of seeds and forest seedlings. Much of the sustainable agro-forestry pilots and demonstrations, will require, in some manner, the engagement of the private sector. This sector can also be instrumental in demonstrating new technologies, innovative practices, particularly in the use of solar technology. Any technology demonstrations will of course be vetted through project procedures and will be conducted under the supervision of the Agence Nationale de Conseil Agricole et Rural (ANCAR). This is to maintain the institutional connection, vet the processes and also build capacity within ANCAR as well. Any conclusive tests on the validity of a given practice or input will be validated by the community, by ANCAR and the project team. Some potential private sector partners to approach include:

? Supply of biological inputs: Federation of market gardeners of Niayes (FPMN, Federation of Agro-pastoralists of Diender (FAPD), Elephant Vert, Biotech Services Senegal, Company Gueye FAye of Keur Moussa, etc.

? Solar system and irrigation: IDEAL 860, BE2AO, NRJSOLAIRE, SOS ENERGIE SOLAIRE, Soleil Eau Vie (SEV) SARL, BONERGIE DAKAR, ENERGIE SOLAR, KAYOR ENERGIE RURAL

? Production of seeds and seedlings: Operators of the Action Against Desertification Project (ACD) of the FAO, National Program of Forest Seeds (PRONASEF).

Rural micro-enterprises at local scale: at the local level, the project will identify from the onset of (year 1), the rural micro-enterprises which are within the communes of intervention of the project or in surrounding areas, which can supply communities with supports they seek. This will support micro-enterprises wishing to engage in various levels of green value chain development, and to foster broader livelihood development within landscapes. In particular, there is often a need for local transport delivery (stone bunds, gabions, plants, crops, processed products), or experienced craftsmenship needed for assembly, maintenance of pumping and irrigation systems. There is also support required for collection, processing, packaging, distribution, and marketing associated with value chains, which ideally could be supported by rural micro-enterprises. The use these will support the reduction of greenhouse gas emissions by reducing travel, but also revitalize close collaborations between communities and rural sector partners. Some some rural micro-enterprises may also have the advantage of understanding the specificity of local needs, unlike some national companies. The project will assist to revitalize local economies for greater sustainability and convergence of economic, financial and environmental benefits towards the project areas.

Multi-sectoral partnerships- In strengthening the enabling environment, the project will include the participation of private sector partners in various fora, particularly in municipal action plan development. Land degradation is an area that impacts private sector partners greatly, and in some case some of their practices could either lead to further degradation or mitigation. In order to ensure that land use plans, SLM/LDN planning is not undermined in the future, private sector actors will be engaged throughout planning processes to support buy-in and bested commitment from all parties.

Microlending, access to credit and insurance- At the PPG state the FNDASP initiative has been identified as the main window to finance biodiversity-friendly SLM/LDN practices that support rural women?s livelihoods. During implementation, more financing mechanisms will be sought, and partners will be identified that will provide low lending rates, favorable insurance schemes for agriculture through the project.

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):

The risk management plan will allow stakeholders to manage risks by specifying and monitoring mitigation actions throughout implementation. Part A of this section focuses on external risks to the project and Part B on the identified environmental and social risks from the project.

Risks to the Project

Section A: Risks to the project

Table 15. below summarizes the identified risks as well as their impact levels, likelihood of occurrence, corresponding mitigation measures, and the responsible individuals. These risks will need to be monitored, addressed, and mitigated by the Project Management Unit (PMU) on an ongoing basis, and critically, they need to be updated as new risks to and from the project unfold during project implementation. An environmental and social risk and climate risk identification was undertaken during PPG.

Table 15. Risks to the Project

Description of Risk	Impact	Probability of Occurrence	Mitigation Actions	Responsible Party

Institutional- Delays in project implementation, procurement, staff recruitment for project	Medium	Medium	Institutional delays may occur if rules and procedures are not well understood by project staff, or calls to proposals are not issued in a timely manner. To a large extent, the PPG has conducted much of the initial work with baseline studies, and informing and collaborating with project partners, so that they anticipate the project?s launch. Because the project will require procurement for crops, seedlings, etc?and to avoid procurement delays, the FAO will initiate procurement processes at project. Restoration and rehabilitation measures take time, and to optimize on project duration, procurement will be initiated at the earliest stage. FAO will provide early training to project staff on procurement processes. Project staff terms of reference are prepared during the PPG to avoid any delays.	FAO Country Office

Climate Change- extreme weather events (e.g. drought) can risk project results, erosion of natural resources, loss of seedlings/crops invested by the project	Medium-	Medium	Part of the very rationale of the project is to enhance communities? resilience in the face of degradation and environmental challenges. For that reason, the project will be investing in resilient, native species of crops and plans, in agroforestry and in climate smart villages. The project will also be targeting zones that are subject to desertification to combat the effects of a decrease of water and salinization. The rationale is that for land-based ecosystem, resilient systems recover more quickly and are able to afford ecosystem services. A diverse system is a more resilient one, e.g. on far where mixed cropping and agroforestry is more likely to bounce back than monoculture.[1] This project will promote this diversity and support improved irrigation practices, and natural hedeges to protect from strong winds and sediments. The risks, if and when encountered, will be managed by providing additional capacity building support to affected communities. The landscape approach is also intended to foster partnerships and collaborations so that municipalities may support one another, accrue resources if challenges are faced in one site.	Project Management Unit

Health-COVID-19; With a rural population with low access to medical care, there are risks that project partners could be impacted. COVID-19 may delay project implementation, limit areas in which the project can be implemented, limit face-to-face consultations among stakeholders, further marginalize the disenfranchised that have limited access to resources and technology	High-	Medium	Senegal has managed its pandemic effectively from the data available. If pandemic protocols are put into place, or new potentially more dangerous variants emerge, risk mitigation procedures will be developed to address possible operational delays, to follow the latest guidance and advisories. Increased communication will be considered when consulting with local beneficiaries regarding possible impacts, and site specific protocols will be followed. Changes in the scope or timing of planned activities may be necessary through workplan adjustments. In some cases, collaboration with smaller organizations may happen through proxy institutions that are in proximity and have access technology/communication tools that can be shared. Whatsapp and mobile phones, which many have access to, will be used for communication and exchange of information. The landscape approach will be used to further create bubbles of activity so that if Dakar is impacted, the regions can continue their activities as anticipated. To overcome concerns in mobilizing international technical expertise to support project design and implementation, the project will work with the excellent technical expertise available nationally, and prioritise work with locally rooted (CSOs, NGOs, government institutes, extension services, ?) organizations and realities in order to minimize the impacts of limitations on mobility at the national and international level.	Project Management Unit

Negative economic conditions- Economic instability affects value chains	High	Medium	In Senegal, the COVID-19 pandemic has caused significant health and economic damage. More specifically, the country?s promising industries have adversely been impacted, with a dramatic reduction in turnover, investment, and jobs. In addition, the pandemic has significantly reduced fiscal space by both shrinking the government tax base and reducing sovereign debt solvency. While the project cannot control national level economic outcomes, it will invest in strengthening local value chains, livelihoods with the aim to strengthen peoples? sources of incomes and access to food security. Landscape -level collaborations will be invested in to achieve results on scale. Resilient landscapes also involves economic resilience. Part of this is also increasing people?s self-sufficiency and decreasing dependency on importing food items which may be subject to supply chain delays and high costs.	Project Management Unit

Social Risks-Gender: Backlash to women benefiting from the project	High	Low	The PPG phase has involved careful consideration to ensure that the project remain women-focused, and does not generate negative social impacts for women who participate. Mitigating approaches will first take into account that women?s own burdens whether monetary, time, or labour do not increase which would negatively affect their responsibilities, roles and welfare. The project will also unfold in communities where there is agreement and shared understanding from customary leaders, to promote the advancement of women. The benefits of advancing women has been initiated by several governmental initiatives (please see Section 5.2 on gender analysis), and the project will build on these public awareness initiatives. Written agreements will be made regarding tenure, to ensure protections for women engaging. The project will have to remain vigilant that the project does not increase intra-community competition if some women are benefitting from project interventions and others aren?t. This will require ongoing monitoring, as well ensuring that all women in a community are recipients of aspects of the project, whether it is through upscaling activities, capacity building and/or trainings. Tensions can also be mitigated by establishing conversational Dimitra Clubs through women can engage, collaborate and discuss their visions of positive change. Creating sustainable funding mechanisms, access to tenure and ensuring participation in landscsape level planning will also	Project Management Unit

Social- Limited capacity and reluctance of local communities to participate	Medium	Low	In order to engage beneficiaries and stakeholders, the project must remain relevant to the needs of the most vulnerable in the project site. In that sense, livelihoods, the restoration of degraded lands, improved tenure agreements must be addressed with communication strategies that demonstrate to beneficiaries the value added of their participation. Ongoing monitoring, engaging sessions, targeting value chains which bear greater revenue and interest to beneficiaries must be carried out by the project team. Part of the mitigation is demonstrating relevance, listening to people?s needs and feedback, and adapting dissemination of activities based on the feedback received.	Project Steering Committee
Social- Technologies advanced by the project are not taken on by communities or institutions	Medium	Low	Introducing technologies whether at the community-level or institutional level must be married with appropriate training and use opportunities so that people are well-equipped and self-sufficient in the usage. In the institutional case, there is always the risk for instance, that a database or software is not sufficiently maintained or mainstreamed within institutions. The project will have to carve out roles and responsibilities for management beyond project duration, and identify focal points across ministries to feed and extricate data.	

Risks from the project

Section B. Environmental and Social Risk from the project

As per the FAO Project Environmental and Social Screening[1], the proposed project falls into the MODERATE Category of FAO?s Environmental and Social Risk Classification system. **Table 5** provide a summary results from the Project Environmental and Social (E&S) Screening Checklist. For those environmental and social safeguards for which potential risks may arise, a mitigation plan including detailed descriptions of mitigation measures has been developed. A summary of these mitigation measures is presented in **Table 6**[2] below.

Table 16. Summary results from the Project Environmental and Social (E&S) Screening Checklist

	Trigger Question	**YES**	**NO**
1	Would this project: ? result in the degradation (biological or physical) of soils or undermine sustainable land management practices; or ? include the development of a large irrigation scheme, dam construction, use of waste water or affect the quality of water; or ? reduce the adaptive capacity to climate change or increase GHG emissions significantly; or ? result in any changes to existing tenure rights[1] (formal and informal[2]) of individuals, communities or others to land, fishery and forest resources?		No
2	Would this project be executed in or around protected areas or natural habitats, decrease the biodiversity or alter the ecosystem functionality, use alien species, or use genetic resources?	Yes	
3	Would this project: ? Introduce crops and varieties previously not grown, and/or;		No
	? Provide seeds/planting material for cultivation, and/or;	Yes	
	? Involve the importing or transfer of seeds and or planting material for cultivation or research and development;		No
	? Supply or use modern biotechnologies or their products in crop production, and/or		No

	? Establish or manage planted forests?		No
4	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system, or modify in any way the surrounding habitat or production system used by existing genetic resources?	Yes	
5	Would this project: ? result in the direct or indirect procurement, supply or use of pesticides[3]: ? on crops, livestock, aquaculture, forestry, household; or ? as seed/crop treatment in field or storage; or ? through input supply programmes including voucher schemes; or ? for small demonstration and research purposes; or ? for strategic stocks (locust) and emergencies; or ? causing adverse effects to health and/or environment; or ? result in an increased use of pesticides in the project area as a result of production intensification; or ? result in the management or disposal of pesticide waste and pesticide contaminated materials; or ? result in violations of the Code of Conduct?		No
6	Would this project permanently or temporarily remove people from their homes or means of production/livelihood or restrict their access to their means of livelihood?		No
7	Would this project affect the current or future employment situation of the rural poor, and in particular the labour productivity, employability, labour conditions and rights at work of self-employed rural producers and other rural workers?	Yes	
8	Could this project risk overlooking existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making? For example, by not addressing existing discrimination against women and girls, or by not taking into account the different needs of men and women.		No

9	Would this project: ???have indigenous peoples* living outside the project area? where activities will take place; or ???have indigenous peoples living in the project area where activities will take place; or ???adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical? and non-physical or intangible?) inside and/or outside the project area; or ???be located in an area where cultural resources exist? * FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist). ?The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of physical distance. In example: If an indigenous community is living 100 km away from a project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question. ?Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater. ?Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"		No

Please refer to Annex 9.2 for Second Level Risk Screening and comments

Table 17. Environmental and Social Risk Management measures

Social & Environmental Risks and Impacts	Mitigation measures	Implementation Responsibility	Timeline
ESS 2: Biodiversity, Ecosystems and Natural Habitats			

Protected Areas, buffer zones or natural habitats **Level:** MODERATE **Description:** The project will undertake various land restoration activities on production land in the buffer zone of the Delta du Saloum Biosphere Reserve (RBDS) which is located in west-central Senegal in the Sine Saloum natural region. It will also strengthen coordination of ?The Saloum mangrove platform? which is a framework for consultation and harmonization of interventions put in place for reconciliation between the preservation of natural resources and their sustainable use, in accordance with the principles of the RBDS. Some communes targeted by the project form buffer zones around the Saloum Delta and Niokolo-Koba.	Once the exact intervention sites within each landscape are known, the Dekkil Suff project will identify and assess potential project-related adverse impacts and apply the mitigation hierarchy so as to prevent or mitigate adverse impacts that could compromise the integrity, conservation objectives or biodiversity significance of the areas. It will undertake activities, appropriate conservation and mitigation measures, near buffer zones of protected areas or in legally designated protected areas, forests, biodiversity areas or buffer zones. The project will ensure that any activities undertaken are consistent with the area?s legal protection status and management objectives, Forest restoration projects need to maintain or enhance biodiversity and ecosystem functionality. ? The intervention strategy of the Dekkil Suff project for the mitigation of environmental and social risks will focus on the restoration of production lands, the preservation of the environment, the improvement of good governance of natural resources, the management of conflicts , the restoration of means of subsistence around protected areas, reforestation, the development of soil conservation and restoration work, the strengthening of the technical, organizational and management capacities of local authorities and their communities... ? Indirectly, the project will limit aggression and encroachment and other current risks and negative impacts on the Saloum Delta Reserve Niokolo Koba National Park by restoring the livelihoods of communities, building the capacity of stakeholders to positively impact the management of these protected areas. ? The sustainability of the safeguard measures planned in the project is guaranteed by	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Local authorities Administrative authorities Non-governmental organizations Producer organizations Service providers and consultants Agricultural producers, breeders, agroforesters and loggers Ministry of Agriculture and	Throughout the development phase of the project life cycle, namely: During the preparation of the Prodoc, identification of the impacts, analysis of biodiversity, gender, constraints related to the management of natural resources and the preservation of the environment, study on the promising value chains, were made and appropriate measures are identified and integrated into the project implementation plan with associated costs; In the first 2 months of project execution, once the exact sites will be selected, Executing Agencies will be responsible for finalizing the site specific Environmental and Social Impact Assessment before any investment is made into the landscape.

ESS 3: Plant Genetic Resources for Food and Agriculture

Provision of seeds and planting materials **Level:** MODERATE **Description:** The project will undertake various SLM land restoration activities in the targeted landscape on production land in the buffer zone of the Delta du Saloum Biosphere Reserve (RBDS) which is located in west-central Senegal in the Sine Saloum natural region. The proposed project marks a shift from previous SLM initiatives by implementing an intensification / integration strategy based on the pillars of the Climate Smart Village (CSV) (i) the use of climate predictions and information; (ii) the choice of resilient varieties and good climate change adaptation practices; (iii) the practice of agroforestry with fruit trees with a short production cycle, planting of priority agroforest and	At the exact intervention sites within each targeted landscape, the Dekkil Suuf project will ensure full compliance with The objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture that are the conservation and sustainable use of all plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. Hence during implementation, ? Emphasis will be placed on the use of locally adapted varieties, on the restoration of the natural forest through the natural regeneration and the planting of local varieties of trees. ? Promotes development and maintenance of diverse farming systems. ? Avoid undermining local seed & planting material production and supply systems through the use of seed voucher schemes, for instance ? Ensure that the seeds and planting materials are from locally adapted crops and varieties that are accepted by farmers and consumers ? Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC ? Internal clearance from AGPMG is required for all procurement of seeds and planting materials. ? In the event of required treatment of seed and planting seeds and planting materials, ensure use of proven biopesticides ? Ensure, according to applicable national laws and/or regulations, that	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Platform for mangrove management Local authorities Non-governmental organizations Producer organizations Service providers and consultants Agricultural producers, breeders, agroforesters and loggers Ministry of Agriculture and Rural Equipment (MAER),	Throughout the development phase of the project cycle, namely: During the preparation of the Prodoc, identification of practice that support the conservation and sustainable use of plant genetic resources for food and agriculture ; In the first 2 months of project execution, once the exact sites will be selected, Executing Agencies will be responsible for finalizing the site specific Environmental and Social Impact Assessment before any investment is made into the landscape. Monitored during all the implementation of the project, weekly, quarterly, half-yearly or annual monitoring, supervision and monitoring reports will be produced to report on the level and

ESS 4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture

Modification of habitats **Level:** MODERATE **Description:** Senegal is home to a number of terrestrial, fluvial and marine Key Biodiversity Areas, i.e. nationally identified sites (e.g. classified forests) that contribute significantly to the global protection of biodiversity. A large part of these KBAs are protected areas, managed as national parks, wildlife reserves, Biosphere Reserves or other. The project is located in or near some of those internationally recognized conservation area or nationally important habitat, e.g. national park or high nature value farmland. Some of the landscapes targeted by the project form	The mitigation hierarchy which is a widely used tool that guides users towards limiting as far as possible the negative impacts on biodiversity from development projects will be adapted and applied. It emphasises best-practice of avoiding and minimising any negative impacts, and then restoring sites. Following the hierarchy is crucial for all development projects aiming to achieve no overall negative impact on biodiversity or on balance, a net gain ? also referred to as no net loss and the net positive approach, respectively. It is based on a series of essential, sequential ? but iterative ? steps taken throughout the project?s life cycle in order to limit any negative impacts on biodiversity ? The specific intervention areas will be carefully searched by the Biodiversity Specialists prior to the commencement of any work; any individuals found will be carefully transported outside risk areas in habitats matching their ecological requirements; ? Identification and mapping of areas occupied by animal prior to the commencement of the work along with planning of works to ensure complete severance of areas utilized by these species does not occur. ? The RBDS being used by migrating bird, the project will ensure that checks are made for nests ahead of any intervention. ? Creating conditions suitable for the species during ecological restoration works by planting (propagating) the host plant species	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Ministry of Agriculture and Rural Equipment (MAER) Ministry of the Environment and Classified Establishments (MEDD) Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Platform for mangrove management Local authorities Non-governmental organizations Producer organizations Service providers and consultants	Throughout the project life cycle, namely: Monitored during all the implementation

ESS 7: Decent Work

Level: MODERATE **Description:** The project on agricultural value chain development. In the context of the interventions, those value chain are are dominated by subsistence producers and other vulnerable informal agricultural workers Further, those value chain development are in rural setting where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas Further, there is gender gender inequality in the rural areas where the project activities will take place. Lastly there will be some sub-contracting through OPIM in this project	The Dekkil Suf project will project will comply with FAO Environmental and Social Management Guidelines (Standard 7) and FAO?s Compliance Reviews (2015) describing the process and procedures related to alleged non-compliance with FAO?s environmental and social policy standards, the FAO framework on ending child labour in agriculture According to the Joint Inspection Unit of the United Nations system, the FAO is the leader of the United Nations organizations in terms of the integration of full employment and decent work Full and productive employment and decent work for all are internationally agreed goals reflected in the 2030 Agenda for Sustainable Development - Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for everyone. It is in this context that the United Nations General Assembly has instructed the various organizations of the United Nations system to mainstream decent work into their policies, programs and activities. www.fao.org/rural-employment/resources/ ? During the identification of the beneficiaries of the project, the criteria on child labor will be highlighted: beneficiaries who potentially use child labor for their production won?t be eligible as recipient of project technical and financial support ? The workforce management strategy of the Dekkil Suff project promotes decent work in accordance with the Orientations of Sustainable Development Goal 8 (SDG 8) and ILO Convention N?29 and N?105 (labour force and abolition of forced labour), No. 138 (minimum age), No. 182 (worst forms of child labour	Project Management Unit/ OPIM partner(s); LoA signatory project executing agencies; Co-financing projects and programs Organizations for the defense and protection of the rights of women, children and people with disabilities; Producer organisations/interprofessions Local authorities Ministry of Agriculture and Rural Equipment (MAER) Ministry of the Environment and Classified Establishments (MEDD) Ministry of Women, Children and Social Action Technical directors of ministerial departments Heads of departmental and local regional services Consultants, service providers, companies	Rigorous application of the FAO framework on decent will be monitored during all the implementation Throughout the development phase of the project cycle, namely: During the preparation of the Prodoc, identification of the impacts, analysis of biodiversity, gender, constraints related to the management of natural resources and the preservation of the environment, study on the promising value chains, were made and appropriate measures are identified and integrated into the project implementation plan with associated costs; During project implementation, weekly, quarterly, half-yearly or annual monitoring, supervision and monitoring reports will be produced to report on the

[1] [1] Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests

[2] Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be ?legitimate tenure rights?.

[3] Pesticide means any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth.

[1] The Project Environmental and Social and Risk Management Plan has been included in Annex.

[2] See the Project Risk Certification in Annex.

[3] [3] Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests

[4] Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be ?legitimate tenure rights?.

[5] Pesticide means any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth.

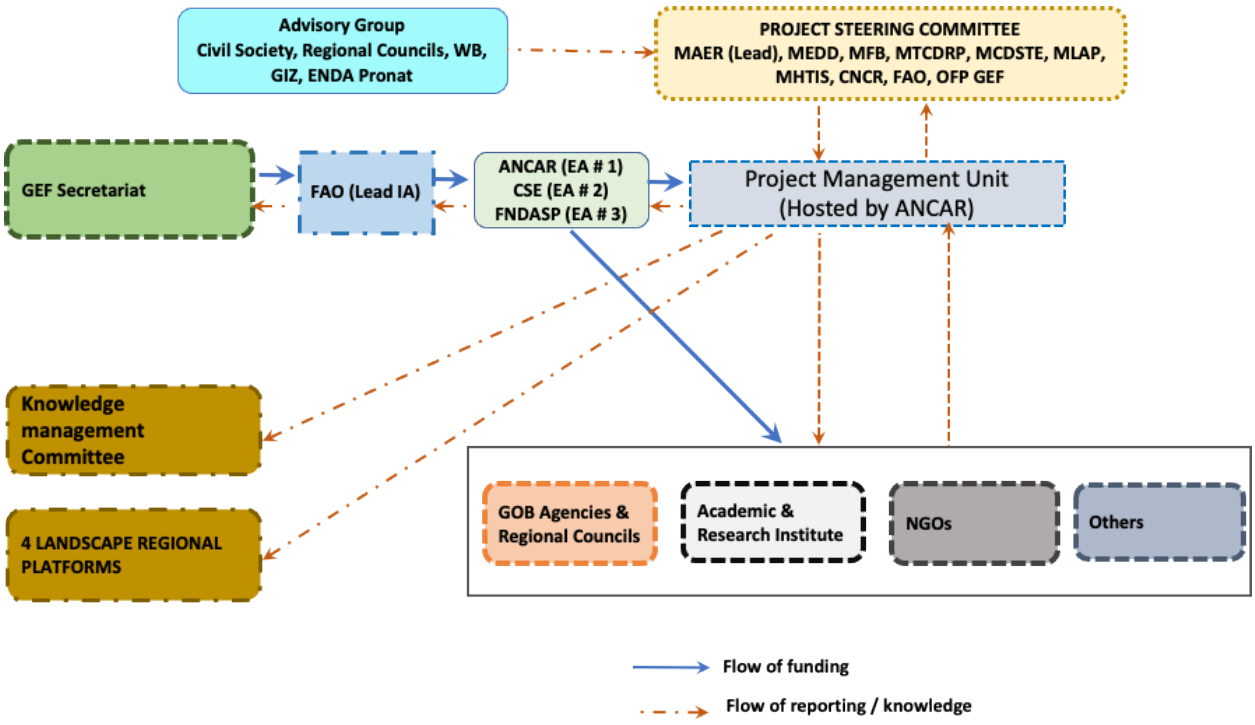
[1] FAO/OECD Building Resilience for Adaptation to Climate Change in the Agriculture Sector. Available online at: https://www.fao.org/3/i3084e/i3084e.pdf

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.

Three entities CSE, FNDASP and ANCAR (currently being evaluated for suitability using OPIM) will have the overall executing and technical responsibility for the project, with FAO providing oversight as GEF Agency as described below. The entities will act as the lead executing agency for specific components and working in synergy 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[1]. As OP of the project CSE, FNDASP and ANCAR are 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 fiduciary requirements.

The project organization structure is as follows:



The government will designate a National Project Director (NPD). Located in Ministry of Agriculture and Rural Equipment (MAER) the NPD 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. He/She will also be responsible for supervising and guiding the shared Management Unit (see below) on the government policies and priorities.

The MAER will chair the Project Steering Committee (PSC) 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 PSC will be comprised of representatives from:

? Ministry of Agriculture and Rural Equipment

? Ministry of Territorial Communities, Development and Regional Planning

? Ministry of Community Development, Social and Territorial Equity

? Ministry of Environment and Sustainable Development

? Ministry of Finance and Budget

? Ministry of Livestock and Animal Production

? Ministry of Handicrafts and Transformation of the Informal Sector

The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned 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.

Landscape Regional Platforms will also be established to ensure that work is proceeding accordingly at the landscape level, and to establish multi-stakeholder governance of the project at the regional level. Participation in these working groups will include:

? Department of water and forest

? Cadastral service

? Regional land service

? Regional Development Agency

? Mayors

? Department of agriculture/ extension services

? ANCAR

? CNCR/Asprodep

? Regional Youth Council

? Women's councils of departmental councils

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 governmental partners 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.

A Project Management Unit (PMU) will be co-funded by the GEF grant and established within ANCAR. 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. In addition, the PMU will include a project assistant, a gender consultant, an M&E consultant, and SLM and Safeguard/Biodiversity specialist.

The National Project Coordinator (NPC) will oversee daily implementation, management, administration and technical supervision of the project, on behalf of the Operational partner and within the framework delineated by the PSC. S/he will be responsible, among others, for:

i) Coordination with relevant initiatives;

ii) Ensuring a high level of collaboration among participating institutions and organizations at the national and local levels;

iii) Ensuring compliance with all Operational Partners Agreement (OPA) provisions during the implementation, including on timely reporting and financial management;

iv) Coordination and close monitoring of the implementation of project activities;

v) Tracking the project?s progress and ensuring timely delivery of inputs and outputs;

vi) 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,;

vii) Approving and managing requests for provision of financial resources using provided format in OPA annexes;

viii) Monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;

ix) Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;

x) 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;

xi) Implementing and managing the project?s monitoring and communications plans;

xii) Organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;

xiii) Submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO;

xiv) Preparing the first draft of the Project Implementation Review (PIR);

xv) 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);

xvi) Submitting the OP six-monthly technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;

xvii) Informing the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

The PSC will also be advised by the **PSC Advisory Group** composed by main private and public stakeholders involved in SLM. This includes CSO, Regional Councils, other donors (WB, GIZ), traditional chieftaincy and academia.

The National Coordinator will also be supported by a **Regional Project Assistant**. Given that many of the project management aspects will be taken on by the Coordinator, the Regional Project Assistant will support the technical aspects of this project to ensure smooth implementation. Primarily, this position will require technical knowledge on biodiversity to ensure that biodiversity is well-integrated into LDN, SLM, livelihoods and value chain development activities. This technician will also focus their time in the landscapes rather than the capital, to ensure momentum, troubleshooting and ongoing support to local communities. The role will require production of biodiversity content, support for biodiversity activities, monitoring of biodiversity results and engagement of communities on biodiversity priorities. The

administrative and management aspects of this role will involve overseeing the implementation of biodiversity-related activities and observations, organization of community meetings/consultations, and dissemination of biodiversity knowledge products. Terms of reference are provided in Annex 18.

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 utilize the GEF fees to deploy three different actors within the organization to support the project (see Annex J for details):

? The Budget Holder, which is usually the most decentralized FAO office, will provide oversight of day to day project execution;

? The Lead Technical Officer(s), drawn from across FAO will provide oversight/support to the projects technical work in coordination with government representatives participating in the Project Steering Committee;

? The 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.

FAO responsibilities, as GEF agency, will 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; and

? Reporting 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;

? Financial reporting to the GEF Trustee.

Coordination with other relevant GEF-financed projects and other initiatives

The project will build on existing and past GEF investments and other projects that have strengthened the baseline and provided crucial lessons learned to be examined. In particular, the project has reviewed the successes and challenges of other initiatives, and has integrated lessons learned and best practices into the design. This is especially the case on how to best achieve results for women, the value chains selected, site selection, and partnerships required to complete the project.

For instance, the LDCF project **Promoting Innovative Finance and Community-Based Adaptation in Communes Surrounding Community Natural Reserves (Ferlo, Niokolo Koba, Senegal river Bas Delta & Saloum Delta)**, though completed a couple years ago, provides useful lessons on revolving funds for community development, and public/private partnerships that can be leveraged for this project. FAO will be the GEF agency for this project and will provide the technical and financial oversight and support. FAO will secure mutual learning and ensure the proposed project builds upon existing projects and programmes, including the GEF-financed portfolio of relevant work in the country. This includes the more recent LDCF project **Mainstreaming Ecosystem-Based Approaches to Climate-Resilient Rural Livelihoods in Vulnerable Rural Areas Through the Farmer Field School Methodology**, which is part of a cluster of climate change adaptation projects in the region, and has built a wealth of expertise particularly on impact monitoring of farmer field school project interventions. In order to fully benefit from this expertise, the project monitoring tools, approaches and lessons, and consultants have been engaged in the design.

Similarly, the GEF-Funded **Strengthening Land and Ecosystem Management under Conditions of Climate Change in the Niayes and Casamance Regions** also highlighted the importance of clearly outlining the M&E protocols on the outset and ensuring consistent understanding and reporting against common indicators. The Terminal Evaluation of this project revealed that the proposed project should put in place an operational manual for Monitoring and Evaluation that will detail the harmonized procedures and tools to capitalize on the project outcomes for monitoring and evaluation during the implementation. The evaluation also noted the need for an exit or continuation plan six months before project completion. The lessons learned from this initiative also considered challenges with uptake and use of technologies. One of the lessons learned is to develop a technology introduction procedure early on in the process. Introduced technologies could be abandoned without a substantial participation of the beneficiaries. Success factors behind previously strengthened value chains and introduced technologies for avoiding, reducing, and reversing LD will include a learning-by-doing approach, and on site pilots and demonstrations. These will include lessons from the GEF-funded project **Integrated Ecosystem Management in Four Integrated Landscapes**, on bee-keeping, mangroves and oyster strings, introduction of fruit trees in compounds and community orchards, amongst others.

The GEF partnership with FAO and UNEP has also allowed the **Land Degradation Assessment in Drylands** to take place in Senegal, which has yielded key lessons learned to be considered in this project. In particular, natural buffers, hedges, have been met with success in the Northern parts of the country to address wind erosion. The Assessment results have also noted the benefits and some challenges with mangrove restoration, which have been useful to analyze during the PPG. It was noted that the primary challenges with mangroves have been the difficulty to prevent future damage and finding propagules. This has useful to note for procurement as well as in the sustainability strategy of this project.

The Terminal Evaluation of the GEF-funded **Groundnut Basin Soil Management and Regeneration Project**, has been instrumental in identifying certain practices that should be upscale. For instance, the evaluation notes:

?Project interventions have enabled the restoration of 5981.5 ha of degraded land in forest areas,

rangelands, agricultural fields and salt flats. Given the extent of the process of land degradation in the Groundnut Basin (over one million hectares) in the Groundnut Basin (46,367 km2 or 4,636,700 ha), the scope of the project is very modest since it affects only 0.13% of the total area of the Groundnut Basin and less than 0.6% of degraded lands. The potential for replication of achievements is all the more important. The driving force behind replication within the project sites has been the demonstration of the feasibility and of the tangible benefits provided by the solutions proposed by the project in terms of agricultural and forage production, restoration of degraded lands and of the environment, and for generating income through IGAs. Most solutions adopted and tested have a high demonstrative value and are applicable at a large scale.

However, the project has not sufficiently documented the various methodologies and approaches developed, tested and validated. Together with a cost-benefit analysis, each of these experiences could have been presented succinctly, including the context, approach, main steps and technical considerations, the specific challenges and environmental and socioeconomic effects, to be disseminated to all instances likely to benefit, including state services and projects involved in SLM and NRM.?[2] The TE also noted how important it is to ensure that micro-lending processes: ?only supports productive activities evaluated by feasibility studies and imposes a set of conditions that prevent farmers to get trapped in a debt spiral.? This social risk is essential to consider during the set-up of micro-loans and credit.

During project design, the Terminal Evaluation of the GEF-funded **Participatory Biodiversity Conservation and Low Carbon Development in Pilot Eco-Villages in Senegal** has also been consulted for best practices and lessons learned. There are critical examples of women?s incomes growing due to investments in livelihood activities which have encouraged some initiatives under the proposed project.

The project will also coordinate with the USAID project **Economic Growth For All** (2018-2023). There are many entry points for collaboration given that this project has also been working on value chain development, strengthening nutrition food services and building on sustainable ecosystem and fisheries management services.

The project will also collaborate with World Bank's **Senegal Municipalities and Agglomerations Support Program** (PACASEN), which aims at effective citizen participation in the management of local

affairs and the decentralization process. There are useful lessons to be drawn in participatory management of natural resources and decentralization.

The synergy with the various co-financing projects will take place at two levels. First, at the level of the project intervention areas through the establishment / strengthening of regional dialogue frameworks on the management of degraded land. At the national level, coordination will be facilitated by the National Strategic Investment Framework for Sustainable Land Management (CNIS/GDT) through the European Union-backed RIPOSTES project.

Green Climate Fund (GCF) Projects

Building the climate resilience of food insecure smallholder farmers through integrated management of climate risk (USD 10 million) (2020-2024)- The Dekkil Suuf Project will replicate the success of this GCF projects in its climate-smart villages and observe which risk-reduction activities in water and soil conservation have paid off, that need to be downscaled within the landscapes. Exchanges with beneficiaries of the GCF project with Dekkil Suuf beneficiaries, allows opportunities for exchanges by which SLM and adaptive measures can be integrated.

***Senegal Integrated Urban Flood Management Project (*USD 15.8 million) (2018-2022)-** Dekkil Suuf project will consult the flood risk mapping exercises that were conducted under the GCF project to identify risk areas in the project sites, and mitigate any future challenges. The hazard monitoring protocols that were developed under the GCF project will be integrated within LDN-oriented frameworks.

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[1] It should be noted that the identified Operational Partner(s) or OP, results to be implemented by the OP and budgets to be transferred to the OP are non-binding and may change due to FAO internal partnership and agreement procedures which have not yet been concluded at the time of submission

[2]

7. Consistency with National Priorities

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

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

All sustainable land management measures have been developed to be in synergy with the conventions ratified by Senegal: UNFCCC, CBD, and UNCCD. Senegal committed itself to set a voluntary national objective of land degradation neutrality, and to fulfill the Sustainable Development Goal 15, "Life on land", and its goal 15.3 on land degradation neutrality.

Senegal has set five national voluntary Land Degradation Neutrality targets, and committed to establishing an LDN baseline, and formulation of the associated measures to achieve LDN. Senegal has pledged restore 2,000,000 ha (10.39%) under AFR100 contributes to the Bonn Challenge, the African Resilient Landscapes Initiative (ARLI), the African Union Agenda 2063, the Sustainable Development Goals and other targets. This project will support this target by supporting restoration of 12,000 hectares of land.

Dekkil Suuf will be geared towards mainstreaming biodiversity conservation and sustainable use into production landscapes which has been recognized as a part of the Convention on Biological Diversity?s (CBD) Strategic Plan and post-2020 Biodiversity Framework (see Section 4.6. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF))

Senegal signed and then ratified the Convention on Biological Diversity (CBD) in 1994. Through these acts, the country solemnly pledged to contribute to the achievement of the objectives set by the Convention. To do this, Senegal adopted in 1998 a National Strategy and a National Action Plan for the Conservation of Biodiversity (SPNAB), articulated around four major strategic objectives: (i) the conservation of biodiversity in high density sites, (ii) integration of biodiversity conservation into production programs and activities, (iii) equitable sharing of roles, responsibilities and benefits in biodiversity management and (iv) information and awareness of all stakeholders on the importance of biodiversity and the need for its conservation.

In Senegal the Agriculture, Forestry and Other Land Use (AFOLU) sector is responsible for 64% of the total greenhouse gas emissions of the country. Due to the role of terrestrial ecosystems as a source and sink of emissions, land is positioned as a key point of intervention for climate change mitigation and adaptation as reflected in Senegal?s Nationally Determined Contributions (NDC). The NDC is part of the forward-looking vision, ?Plan Senegal Emergent (PSE)?, its strategy and development plans as well as sectoral programs for the sustainable management of natural and environmental resources. The main objective is "Reducing the degradation of the environment and natural resources, combating the adverse effects of climate change and the loss of biodiversity". Focus is put on the fight against deforestation and land degradation with a view to:

? Ensure the restoration and sustainable management of land;

? Significantly reduce the frequency and magnitude of bush fires;

? Reduce the degradation of forest resources

The contribution will be implemented mainly by increasing carbon sequestration, through the implementation of projects related to the agriculture and forestry sectors.

In the forestry sector, the strategic actions of the NDC are: (i) Increase annually the reforested / restored areas by approximately 1,297 ha of mangrove and 21,000 ha of various plantations; (ii) Reduce the areas burned due to late fires by 5% and those due to controlled fires by 10% compared to 2015. These efforts will reduce the deforestation rate by 25%, which will drop from 40,000 ha / year in 2010 to 30,000 ha / year in 2030.

In the agriculture sector, the strategic actions of the NDC are: (i) put annually 99,621 ha of agricultural land under Assisted Natural Regeneration practice and 4,500 ha under compost amendment, by 2030 (ii) increase organic manure production and improved compost along with the production of biogas.

The project will respond to the CNIS / GDT priorities that are strictly linked to investments in actions that will allow (i) a coherence of interventions of SLM actors in order to definitively eliminate duplication between institutions and guarantee more efficiency and effectiveness in SLM actions; (ii) an expansion of SLM practices and the fight against degradation phenomena in order to optimize actions and improve the productive base of the different agro-ecological zones; (iii) the availability of reliable and up-to-date information on the resources and state of land degradation in the country; (iv) greater political, legal and financial ownership of SLM; (v) a strengthening of the financial, technical and logistic capacities of the actors.

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.

The project will develop an evidence-based approach so as to demonstrate the effectiveness and benefits of SLM/LDN for achieving biodiversity protection and more resilient livelihoods, while promoting public awareness and ownership at several levels of governance. There are several strategies for knowledge management:

Learning-by-doing- Giving communities the tools, capacities, methods and abilities, is successful insofar as they can test, pilot and see the results of alternative behaviours. To the extent possible, the project will

promote a learning-by-doing approach so that vulnerable communities can observe for themselves the benefits of certain practices and share them with their social groups. As the project is based on landscapes, the idea is that there can be cross-landscape exchanges, and that communes can work together to upscale activities and share among them the knowledge gleaned. Demonstrations and pilots in one commune, can be used as opportunities to engage neighbouring communes to participate and share in lessons learned. At the national institutional level, trainings of trainers will take place for core civil service, to ensure knowledge sustainability within these entities.

Partnerships with other Projects and Initiatives- The PPG has revealed a number of opportunities for synergies and partnerships with other initiatives. This project fills a gap that other initiatives need supplemented in the areas of LDN/SLM restoration and strengthening of value chains in those particular sites, while they complement through other activities. Some of these initiatives can be used as funnels to disseminate knowledge and results of the project. In particular, partners such as ANCAR will be present at the project sites to support with the sharing of technical knowledge, data gathering and connecting with community members on technical delivery of initiatives. Collaborations with RIPOSTES will also ensure that successes and lessons learned from these initiatives are channelled through RIPOSTES? knowledge management frameworks. The project has also

Mainstreaming Understanding of LDN- While the Government of Senegal has committed to supporting the UNCCD and reporting on LDN achievements within the country, the understanding and valuation of LDN activities at the local level is still fairly nascent. Through capacity building and working on making legislated commissions/plans a reality, the project seeks to mainstream understanding of LDN at municipal levels so that it may become a part of development planning. The project will support LDN integration in Municipal Commission for Territorial Planning and Development and Communal Planning and Territorial Development plan (Output 1.1.1). At the community level, priority action plans under Output 1.1.3, will also seek to mainstream these concepts within community plans.

Strengthening Knowledge of Biodiversity in Land-Use Planning Processes- Land-use planning, development, and reforestation initiatives, may at times ignore pressing biodiversity concerns or inadvertently undermine them. This project seeks to render biodiversity integral to land-use planning and LDN measurement, so that any regeneration, takes into account the biodiversity needs of various ecological zones, as well as the ecosystem services these generate. Biodiversity considerations will this be folded into farmer field schools, into the currciulum development, and into the generation of pilots and demonstrations. Seeds and species that promote diversity and build resilience, will be employed, and knowledge of these will be generated from traditional communities and disseminated through project activities. Municipal level data on species will be recorded to be sent upstream for cohesive monitoring from the national level, and to integrate knowledge and lessons learned for updates to the NBSAP.

Partnerships with Local Actors- Local actors will be the most effective sharers of knowledge of this project, especially if one views knowledge management as a vehicle to transform behaviours. Associations of village chiefs, municipal councils, unions, youth councils, women?s producer groups, will all receive updates about the project results, practices, and achievements. They will also be provided with strategies for broader uptake.

Improved Data Collection, Management and Dissemination- The project will strengthen land-related information systems (e.g. the SIEF, SIF), to ensure that land-related data is accessible, usable, updated regularly and used for SLM/LDN monitoring. Under Outcome 1.3 various capacity building activities will be carried out with inter-sectoral partners to increase data knowledge management.

Public Awareness will be a cross-cutting theme to ensure that communities feel included, engaged, consulted and are active participants in the implementation of the project. Local-level actions will ultimately determine whether the initiatives are successful; sensitisation activities will be carried out to highlight the link between SLM/LDN, biodiversity protection and livelihoods. In order to ensure that there is a coherent approach to public awareness, the project management team will employ a communications consultant.

Agro-Pastoral Field Schools- will further be used to advance and reinforce technical knowledge and capacity. As much as possible, the project will involve people on the ground so that the knowledge generated is shared by those with experience and those that most require the knowledge.

Dimitra Clubs- Dimitra clubs will be less on the technical aspects of the project, and more allow spaces for social discussions to foster cooperation, collaboration and ensure community members feel empowered and heard.

Project Steering Committee- Aside from the oversight of the project, project steering committee members will bring their sectoral expertise to the project, and integrate project findings back into their departments and ministries.

There may also be increased advertising and marketing of sustainably produced agricultural products. This will be dependent on the type of private sector partnerships fostered, the level and quality of production.

Overall, one can summarize knowledge management activities in the following manner:

(i) Local level?increasing ownership, knowledge of importance of sustainable natural resources for long-term, how to prevent land degradation, support sustainable measures, create technical capacity through farmer field schools and on-site demonstrations. How to manage and monitor communally the results of interventions

(ii) Government level?increasing knowledge, capacity of government entities to manage and monitor land degradation, support an enabling environment and monitor results on LDN/SLM and biodiversity protection.

(iii) Cultural level at broader society?holding public campaigns, increasing awareness of the value of ecosystems, of sustainably produced products, upscaling knowledge from communities to broader landscape.

Table 18. Knowledge Management Activities

Deliverable	**Timeline**	**Cost USD**
Technical guidance documents (Farmer Field School Products, curriculum development, training for trainers,)	Yearly	10,000
Public awareness campaigns on SLM/LDN	Yearly	5,000
LDN/SLM data collected for SIF and SIEF	Yearly	10,000
Community Action Plans	End of project	10,000
Sustainable Value Chain Development Training Documents	Mid-Project	30,000

Workshops to share lessons learnt/benefit from other baseline projects	Yearly	5,000

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learnt made available.

The monitoring and evaluation functions within the project will be undertaken through: (i) day-to-day monitoring and project progress supervision missions (PIU); (ii) technical monitoring of indicators to measure a reduction in land degradation (PMU and LTO in coordination with partners); and (iii) joint monitoring and supervision missions (IAs).

At the beginning of the implementation of the GEF project, the PMU in coordination with the will establish a system to monitor the project?s progress to submit for PSC review. Participatory mechanisms and methodologies to support the monitoring and evaluation of performance indicators and outputs will be developed. During the project inception workshop, the tasks of monitoring and evaluation will include: (i) presentation and explanation (if needed) of the project?s Results Framework with all project stakeholders; (ii) review of monitoring and evaluation indicators and their baselines; (iii) preparation of draft clauses that will be required for inclusion in consultant contracts, to ensure compliance with the monitoring and evaluation reporting functions (if applicable); and (iv) clarification of the division of monitoring and evaluation tasks among the different stakeholders in the project. The M&E specialist will draft monitoring and evaluation matrix that will be discussed and agreed upon by all stakeholders during the inception workshop. The M&E matrix will be a management tool for the PC and the Project Partners to: i) six-monthly monitor the achievement of output indicators; ii) annually monitor the achievement of outcome indicators; iii) clearly define responsibilities and verification means; iv) select a method to process the indicators and data.

The **M&E Plan** will be prepared by the M&E Specialist together with local communities in the three first months of the PY1 and validated with the PSC. The M&E Plan will be based on the M&E summary table

and the M&E Matrix and will include: i) the updated results framework, with clear indicators per year; ii) updated baseline, if needed, and selected tools for data collection (including sample definition); iii) narrative of the monitoring strategy, including roles and responsibilities for data collection and processing, reporting flows, monitoring matrix, and brief analysis of who, when and how will each indicator be measured. Responsibility of project activities may or may not coincide with data collection responsibility; iv) updated implementation arrangements, if needed; v) inclusion of data collection and monitoring strategy to be included in the final evaluation; vi) calendar of evaluation workshops, including self-evaluation techniques.

The day-to-day monitoring of the project?s implementation will be the responsibility of the Project Coordination Unit and will be driven by the preparation and implementation of an AWP/B followed up through six-monthly PPRs. The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between main project stakeholders. As tools for results-based management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output and outcome targets to be achieved, and the PPRs will report on the monitoring of the implementation of actions and the achievement of output and outcome targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with all stakeholders and coordinated and facilitated through project planning and progress review workshops. These contributions will be consolidated by the PC in the draft AWP/B and the PPRs.

An annual project progress review and planning meeting should be held with the participation of the project partners to finalize the AWP/B and the PPRs. Once finalized, the AWP/B and the PPRs will be submitted to the FAO LTO for technical clearance, and to the Project Steering Committee for revision and approval. The AWP/B will be developed in a manner consistent with the Project Results Framework to ensure adequate fulfillment and monitoring of project outputs and outcomes.

Following the approval of the Project, the PY1 AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with the annual reporting calendar. In subsequent years, the AWP/Bs will follow an annual preparation and reporting cycle.

The following plan highlights activities/expenses:

Table 18. Monitoring & Evaluation Plan and Budget

Monitoring and Evaluation Plan and Budget			
GEF M&E requirements	**Responsible parties**	**Indicative costs (USD)**	**Time frame**
Inception Report	Project Coordinator	None	Within 90 days of CEO endorsement of this project
GEF Project Implementation Report (PIR)	Project Coordinator FAO	None	Annually typically between June-August
Monitoring all risks	Project Coordinator	74,375	Annually
Monitoring of gender	Gender Consultant	10,000	On-going
Project Monitoring	National M&E Consultant	10,000	On-going
Project Monitoring	Regional Project Assistant	11,250	On-going
Monitoring of stakeholder engagement plan	Project Coordinator	none	On-going
Monitoring of gender action plan	Gender Consultant	none	Annually
Reports of Project Steering Committee Meetings	Project Coordinator	None	Annually
Independent Midterm Review (MTR) and management response	Independent evaluation consultants	40,000	Midterm point

Monitoring and Evaluation Plan and Budget			
GEF M&E requirements	**Responsible parties**	**Indicative costs (USD)**	**Time frame**
Independent Terminal Evaluation (TE) and management response	Independent evaluation consultants	50,000	Six months before project closure
International Travels	International Personnel	20,000	On-going
Terminal Report	Project Coordinator	7,000	End of Project
TOTAL indicative COST		222,625	

Reporting schedule

Specific reports that will be prepared under the monitoring and evaluation program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) six months Project Progress Reports (PPRs); (iv) Annual Project Implementation Review (PIR); (v) Technical reports; (vi) Co-financing reports; (vii) Mid Term and Final Evaluations Reports; (viii) Terminal Report.

Project Inception Report. An inception workshop to update and confirm proposed implementation arrangements will be held in the first trimester of implementation. Immediately after the workshop, the Project Management Unit will prepare a project inception report in consultation with IAs and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B and the M&E Matrix . The draft inception report will have to be approved by the Implementing Agencies and submitted to the PSC and for review and comments before its finalization, no later than three months after project start-up.

Annual Work Plan and Budget(s) (AWP/Bs). The PC will present a draft AWP/B consolidated to the PSC no later than 10 December of each year. The AWP/B should include detailed activities to be implemented by project Outcomes and Outputs and divided into monthly timeframes and targets and milestone dates for Output and Outcome indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B will be reviewed by the PSC and the PIU will incorporate any comments. The final AWP/B will be sent to the PSC for approval and to FAO for final no-objection. The BH will upload the AWP/Bs in FPMIS.

Project Progress Reports (PPR). The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework (Annex A), AWP/B and M&E Plan. Each semester the Project Coordinator (PC) will prepare a draft PPR, and will collect and consolidate any comments from the FAO PTF. The PC will submit the final PPRs to the FAO Representation in Georgia every six months, prior to 10 June (covering the period between January and June) and before 10 December (covering the period between July and December). The July-December report should be accompanied by the updated AWP/B for the following Project Year (PY) for review and no-objection by the FAO PTF. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PIU, LTO and the FLO. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

Annual Project Implementation Review (PIR). The Project Corodinator, under the supervision of the Leat Technical Officers of each respective IA and and in consultation with the national project partners, will prepare a consolidated annual PIR report covering the period July (the previous year) through June (current year) no later than July 1st every year. PMU will be responsible for consolidating PIRs and will submit it to the FAO-GEF Coordination Unit for review by July 10th after each co-implementing agencie?s review for each respective output under their responsabilities. The FAO-GEF Coordination Unit, the LTO, and the BH will discuss the PIR and the ratings . The LTO is responsible for conducting the final review and providing the technical clearance to the PIR(s). The LTO will submit the final version of the PIR to the FAO-GEF Coordination Unit for final approval. The FAO-GEF Coordination Unit will then submit the PIR(s) to the GEF Secretariat and the GEF Independent Evaluation Office as part of the Annual Monitoring Review of the FAO-GEF portfolio.

Co-financing reports. The PC will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all the project cofinanciers and eventual other new partners not foreseen in the Project Document. Every year, the PC will submit the report to the FAO before July 10th covering the period July (the previous year) through June (current year). This information will be used in the PIRs.

Core Indicators worksheet. In compliance with GEF policies and procedures, at project mid-term and completion, Agencies report achieved results against the core indicators and sub-indicators used at CEO Endorsement/ Approval.

Independent mid-term Evaluation MTR) will be carried out by the FAO Country Office of Senegal after 2.5 years from project start up (or when implementation is half way through), and six months prior to the project?s NTE, respectively. While the MTR will be focused on project?s progress in the achievement of it intended outputs to identify corrective measures for adaptive management, the FE will aim to identify the project impacts, sustainability of project outcomes and the degree of achievement of long-term results.

The Final Evaluation (FE) will also have the purpose of indicating future actions needed to expand on the existing Project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities and institutions with responsibilities in food security, conservation and sustainable use of natural resources, small-scale farmer agricultural production and ecosystem conservation to assure continuity of the processes initiated by the Project.

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.

The Budget Holder 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.

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.

Terminal Report. Within two months prior to the project?s completion date, the Project Coordinator will submit to the PSC and FAO Representation in Senegal a draft final report. The main purpose of the final report is to give guidance to authorities (ministerial or senior government level) on the policy decisions required for the follow-up of the Project, and to provide the donor with information on how the funds were utilized. Therefore, the terminal report is a concise account of the main products, results, conclusions and recommendations of the Project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed in terms of their application to the integrated landscape management in the three pilot sites, as well as in practical execution terms. This report will specifically include the findings of the final evaluation.

The project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information, and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learned made available.

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)?

Research has shown that the returns on taking action against land degradation are estimated at 5 USD for every dollar invested in restoring degraded land in Senegal.[1] Assessments of the costs of action against land degradation through restoration and sustainable land management practices versus the cost of inaction highlight the strong economic incentive for bold actions against land degradation.[2]

The project builds on this notion that the cost of inaction will be inordinately high impacting people?s health, lives, food security, and livelihoods. Without interventions, natural resources are likely to erode, which may exacerbate inequalities, increase competition for scarce resources, affect food security, reduce socio-economic opportunities and possibly result in migration. This project is expected to result in positive social, economic and ecological changes which will yield further benefits to communities.

The proposed project will contribute to improving the socio-economic conditions of small farmers and pastoralists, rural households in targeted vulnerable areas. The integrated implementation of the four components will have an impact on knowledge enabling rural populations to adapt to the impacts of climate change; expand their sustainable natural resource management practices; improve food security through diversification of activities; an improved marketing system for agricultural products and non-timber forest products by capitalizing on the experience of linking market operators and producer organizations; a contribution to reducing social tensions between farmers, agro-pastoralists and pastoralists, as well as other users of natural resources, through better integration of production systems. Gender mainstreaming will strengthen the empowerment of women and youth through information, training and advocacy to encourage the mutual participation of all social categories. The proposed project will follow the GEF and FAO policy to ensure gender equality.

Enabling rural people to learn about and apply good practices for the sustainable management of natural resources will also help to reduce land degradation and prevent competitive pressures on natural resources and the risks of desertification (indirect benefits for the global environment). In addition, the project will reduce their vulnerability and enhance adaptive capacity to prevent climate-induced economic losses (direct adaptation benefit). Additional socio-economic analysis will be conducted during project preparation to explore linkages and identify win-win solutions and socio-economic benefits. The project will benefit 87,500 direct beneficiaries of which 75% are women.

Key elements of agroecology, identified in footnote 58, serve as a useful entry point by which to examine the benefits offered by this project:

Diversity- The project is committed to support biological diversity and will support the planting, cultivation, and nursery development of varied, climate-resilient species. The project will shift people away from monoculture so as to reduce their vulnerability to any crop failure or pests. This is intended to achieve the following ecological benefits:

- ? Less pressures on vulnerable areas that house key biodiversity
- ? Increased ground cover, which will lead to less erosion and associated negative impacts on communities.
- ? Improved biodiversity values- Through biodiversity-friendly agriculture, conservation practices, restoration and improved use of biological resources, reforestation of native, climate-resilient species, there is the expectation that biodiversity values will improve in the landscape identified by the project, mainly on Faidherbia albida and Cordyla pinnata.
- ? In the southern part of the Peanut basin, the interventions will aim to implement strategies to limit the extraction of mangrove wood, which is increasingly used in the making of garlands for oyster farming.

? In eastern Senegal, emphasis will be placed on sustainable management of production forests, of which species such as Combretum, Pterocarpus erinaceus, Cordyla pinnata are the most exploited.

Co-Creation and Sharing of Knowledge- The project anticipates that collaborative spaces and mechanisms (multi-stakeholder platforms, Dimitra Clubs, Agro-Pastoral Field Schools) will allow the co-creation and sharing of knowledge, particularly among women. Cross-landscape consultations are anticipated to produce benefits such as greater exchange, social cohesion, networking among women, exchanges on best practices. Improved monitoring and evaluation will also record new types of knowledge that could be adapted into the project.

Synergies- The project will result in new synergies among institutional partners, between municipal and national actors, among projects and programmes, and in incorporating LDN work into other development action. The benefits foreseen are:

? Efficiency of resources by leveraging work that has already been done and preventing duplication

? Partnerships and alignment between various programmes and activities to achieve aggregate-level results. Improved synergies and opportunities of joint learning between civil society, government local communities and the private sector: opportunity and interest in aligning some of the local government planning tools, with the execution and activities from smaller community groups. This project anticipates increasing collaborations and leveraging government capacity with local level expertise to achieve impacts at a larger scale.

? Greater knowledge generated for project participants

? Amplifying the voices of the marginalized into other fora

? Greater coherence among municipalities can also decrease transaction costs.

Resilience- The project is anticipated to provide the benefits of resilience in the following ways:

? Climate resilience (climate smart villages)

? Resilient restoration to benefit future generations and fight against desertification

? Resilience of food supply

? Resilience of profitable value chains to bear greater livelihoods

? Resilience of partnerships?by investing into institutional partnerships, it is anticipated that institutional partnerships will be strengthened. These will be further reinforced by the trainings and educational development of key SLM-related personnel.

? Improved land information systems can provide vital information for better disaster risk management planning

Human and Social Values- The project foresees greater empowerment, access to natural resources and more productive land, decision-making power for women. This women-tailored project also aims to enhance women?s ability to access financing and credit for livelihood activities and benefit from tenure-positive community decisions.

Culture and Food Traditions- Use of agroecologically produced foods with far less pesticides will yield healthier diets. Investments into improved land tenure for women at the community level, could support community discussions/agreements on how women can access more land thereby affecting local cultures. Creation of more employment opportunities in the targeted rural areas may decrease the culture of rural-urban migration especially of younger persons.

Responsible Government- The project will enhance governance mechanisms and in particular will support improved ownership and management of LDN-related data and information. Improved information systems will support accountability, measurement and reporting on LDN by government ministries.

Economic Benefits:

? Increased income for smallholder families. Multicropping (less dependence on monocrop), greater utilisation of natural fertilisers through composting and manure production, and development of green value chains can contribute to increased livelihood sources.

? Access to credit and investment sources can support livelihood activities that could not have otherwise been carried out due to lack of capital.

? Incorporation of LDN principles at the national levels to improve accounting can also support the mitigation of other costs in the future.

? Greater food security can decrease the national food import bill

? Strengthening and development of value chains also indicate greater employment opportunities, especially if connections to agri-busines, and processing are made.

Food Security and Nutrition-

? the project will make it possible to convert degraded, salinized lands into to increase the cultivable areas, in particular the land under rice cultivation in the Peanut Basin.

? By improving soil health indicators through organic or mineral fertilization practices, the project activities will generate substantial gains in agricultural yields.

? Planting of salt-tolerant species is an effective way to contribute to the availability of pasture.

[1] UNCCD. Investing in Land Degradation Neutrality: Making the Case. An Overview of Indicators and Assessments. Available online at: https://www.unccd.int/sites/default/files/inline-files/Senegal.pdf

[2] Senegal-Investing in Land Degradation Neutrality: Making the Case: An Overview of Indicators and Assessments. Available online at: https://www.unccd.int/sites/default/files/inline-files/Senegal.pdf

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	MTR	TE
Medium/Moderate	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.

Social & Environmental Risks and Impacts	Mitigation measures	Implementation Responsibility	Timeline
ESS 2: Biodiversity, Ecosystems and Natural Habitats			

Protected Areas, buffer zones or natural habitats **Level:** MODERATE **Description:** The project will undertake various land restoration activities on production land in the buffer zone of the Delta du Saloum Biosphere Reserve (RBDS) which is located in west-central Senegal in the Sine Saloum natural region. It will also strengthen coordination of ?The Saloum mangrove platform? which is a framework for consultation and harmonization of interventions put in place for reconciliation between the preservation of natural resources and their sustainable use, in accordance with the principles of the RBDS. Some communes targeted by the project form buffer zones around the Saloum Delta and Niokolo-Koba.	Once the exact intervention sites within each landscape are known, the Dekkil Suff project will identify and assess potential project-related adverse impacts and apply the mitigation hierarchy so as to prevent or mitigate adverse impacts that could compromise the integrity, conservation objectives or biodiversity significance of the areas. It will undertake activities, appropriate conservation and mitigation measures, near buffer zones of protected areas or in legally designated protected areas, forests, biodiversity areas or buffer zones. The project will ensure that any activities undertaken are consistent with the area?s legal protection status and management objectives, Forest restoration projects need to maintain or enhance biodiversity and ecosystem functionality. ? The intervention strategy of the Dekkil Suff project for the mitigation of environmental and social risks will focus on the restoration of production lands, the preservation of the environment, the improvement of good governance of natural resources, the management of conflicts , the restoration of means of subsistence around protected areas, reforestation, the development of soil conservation and restoration work, the strengthening of the technical, organizational and management capacities of local authorities and their communities... ? Indirectly, the project will limit aggression and encroachment and other current risks and negative impacts on the Saloum Delta Reserve Niokolo Koba National Park by restoring the livelihoods of communities, building the capacity of stakeholders to positively impact the management of these	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Local authorities Administrative authorities Non-governmental organizations Producer organizations Service providers and consultants Agricultural producers, breeders, agroforesters and loggers Ministry of Agriculture and	Throughout the development phase of the project life cycle, namely: During the preparation of the Prodoc, identification of the impacts, analysis of biodiversity, gender, constraints related to the management of natural resources and the preservation of the environment, study on the promising value chains, were made and appropriate measures are identified and integrated into the project implementation plan with associated costs; In the first 2 months of project execution, once the exact sites will be selected, Executing Agencies will be responsible for finalizing the site specific Environmental and Social Impact Assessment before any investment is made into the landscape.

ESS 3: Plant Genetic Resources for Food and Agriculture

Provision of seeds and planting materials **Level:** MODERATE **Description:** The project will undertake various SLM land restoration activities in the targeted landscape on production land in the buffer zone of the Delta du Saloum Biosphere Reserve (RBDS) which is located in west-central Senegal in the Sine Saloum natural region. The proposed project marks a shift from previous SLM initiatives by implementing an intensification / integration strategy based on the pillars of the Climate Smart Village (CSV) (i) the use of climate predictions and information; (ii) the choice of resilient varieties and good climate change adaptation practices; (iii) the practice of agroforestry with fruit trees with a short production cycle, planting of priority agroforest and	At the exact intervention sites within each targeted landscape, the Dekkil Suuf project will ensure full compliance with The objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture that are the conservation and sustainable use of all plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. Hence during implementation, ? Emphasis will be placed on the use of locally adapted varieties, on the restoration of the natural forest through the natural regeneration and the planting of local varieties of trees. ? Promotes development and maintenance of diverse farming systems. ? Avoid undermining local seed & planting material production and supply systems through the use of seed voucher schemes, for instance ? Ensure that the seeds and planting materials are from locally adapted crops and varieties that are accepted by farmers and consumers ? Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC ? Internal clearance from AGPMG is required for all procurement of seeds and planting materials. ? In the event of required treatment of seed and planting seeds and planting materials, ensure use of proven biopesticides ? Ensure, according to applicable national laws	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Platform for mangrove management Local authorities Non-governmental organizations Producer organizations Service providers and consultants Agricultural producers, breeders, agroforesters and loggers Ministry of Agriculture and Rural Equipment (MAER),	Throughout the development phase of the project cycle, namely: During the preparation of the Prodoc, identification of practice that support the conservation and sustainable use of plant genetic resources for food and agriculture ; In the first 2 months of project execution, once the exact sites will be selected, Executing Agencies will be responsible for finalizing the site specific Environmental and Social Impact Assessment before any investment is made into the landscape. Monitored during all the implementation of the project, weekly, quarterly, half-yearly or annual monitoring, supervision and monitoring reports will be produced to report on the level and

ESS 4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture

Modification of habitats **Level:** MODERATE **Description:** Senegal is home to a number of terrestrial, fluvial and marine Key Biodiversity Areas, i.e. nationally identified sites (e.g. classified forests) that contribute significantly to the global protection of biodiversity. A large part of these KBAs are protected areas, managed as national parks, wildlife reserves, Biosphere Reserves or other. The project is located in or near some of those internationally recognized conservation area or nationally important habitat, e.g. national park or high nature value farmland. Some of the landscapes targeted by the project form	The mitigation hierarchy which is a widely used tool that guides users towards limiting as far as possible the negative impacts on biodiversity from development projects will be adapted and applied. It emphasises best-practice of avoiding and minimising any negative impacts, and then restoring sites. Following the hierarchy is crucial for all development projects aiming to achieve no overall negative impact on biodiversity or on balance, a net gain ? also referred to as no net loss and the net positive approach, respectively. It is based on a series of essential, sequential ? but iterative ? steps taken throughout the project?s life cycle in order to limit any negative impacts on biodiversity ? The specific intervention areas will be carefully searched by the Biodiversity Specialists prior to the commencement of any work; any individuals found will be carefully transported outside risk areas in habitats matching their ecological requirements; ? Identification and mapping of areas occupied by animal prior to the commencement of the work along with planning of works to ensure complete severance of areas utilized by these species does not occur. ? The RBDS being used by migrating bird, the project will ensure that checks are made for nests ahead of any intervention. ? Creating conditions suitable for the species during ecological restoration works by planting (propagating) the host plant species	Executing Agencies identified through OPIM: FAO and Senegal Government to monitor on a 6 month basis Ministry of Agriculture and Rural Equipment (MAER) Ministry of the Environment and Classified Establishments (MEDD) Project Management Unit, State technical services partners in the implementation of the project (agricultural advisory agencies, technical departments in charge of fauna and/or flora, agricultural, forestry and pastoral research institutions, universities, schools or training centers Platform for mangrove management Local authorities Non-governmental organizations Producer organizations Service providers and consultants	Throughout the project life cycle, namely: Monitored during all the implementation

ESS 7: Decent Work

Level: MODERATE **Description:** The project on agricultural value chain development. In the context of the interventions, those value chain are are dominated by subsistence producers and other vulnerable informal agricultural workers Further, those value chain development are in rural setting where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas Further, there is gender gender inequality in the rural areas where the project activities will take place. Lastly there will be some sub-contracting through OPIM in this project	The Dekkil Suf project will project will comply with FAO Environmental and Social Management Guidelines (Standard 7) and FAO?s Compliance Reviews (2015) describing the process and procedures related to alleged non-compliance with FAO?s environmental and social policy standards, the FAO framework on ending child labour in agriculture According to the Joint Inspection Unit of the United Nations system, the FAO is the leader of the United Nations organizations in terms of the integration of full employment and decent work Full and productive employment and decent work for all are internationally agreed goals reflected in the 2030 Agenda for Sustainable Development - Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for everyone. It is in this context that the United Nations General Assembly has instructed the various organizations of the United Nations system to mainstream decent work into their policies, programs and activities. www.fao.org/rural-employment/resources/ ? During the identification of the beneficiaries of the project, the criteria on child labor will be highlighted: beneficiaries who potentially use child labor for their production won?t be eligible as recipient of project technical and financial support ? The workforce management strategy of the Dekkil Suff project promotes decent work in accordance with the Orientations of Sustainable Development Goal 8 (SDG 8) and ILO Convention N?29 and N?105 (labour force and abolition of forced labour), No. 138 (minimum age), No.	Project Management Unit/ OPIM partner(s); LoA signatory project executing agencies; Co-financing projects and programs Organizations for the defense and protection of the rights of women, children and people with disabilities; Producer organisations/interprofessions Local authorities Ministry of Agriculture and Rural Equipment (MAER) Ministry of the Environment and Classified Establishments (MEDD) Ministry of Women, Children and Social Action Technical directors of ministerial departments Heads of departmental and local regional services Consultants, service providers, companies	Rigorous application of the FAO framework on decent will be monitored during all the implementation Throughout the development phase of the project cycle, namely: During the preparation of the Prodoc, identification of the impacts, analysis of biodiversity, gender, constraints related to the management of natural resources and the preservation of the environment, study on the promising value chains, were made and appropriate measures are identified and integrated into the project implementation plan with associated costs; During project implementation, weekly, quarterly, half-yearly or annual monitoring, supervision and monitoring reports will be produced to report on the

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Updated ESS Certification	**Project PIF 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).

Outcomes	***Indicators***	***Baseline***	***Mid-Term Target***	***Final Target***	***Outputs***	***Means of Verification***	***Assumption***	***Responsible for Data collection***
Objective: *to demonstrate the LDN approach in the Peanut Basin and Eastern Senegal for biodiversity conservation and delivery of ecosystem services to achieving food security and livelihood resilience.*								
	Number of ha of production land under improved practices (CI 4, including 4.1 and 4.3) and restored (CI 3)	*0 ha*	*156,000 ha, of which 15,000 ha directly benefitting biodiversity (CI 4.1) and of which 6,000ha restored (CI 3)*	*412,000 ha, of which 40,000 ha directly benefitting biodiversity (CI 4.1) and of which 12,000 ha restored (CI 3)*	*Aggregate of several outputs and outcomes*	*Satellite images and information system that is available, functional and used by key stakeholders*	*That the appropriate coordination and software investments will support the use and application of this data*	*Project Management Unit*
	Number of people directly benefitting from project investments (sex and age disaggregated) (CI 11)	*0*	*50,000 of which 75% are women*	*87,500 including 75% women*	*Aggregate of several outputs and outcomes*	*Monitoring reports*		*Project Management Unit*

	Number of metric tons of CO2e mitigated as a direct result of project investments (CI 6)	*0*	*2,516,283*	*6,818,889*	*Aggregate of several outputs and outcomes*	*EXACT*	*Satellite imaginary provides sufficient detail to inform the EXACT tool properly.*	*Project Management Unit*
***Component 1**. Enabling environment for large-scale SLM dissemination*								
1.1 Strengthened inclusive land governance for better biodiversity conservation and natural resources access through the application of LDN and VGGT principle	*Percentage of municipalities in selected landscapes with land governance management tools in place*	*0% of municipalities in target regions operationalize at least one good governance management tool. Currently, municipalities have an economic planning tool called the Plan de D?veloppe*	*At least 40% of municipalities in target regions operationalize at least one good governance management tool*	*(a) At least 80% of municipalities in target regions operationalize at least one good governance management tool*	*1.1.1. Review of strategic regulatory frameworks and territorial planning instruments to enhance local stakeholder participation and mainstreaming of LDN, biodiversity conservation and land tenure at national and sub-national levels*	*Presence and use of governance management tools in landscapes*	*There is interest in the part of stakeholders to adopt governance management tools to improve biodiversity conservation, land tenure, SLM and LDN; national and local*	*Project Management Unit*

s		*ment Communal (PDC). However, there is no governance tool on spatial/territorial instrument as required by the new law (Orientation pour l?Am?nagement et le D?veloppement des Territoires (LOADT))*			*1.1.2. Land, biodiversity and natural resource governance and planning tools are stengthened in accordance with LDN principles (using FAO Land Resource Planning Toolbox, VGGT, etc.)* *1.1.3. Governance of customary and formal natural resources management is strengthened with special focus on vulnerable groups*		*capacity will be fostered sufficiently to manage and use such tools*	

1.2. Enhanced capacity for the mobilization and sustainable management of financial resources by the municipalities and the coordination of SLM interventions in favor of LDN and biodiversity conservation	*Percentage of commune budgets dedicated to supporting SLM activities for the benefit of LDN and biodiversity conservation*	*Commune currently do not record the share of budget activities dedicated to SLM*	*At least 10% of target communes increase the share of their budget by at least 5% intended to support SLM activities for the benefit of the LDN and biodiversity conservation*	*(a) At least 25% of target communes increase the share of their budget by at least 5% intended to support SLM activities for the benefit of the LDN and biodiversity conservation*	*1.2.1. LDN principles are integrated into municipal investment and action plans*	*Municipal investment and action plans with LDN principles*	*There is an appetite to incorporate LDN considerations, expertise and knowledge into institutions*	*PMU*
	Number of national frameworks which contain LDN and biodiversity conservation principles	*LDN is not integrated into CNIS-GDT. The CNIS-GDT takes into account biodiversity, but does not account for LDN. The CNIS-GDT has not yet been implemented due to governance challenges.*	*Key frameworks identified; key principles to integrate identified*	*LDN and biodiversity conservation principles integrated into key national frameworks*	*1.2.2. Capacity building program for multi-stakeholder policy dialogue on SLM in accordance with the guidelines of The National Strategic Investment Framework for SLM (CNIS-GDT)*	*Existence of a capacity-building program*		

	Number of individuals, disaggregated by gender, with enhanced capacity in LDN at the national and sub-national levels	*the LDN Approach has not yet been the subject of training in Senegal, only the LDN focal point and the CSE have had to participate in the definition of the Country indicators of the LDN*	*25 people with enhanced capacity in LDN at the national and sub-national levels*	*50 people (of which 50% are women) with enhanced capacity in LDN at national and sub-national levels*	*1.2.3. Inter-sectoral coordination mechanisms at the national and the level of each intervention region are operational /strengthened*	*Minutes from regional multi-stakeholder platforms*		

1.3 Accessibility of data and information on land degradation yenhanced	*Number of information system on degraded lands and vegetation is available at national and local level*	*The SIEF exists; coordination around it is weak, LDN data is not currently available through it*	*Key meetings, roles and responsibilities on information system have been identified. Procurement for appropriate software is underway.*	*(a) At least an information system (management tools and data dissemination) on degraded lands and vegetation cover is available at national and local level*	*1.3.1. Developed and shared in a participatory manner, targeted multi-scale data and information on land degradation status and trends (such as Collect Earth, LADA, and others) and biodiversity status (such as B-Intact) and training material on LDN and LDN for biodiversity conservation developed for practitioners, feeding into the indicator-based LDN monitoring system*	*Information system that is available, functional and used by key stakeholders*	*That the appropriate coordination and software investments will support the use and application of this data*	*PMU*
					1.3.2. A national platform/information system (management tools and data dissemination) on degraded lands and vegetation cover is set up			
Component 2. Scaling up SLM and biodiversity conservation using a landscape approach in the Peanut Basin and Eastern Senegal								

2.1. Increased technical and institutional capacities of agro-sylvo-pastoral communities on SLM technologies and approaches	*Number of producers, disaggregated by gender, that have access to SLM practices in line with LDN principles*	*0 in the target communities*	*At least 10,000 producers (75% women and youth), have access to SLM practices in line with LDN principles*	*(a) At least 20,000 producers (75% women and youth), have access to SLM practices in line with LDN principles*	*2.1.1. Capacity building program on SLM technologies and approaches (using Farmer Field Schools approaches, Dimitra Clubs, e-advice, exposure visit, facilitation of farmers? cross learning visits, LADA, WOCAT, Community-Based Ecological Mangrove*	*Training/capacity building programme on SLM/LDN*	*National-level capacity increase will serve long-term SLM/LDN objectives; local level capacity building on SLM/LDN will be streamed up for national-level results.*	*PMU*

	Number of Masters and Doctorates supported on SLM/LDN which fill national level gaps	*A Professional Master (M2) Sustainable Management of Horticultural Agroecosystems ? GEDAH Pro currently exists. In partnership with the Agence universitaire de la Francophonie (AUF), Cheikh Anta Diop University (Senegal) is launching a call for applications for their Professional Masters in Sustainable Management of Horticultural Agroecosystems.* *The Institute of Environmental Sciences (ISA) of the Cheikh Anta Diop University of Dakar (UCAD), offers Natural Resources Management and Sustainabl*	*National institutions have identified what critical gaps they need supplemented through educational opportunities; applications of students are underway*	*(b) 10 Masters and 3 PhD on SLM / LDN of relevance to the project supported*	*Restoration-CBEMR etc.) in order to sustainably intensify ecosystem productivity*	*Student enrollment at universities on subjects relevant to national interests on LDN/SLM*			

	Number of technical guides on SLM/LDN produced and distributed	*Guides exist under various projects but do not integrate LDN. In 2018, INP in collaboration with the project of resilience and food security (P2RS) produced a technical guide on SLM. Dissemination of the technical guide to the local actors was not realized because the technical validation of the Guide was conducted at the end of the project.*	*2 technical guides on SLM/LDN are distributed*	*(c) 4 technical guides on SLM/LDN produced and distributed*		*Existence of technical guides*		

2.2. Improved ecosystem services, habitat for biodiversity and resilience in target agroecosystems of Peanut Basin and Eastern Senegal in line with LDN principles	*Number of hectares under reduced or reversed degradation from SLM measures and management (CI 3 ? land restored)*	*The baseline estimated with Trend Earth shows 104383.116 ha under reduced degradation which correspond to 11.55% of the total area of the 18 municipalities in target regions.*	*At least 6,000 hectares above the baseline are under reduced or reversed degradation*	*At least 12,000 ha are under reduced or reversed degradation thanks to SLM measures / and sustainable management to benefit biodiversity*	*2.2.1. Participatory integrated land use plans developed in Peanut Basin and Eastern Senegal*	*Satellite imagery of reduced/reversed degradation*	*SLM measures and associated plans will reduce or reverse degradation and benefit biodiversity.* *Communities will develop the capacities and express*	*PMU*

	Number of biodiversity conservation and sustainable land use plans available for each commune	*No biodiversity conservation plan exists at the commune level.*	*Communes have multi-stakeholder platforms through which they have identified their biodiversity and land management action plans*	*a plan for biodiversity conservation, sustainable land use and management is available for each commune*	*2.2.2. Innovative SLM technologies and approaches applied and scaled out on agro-sylvo-pastoral landscapes to reduce land degradation, restore degraded land and contribute to biodiversity conservation (restoration of salinized lands, mangrove restoration and conservation, crop rotation, agroforestry/plantation of high value tree species e.g. Fadherbia albida, etc.)*		*ownership over tools and methodologies to sustain this work beyond the project duration.*	
					2.2.3. Seed/seedling production capacity improved to support restoration of degraded lands and biodiversity conservation			
Component 3. Rural employment and livelihoods enhanced to sustain improved management of production land								

3.1. Enhanced incentive mechanism framework for investment in family farms in local agro-sylvo-pastoral value chains for improved livelihoods	*Number of frameworks promoting sustainable local value chains*	*0 in targeted communities*	*Key local value chains which will improve livelihoods and support biodiversity conservation and SLM have been identified for each landscape*	*A functional framework for promoting sustainable local value chains (suppliers, producers, support-advice, financiers, traders) is operational*	*3.1.1. Innovative market-based incentives for financing LDN-oriented and biodiversity-friendly inclusive agriculture value chains are identified and strengthed (e.g. subsidies, tradable permits, Public-Private Partnerships, certification programs, penalties, etc.)*	*Surveys* *Monitoring Reports*	*Financial mechanisms and credit services will benefit women.* *Credit, access to capital, and sustainable value chains will reinforce biodiversity and land objective*	*PMU*

	Number of financial mechanisms for producers	*FNDASP provides micro-lending; however the loans have not considered LDN or SLM as criteria for credit. At the national level, there are a range of financial mechanisms put in place by the government to finance the activities of young people and women e.g. Delegation for Rapid Entrepreneurship (DER), the Guarantee Fund for Priority Investments (FONGIP).* *For the financing of training in value chains and in other sectors, there is the 3FPT (Funding Fund for Vocational and Technical Training), which when*	*The criteria and partnerships for a sustainable financial mechanism for producers and their organizations have been determined.*	*An innovative and sustainable financial mechanism for producers and their organizations are functional and operational*	*3.1.2. Innovative market-based incentives for financing LDN-oriented and biodiversity-friendly inclusive agriculture value chains are identified and strengthed (e.g. subsidies, tradable permits, Public-Private Partnerships, certification programs, penalties, etc.)*		*s.* *Access to credit by some members of the community will not create social concerns.* *Capital is required to support value chains to become more sustainable and provide improved livelihoods.* *Livelihoods can be improved in the life of the project.*	

	Number of producers whose income has improved from the baseline.	*x* *PROVALCV, PRAPS 2 (regional project to support pastoralism in the Sahel) projects are in the project sites* *The 1st intervenes in the agro-ecological zones of the Niayes and the Groundnut Basin (regions of Fatick, Kaffrine, Diourbel; the latter is present in the regions of Kaffrine (Kounghoul) and Tambacounda.* *There is also the Rice-Senegal Value Chain Development Project (PDCVR) which makes its interventions in Fatick and Tambacounda. AGRIJEUNES Project also intervenes*	*At least 3000 producers have received support through value chain development*	*7,500 producers, (75% youth and women) supported in improved local value chains with increased income (from the baseline) of 25%*	*3.1.3. An inclusive financial mechanism and training program are operational to strengthen the capacity of farmers and farmer organizations to engage in SLM*			

	Number of micro-credit enterprises established to support women in agricultural value chains	*Endogenous credit models developed by women's organizations exist; community lending circles exist in all landscapes.*	*At least 35 micro-credit enterprises are set up to benefit women and youth in agricultural value chains*	*(d) 75 profitable micro-enterprises set up / strengthened for the benefit of 750 youth and women in agricultural value chains (organic inputs, market development, valuation / enrichment defended)*	*3.1.4. Development and implementation of a sustainable strategy/action plan to improve local value chains (millet, cowpeas, rice, NTFPs, oysters farming, mangrove beekeeping) and mainstream biodiversity into SLM*			

	Number of integrated community agricultural farms (ICAF) set up *Number of people (gender-disaggregated) who benefit from ICAF-related livelihoods*		*50 ICAFS have been identified, and procurement is underway to render them operational*	*50 Integrated Community Agricultural Farms (ICAF) of 1 ha each set up, functional and generating decent jobs for 100 young people (75% women)*	*3.1.5. Women-led micro-credit mechanisms (5 per commune) proposed for scaling-up SLM*			
Communication 4. Learning, knowledge management and communication								
4.1. Learning and political engagement for scaling up and sustainability of project achievements	*Number of monitoring systems established*	*The M&E system will be new to account for this project. Lessons learned from terminal evaluations highlighted in the baseline project will be used to inform it.*	*M&E system established with appropriate feedback mechanism*	*Functional M&E systems and GEBs and co-benefits established*	*4.1.1. Project monitoring system is operational, providing systematic information on the project progress made and capture of lessons and knowledge*	*M&E Manual* *Communication Plan* *PIRs*	*The PMU will establish mechanisms to generate timely data and monitor progress on project development.*	*PMU*

	Number of M&E manuals assessing qualitative and quantitative impacts on women, LDN and biodiversity-results established	*The M&E manual will be new to account for this project. Lessons learned from terminal evaluations highlighted in the baseline project will be used to inform it.*	*M&E manual established*	*M&E manual*	*4.1.2. Mid-term and final evaluation conducted, project best practices and lessons learned developed and disseminated*			
	Number of communication plans established	*A new communications plan will be established*	*Communications Plan established and disseminated*	*Communication and dissemination plan*				

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).

Country Comments	How comments have been addressed in project design

Canada has some concerns related to biodiversity considerations included in output 2.2.3 on Seed/seedling production capacity improved to support restoration of degraded lands and biodiversity conservation. There is no mention in the output description of conservation of genetic diversity of seeds selection, the focus is solely on strengthening seed production capacity. Genetic diversity is a basic pillar of all biodiversity and must be maintained to enable all species to adapt to environmental change, ensure resilient ecosystems, support other levels of biodiversity, and benefit people. Genetic diversity is also a first barrier against new diseases and invasive pests. Overlooking genetic diversity will reduce adaptation, increase extinctions, destabilize ecosystems, and harm human well-being and economic development. Maintaining genetic diversity of seeds/seedlings should be included in the objective of this outcome to ensure a positive impact on biodiversity.	We thank Canada for this feedback. We have now increased focus on seed diversity as it is indeed an essential angle by which to promote biodiversity. The following activities have been added under Output 2.2.3: Participatory identification of which native and climate-resilient, regionally-adapted and threatened varieties need to be propagated. Supporting monitoring processes to promote the diversity of seeds, ensuring that a diversity of seeds are produced and managed. Establishing community seed ?libraries?, supporting the cataloguing of seeds to ensure seed diversity within communities. The description of Outcome 2.2 now also states: Interventions under this outcome will seek to strengthen the sustainable management of agro-ecosystems to support long-term adaptation, as well as reverse land degradation and mitigate against biodiversity loss, through investments in diverse, native and resilient natural resources. Interventions under this outcome will promote the conservation of genetic diversity of seeds? selection. Supporting genetic diversity will strengthen barriers against new diseases and invasive pests, and support adaptive capacity and the stabilization of ecosystems. It will also invest in future biodiversity.
With a view to the project ?Support for improving land management? (p. 48), Germany concurs that the project is of relevance for the proposal. However, Germany opposes that this project receives co-financing from a GIZ-funded project, given that Germany as a member of the GEF council cannot co-finance GEF projects. Germany further would like to clarify that the project mentioned on p. 48 of the PIF is funded by Germany, the German technical contribution is implemented by GIZ and the political lead institution is the Senegalese Ministry of Finance and Budget. Germany requests this GEF-project to seek a different co-financing source for the matter.	This point is well-taken. The GIZ project will no longer be considered as co-financing, but will be a project partner. GIZ will be invited to sit on the advisory committee to the project steering committee to ensure synergies and sharing of knowledge.

Germany seeks clarification why the internationally established LDN baseline for the reference year 2015 has not been used or considered here (p. 55). Germany moreover recommends aligning the establishment of baseline and monitoring system (p. 60) with existing procedures and data sources from UNCCD, namely trends.earth.	Different computing models provide different results, and experts can identify what model is best suited for the area of interest. It appears that Trends.Earth did not produce maps that reflect the situation on the ground accurately. Therefore, alternative, procedures and data was consulted to develop the baseline and further monitor progress.
With view to establishing mechanisms for neutrality and the project ?s intention to develop participatory integrated land-use plans and manage counter-balancing (p. 56 f.], Germany suggests considering the newly developed software tool ?LUP4LDN? that tackles the challenge of aligning land use and management decisions with LDN goals (Competition's winning Team ? GEO-LDN Initiative)	This comment is appreciated and the identification of a specific tool is very useful. The tools and methodologies that are best suited to national needs and capacities will be finalized in the first year of the project. This tool has now been included as a possible tool to use under Output 2.2.1. The following text has been added: ?Implement use of software technologies such as LUP4LDN which tackle the challenge of aligning land use and management decisions with LDN goals?.
With view to outcome 1.1 on land governance, Germany requests taking into account the forthcoming *FAO Technical Guide on the Integration of the VGGT into the implementation of the UNCCD and the Achievement of LDN* and requests examining whether previously established multi-stakeholder-platforms (e.g. by FAO to support the operationalization of the VGGT) can be used before creating new ones.	The *FAO Technical Guide on the Integration of the VGGT into the implementation of the UNCCD and the Achievement of LDN* is now identified under Output 1.1.2 as a tool to use. The project also clarifies that land tenure multi-stakeholder platforms that are functional are to be supported, with specific LDN considerations. Please see following text describing Outcome 1.1: Elements under this outcome will also ensure that land-use planning is tenure-responsive. The FAO has been engaged with MAER, COPIL and the National Land Reform Commission (CNRF) to set up a national platform for multi-stakeholder dialogue around land. This project will build on the outputs from those processes as well as that from the World Bank Rural Cadaster and Land Security Project (PROCASEF), which was developed in collaboration with FAO?s advocacy efforts through the Ministry of Finance and COPIL. The project will strengthen the existing multi-stakeholder platform and integrate LDN considerations.?
With view to the project stakeholders (p. 86 f.), Germany requests to include the LDN National Focal Point, the director of the Department of Water and Forests, Hunting and Soil Conservation of the Ministry of the Environment and Sustainable Development.	These stakeholders have now been added to the stakeholder list. Kindy refer to Section V. Stakeholders and Partnerships.
STAP Comments	**How comments have been addressed in project design**

For biodiversity, a stronger baseline needs to be developed that is linked to the Aichi Targets the project aims to contribute to. The STAP commends the landscape approach and focus on territorial participatory land use planning envisaged for the LDN interventions, and it recommends the project aligns with the CBD post-2020 global biodiversity framework, rather than the Aichi Targets that expired in 2020.	Thank you for this feedback. The project document now contains more detailed information about the biodiversity baseline. The Section 2.4 Biodiversity Status and Trends now contains more data about biodiversity in each site, there are at three biodiversity-specific projects listed in the Baseline Projects section (3.2) e.g. Management of Mangrove Forests from Senegal to Benin, Mangrove Capital Africa, Communities Green the Sahel. In order to remain responsive to the CBD, the project document now includes reference to the post-2020 biodiversity framework and demonstrates alignment. A table has been added to Section 4.6 on Global Environmental Benefits highlighting which activities will support the post-2020 Biodiversity Framework.
As the project is developed, STAP recommends linking the theory of change with component 4 on monitoring and learning to validate the assumptions underpinning the outcomes. Using the theory of change iteratively for monitoring and learning will also be valuable in identifying opportunities on adaptation and transformational change. Careful attention also should be paid to scaling in the theory of change. This includes identifying barriers, and enablers, of scaling. Achieving change at scale requires alignment between knowledge of potential ?solutions?, institutional arrangements and rules, and societal values. The project team should, therefore, ask which of these three potential types of barrier ? knowledge, rules, values ? requires attention for scaling.	Component 4.1 is included in the Theory of Change. The barriers related to upscaling are emphasized further in section 2.5: Challenges, Threats and Barriers. The following text has been added: ***?Challenges in Upscaling-*** A lesson learned from other projects and initiatives, is that there may be challenges in upscaling best practices. Some of the reasons identified for these is lack of governance, lack of capacity, livelihood challenges and lack of knowledge. The project will focus on (i) facilitating knowledge through local-level structures, as well as farmer field schools, learning-by-doing opportunities, peer exchanges; (ii) supporting an enabling environment by strengthening governance mechanisms; (iii) supporting sustainable livelihoods, without which communities may be pressured to take on unsustainable practices for subsistence. In order to ensure effective upscaling and replication, the project will create vertical channels, so that the municipal level can feed up to national entities, who can then collect lessons learned, best practices, collect data, and promote replication of activities. Interventions will focus on knowledge-sharing, knowledge-management, and knowledge-ownership.

STAP recommends designing components 2 and 3 to work in the face of unknown trends, such as climate, and to be sufficiently robust to deal with uncertainty. This entails considering one, or two, additional, simple scenarios (alternative pathways) to deal with the uncertainties of climate change, population growth, and other unforeseen long-term drivers.	Descriptions of both components 2 and 3 now reflect how they will build resilience.
Lastly, the STAP recommends the baseline activities of the PPG include gathering information on land potential so that proposed interventions can deliver the expected results. STAP would like more evidence on the drought vulnerability assessment, and how the assessment outcomes will influence the choice of SLM technologies and practices. At present it is not clear whether drought assessment exists for each crop, or whether the assessments were based on water resource models. The UNCCD?s drought toolbox may also offer tools and information that can enhance the drought assessment. While the STAP commends the emphasis that project activities are well integrated in local planning, it reminds the project team on the importance of aligning	A soil fertility mapping exercise was carried out in 2021-2020 by the Duundel Suuf Project (USAID) in conjunction with the LADA land degradation maps. The project activities under this project have been selected according to such environmental specificities. Soil fertility indicators are monitored by the INP and will be assessed at mid-term and at project closing. This will make it possible to measure the effects of the proposed interventions.
As the project is developed, the STAP suggests complementing the description of each site by describing the socio-cultural and socio-economic contexts. Paying close attention to social structures, such as culture, will support the mainstreaming of SLM practices proposed, and it will contribute to durability of the outcomes. The following study looks at how cultural practices impact the quantity of soil organic carbon, and quality of soil organic matter in the groundnut basin: Oscar Pascal Malou, et. al (2020). The Rock-Eval? signature of soil organic carbon in arenosols of the Senegalese groundnut basin. How do agricultural practices matter? https://doi.org/10.1016/j.agee.2020.107030	The description of each site now contains additional information on socio-cultural and economic contexts.
Suggest complementing baseline description with baseline indicators on biodiversity, and projects and policies targeting biodiversity loss.	This has now been added.
When developing the project, the project team should consider using remote sensing methods to monitor land use changes, including soil salinity, in the target sites.	Noted.
Suggest enhancing the theory of change during the PPG by articulating more comprehensively the assumptions underlying the success of achieving the component outcomes identified in the PIF.	The assumptions under the theory of change have been expanded upon. Kindly refer to Section 4.3 Theory of Change.

Additionally, adaptation would be greatly enhanced if the project team linked component 4 (on monitoring and learning) to the theory of change. Therefore, monitoring and learning would be used iteratively to test assumptions, and identify opportunities for adaptation.	The theory of change includes a link to component 4 and descriptions reflect the iterative aspect.
Yes. The GEBs for land and biodiversity (Aichi Targets) are defined. Given the Aichi Targets will be superseded by the post-2020 global biodiversity framework, the PPG should reconsider outcomes/outputs/targets and associated activities to respond to this new framework.	In order to remain responsive to the CBD, the project document now includes reference to the post-2020 biodiversity framework and demonstrates alignment. A table has been added to Section 4.6 on Global Environmental Benefits highlighting which activities will support the post-2020 Biodiversity Framework.
Yes, indicators are provided for land. Suggest identifying indicators for biodiversity to measure progress against the identified Aichi Targets, which STAP suggests be replaced by the targets of the post 2020 global biodiversity framework of the UN CBD	Several biodiversity-related exist: Under Component 1: ?Percentage of commune budgets dedicated to supporting SLM activities for the benefit of LDN and biodiversity conservation? Under Component 2: ?Number of biodiversity conservation and sustainable land use plans available for each commune?
STAP would like to propose the project team explores ?landscape conservation and production cooperatives? as a means to strengthen social capital while maximising the use of financial resources.	References to landscape conservation is now discussed in Section 4.2 Principles of the Project. The following text has now been added: ?The project will also support landscape-scale conservation to promote a holistic approach to landscape management and to synergize the various conservation and economic efforts underway in the landscape. Instead of addressing biodiversity concerns through a fragmented, habitat basis, a networked approach across a larger ecological system is needed to address complex, multi-faceted challenges. As noted by some biodiversity conservationists, critical conservation goals?including responsiveness to climate change and representation of species, ecosystems, and habitats?can be achieved only if addressed within larger, permeable landscapes.? As for landscape cooperatives, it is through participatory discussions and land use planning that the appropriate mechanisms for conservation will be determined.

The project aims to scale-up SLM and biodiversity conservation. When developing the project, the project team should be aware of barriers to scaling, which may include cultural values and norms, access to knowledge on innovation solutions, among other factors. As the project is designed, it might be worth for the project developers to consider a separate theory of change for scaling. STAP?s brief on transformation offers guidance on scaling.	The barriers to scaling have been identified. The following text has been added: ***Challenges in Upscaling-*** A lesson learned from other projects and initiatives, is that there may be challenges in upscaling best practices. Some of the reasons identified for these is lack of governance, lack of capacity, livelihood challenges and lack of knowledge. The project will focus on (i) facilitating knowledge through local-level structures, as well as farmer field schools, learning-by-doing opportunities, peer exchanges; (ii) supporting an enabling environment by strengthening governance mechanisms; (iii) supporting sustainable livelihoods, without which communities may be pressured to take on unsustainable practices for subsistence. In order to ensure effective upscaling and replication, the project will create vertical channels, so that the municipal level can feed up to national entities, who can then collect lessons learned, best practices, collect data, and promote replication of activities. Interventions will focus on knowledge-sharing, knowledge-management, and knowledge-ownership.

Stakeholders may vary according to the stages of project implementation, or the needs of theory of change. For example, addressing the four main barriers on LDN identified in the PIF may require different types of stakeholders.	This point has been integrated in Section 5.1. ?To ensure inclusive participation and consultation, the following stakeholders have been identified to be consulted on an ongoing basis in the implementation of the Project. The list includes identified social groups and people who are associated with the project in different ways at all stages: the people and social groups affected directly or indirectly by the results of the project; he people and social groups who participate directly or indirectly in the project; he people and social groups who are in a position to influence the results and the way the project is implemented or make decisions based on the results of the project. It is worth noting that these categories are not mutually exclusive. It is also worth noting that stakeholders? roles may differ through different phases in project implementation Stakeholders have been identified according to the above classification, in the table below? The stakeholder engagement matrix in Annex 10 reflects participation across various phases. It also mentions: ?The project will analyze stakeholder expectations and concerns as take appropriate responsive measures throughout the project to ensure that there is enough support for the project, and that results are meeting stakeholder expectations. Ongoing feedback from stakeholders will also ensure that the project is iterative, benefitting from stakeholder knowledge and experience, and is adaptive. The project has identified the following interests and concerns of the key stakeholder groups, which will be re-examined annually to assess whether expectations, roles or concerns have changed, and what impact that has on project delivery, and whether the project needs to be responsive in a different manner.?
Given that target 2.1 b is about training by higher degree (10 Masters and 3PhD on SLM / LDN) the STAP recommends a University of Senegal be included as stakeholder to deliver on this target. At present no Higher Education Institution is mentioned in the extensive list of stakeholders.	University of Senegal has been added as a stakeholder. Please refer to Section 5.1.

Currently, the PIF does not identify gender differentiated risks and opportunities. Suggest assessing the gender risks and opportunities as the theory of change is further developed during the PPG, and enablers, or barriers, to change are discussed.	As the project is geared primarily towards women, all the risks reflect risks borne by women. The Gender Action Plan addresses these risks.
In terms of social risks, it would be valuable to identify the social risks and barriers associated with behavioral change which is linked to scaling. For example, have barriers to behavioral change focused on social structural issues such as cultural norms and values?	An Environmental and Social Framework will be developed at inception to identify further social risks.
It would be useful to integrate the description of the climate trends per target site in the context section. The project objective and the components should also be framed within the context of climate change ? that is, the project objective and activities should be credible in the face of climate change, and other long-term drivers, such as population changes. The PIF mentions that population is expected to increase in the project site, while precipitation will decrease; therefore, influencing agricultural productivity.	Climate trends of each landscape are provided in Section 2.2 Site Selection.

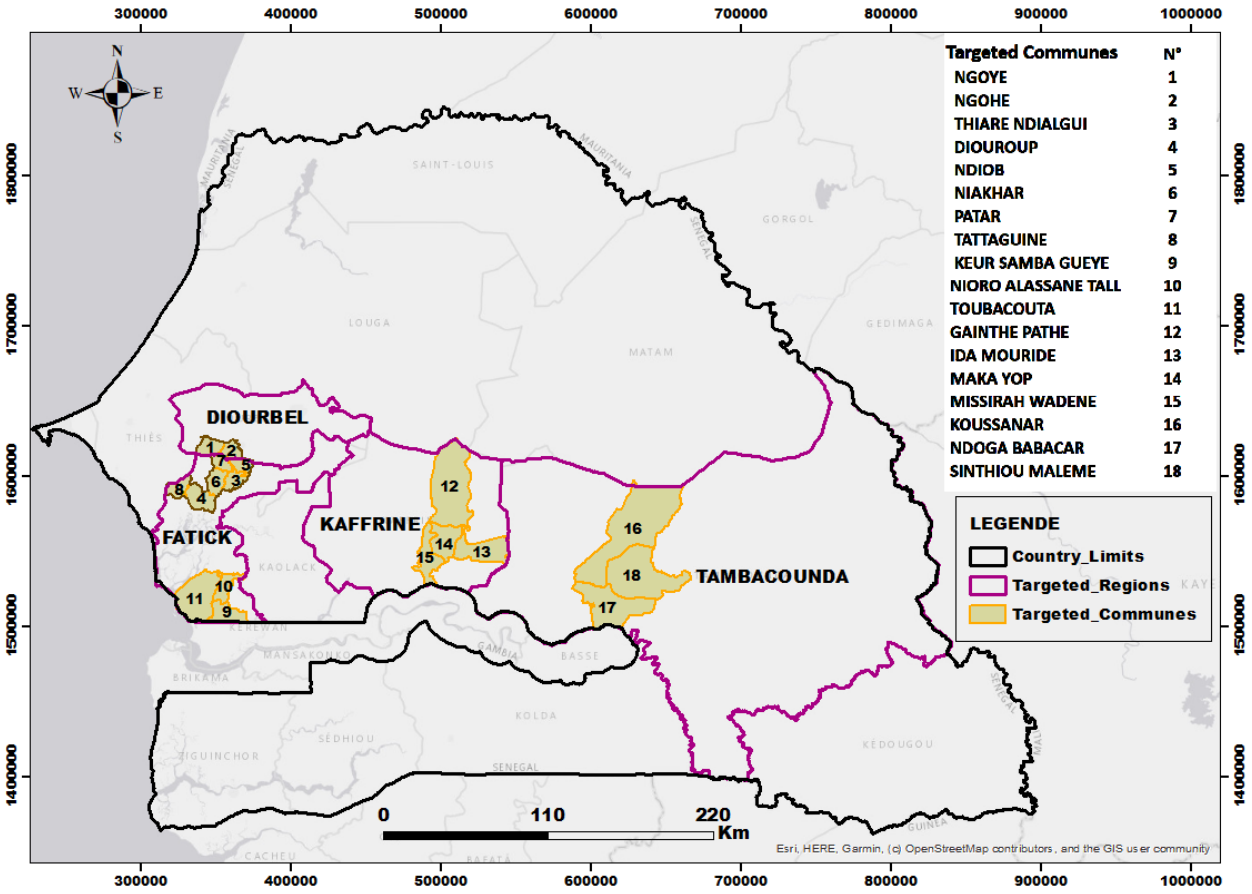
ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent to date***	***Amount Committed***
(5011) Salaries Professional:	7,500?		7,500
(5013) Consultants	95,550	91,213	4,337
(5014) Contract	16,000	16,000	0
(5021) Travel	12,950	12,731	219
(5023) Workshops	13,000	8,363	4,637
(5024) Expendable procurement	5,000	4,220	780

(5028) General Operating Expenses			
Total	**150,000**	132,527	17,473

ANNEX D: Project Map(s) and Coordinates

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



Region	Department	Districts	Communes	Population	Male	Female	Area (ha)	Latitude	Longitude
Diourbel	Bambey	Ngoye	1. Ngoye	57,340	28,392	28,948	15,956	14°38'30.06"N	16°26'2.70"W
	Diourbel	Ngohé	2. Ngohé	37,489	18,439	19,050	12,859	14°37'43.18"N	16°17'40.40"W
Fatick	Fatick	Niakhar	3. Thiaré Ndialgui	21,133	10,592	10,541	14,195	14°26'26" N	16°14'47"W
		Tattaguine	4. Diouroup	29,270	14,268	15,001	24,830	14°21'56.57"N	16°31'34.56"W
		Ndiob	5. Ndiob	23,993	11,978	12,014	12,530	14°32'35.33"N	16°15'25.06"W
		Niakhar	6. Niakhar	35,993	17,535	18,458	18,146	14°28'52.48"N	16°23'51.74"W
		Niakhar	7. Patar Sine	31,808	15,744	16,064	11,846	14°33'44.75"N	16°22'59.25"W
		Tattaguine	8. Tattaguine	38,457	19,323	19,133	15,656	14°25'6.58"N	16°36'21.84"W
		Toubacouta	9. Keur Samba Gueye	29,661	14,646	15,015	23,960	13°36'12,58"N	16°36'12.22"W
			10. Nioro Alassane Tall	40,898	19,807	21,091	19,302	13°59'27,58"N	16°33'60.30"W
			11. Toubacouta	44,078	22,089	21989	71,024	13°59'28,21"N	16°46'59.30"W
Kaffrine	Koungheul	Missirah Waden	12. Ngainthe Pathè	19,915	10,144	9,771	129,252	14°16'44.05"N	14°55'45.27"W
		Ida mouride	13. Ida Mouride	24,529	12,514	12,015	50,027	13°59'15.50"N	14°39'51.80"W
		Missirah Waden	14. Maka Yop	17,771	8,874	8,898	37,414	14° 2'9.02"N	15° 1'27.35"W
		Missirah Waden	15. Missirah Wadène	24,293	12,543	11,751	35,292	13°59'13.15"N	15° 6'54.95"W
Tambacounda	Tambacounda	Koussanar	16. Koussanar	33,746	17,022	16,724	194,828	13°51'57.62"N	14° 4'45.39"W
	Koumpentoum	Maka koulibantha	17. Ndoga babacar	13,233	12,566	25,798	86,198	13°43'55.59"N	13°57'54.94"W
	Tambacounda	koussanar	18. Sinthiou Malème	25,605	13,307	12,298	116,872	13°49'6.09"N	13°55'16.00"W
			Total	**549,212**	**279,783**	**294,559**	**890,188**		

Population projection of Senegal / MEFP / ANSD - October 2015 - Updated in January 2021

ANNEX E: Project Budget Table

Please attach a project budget table.

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1 Total	Component 2 Total	Component 3 Total	Component 4 Total	M&E	PMC	Total GEF	CSE - Centre de Suivi Ecologique	FNDASP - Fonds National de Developpement AgrosylvoPastoral	ANCAR	FAO Support Services	Total GEF
5013 Consultants															
Gender & Safeguards Consultant	Day	790	100	15,000	14,000	30,000	10,000	10,000		**79,000**	21,667	36666.66667	20666.6667		**79,000**
Land Degradation and Territorial/Spatial Management Consultant	Day	540	100	19,000	25,000	0	10,000			**54,000**	22,333	3333.333333	28333.3333		**54,000**
Biodiversity Consultant	Day	400	100	15,000	25,000	0	0			**40,000**	15,000	0	25000		**40,000**
Value Chains Consultant	Day	500	100	0	0	50,000	0			**50,000**	0	50000	0		**50,000**
National M&E Consultant	Day	100	100	0	0	0	0	10,000		**10,000**	3,333	3333.333333	3333.33333		**10,000**
Project Coordinator	per	5	65,000	25,598	60,000	50,000	54,500	74,375	60,527	**325,000**	88,732	113,134	123,134		**325,000**
Regional Project Assistant	per	5	50,000	27,597	62,500	21,250	87,403	11,250	40,000	**250,000**	73,814	67,468	108,718		**250,000**
Accountant/Secretary	per	5	40,000	0	0	75,000	75,000		50,000	**200,000**	63,334	73,332	63,334		**200,000**
Sub-total National Consultants				102,195	186,500	226,250	236,903	105,625	150,527	1,008,000	288,213	347,267	372,519	0	**1,008,000**
Mid-term Evaluation Consultant	per	1	40,000	0	0	0	0	40,000		**40,000**				40,000	**40,000**
Terminal Evaluation Consultant	per	1	50,000	0	0	0	0	50,000		**50,000**				50,000	**50,000**
Sub-total International Consultants				0	0	0	0	90,000	0	**90,000**	0	0	0	90,000	90,000.00
5013 Sub-total consultants				**102,195**	**186,500**	**226,250**	**236,903**	**195,625**	**150,527**	**1,098,000**	**288,213**	**347,267**	**372,519**	**90,000**	**1,098,000**
5650 Contracts/LOAs															
Pilots/Demonstrations	per	5	41,000	60,000	60,000	65,000	20,000			**205,000**	66,667	71,667	66,667		**205,000**
Partnerships/Microgrants for Universities/Research Centres to fulfill LDN gaps	Lump sum	1	361,797	60,000	301,797	0	0			**361,797**	60,000	0	301,797		**361,797**
Soil fertlity analysis	per	5	5,000	0	25,000	0	0			**25,000**	0	0	25,000		**25,000**
Remote Sensing and Mapping	per	2	8,000	16,000	0	0	0			**16,000**	16,000	0	0		**16,000**
Translation and Communication	lump sum	1	30,000				30,000			**30,000**	10,000	10,000	10,000		**30,000**
Terminal Report	report	1	7,000	0	0	0	0	7,000		**7,000**				7,000	**7,000**
Spot-checks (2per year * 3OPs moderate risk, range USD 100-250K) USD 2250 each	per annum	5	13,500	0	0	0	0		67,500	**67,500**	0	0	0	67,500	**67,500**
Audit (1per year*3OPs, range about USD 250-500K) USD 3500 each	per annum	5	10,500	0	0	0	0		52,500	**52,500**	0	0	0	52,500	**52,500**
5650 Sub-total Contracts				136,000	**386,797**	**65,000**	**50,000**	**7,000**	**120,000**	**764,797**	**152,667**	**81,667**	**403,464**	**127,000**	**764,797**
5021 Travel															
(Lump sum) International travel	Lump	1	20,000	0	0	0	0	20,000		**20,000**	6,667	6,667	6,667		**20,000**
(Lump sum) National travel	Lump	1	105,000	45,000	30,000	15,000	15,000			**105,000**	50,000	20,000	35,000		**105,000**
Travel for training/workshops and meetings for community groups	Lump Sum	1	150,000	60,000	60,000	30,000	0			**150,000**	60,000	30,000	60,000		**150,000**
5021 Sub-total travel				**105000**	**90000**	**45000**	**15000**	**20000**	**0**	**275,000**	**116,667**	**56,667**	**101,667**	**0**	**275,000**
5023 Training															
Agro-pastoral Field Schools	per	16	4,000	0	32,000	32,000	0			**64,000**	0	32,000	32,000		**64,000**
SLM trainings	per	5	39,700	61,000	100,000	37,500				**198,500**	61,000	37,500	100,000		**198,500**
Biodiversity Protection Trainings	per	5	40,000	0	175,000	25,000				**200,000**	0	25,000	175,000		**200,000**
Value Chain Development-Marketing	per annum	5	21,000	0	0	105,000				**105,000**	0	105,000	0		**105,000**
Value Chain Development-Distribution	per annum	5	11,000	0	0	55,000				**55,000**	0	55,000	0		**55,000**
Value Chain Development-Business Planning	per annum	5	11,000	0	0	55,000				**55,000**	0	55,000	0		**55,000**
Value Chain Development-Transformation of Products	per annum	5	15,000	0	0	75,000				**75,000**	0	75,000	0		**75,000**
Dimitra Club	per	5	26,000	10,000	20,000	50,000	50,000			**130,000**	26,667	66,667	36,667		**130,000**
SIF (Information system development)	per annum	5	16,000	80,000	0	0	0			**80,000**	80,000	0	0		**80,000**
Land Tenure/VGGT	Lump sum	1	60,000	60,000	0	0	0			**60,000**	60,000	0	0		**60,000**
LDN Governance	Lump sum	1	190,000	190,000	0	0	0			**190,000**	124,000	33,000	33,000		**190,000**
Government Trainings in LDN	Per	5	100,000	300,000	200,000	0	0			**500,000**	300,000	0	200,000		**500,000**
Inception Workshop	Training	1	20,000	0	0	0	20,000			**20,000**	6,667	6,667	6,667		**20,000**
Terminal Workshop	Training	1	35,000	0	0	0	35,000			**35,000**	11,667	11,667	11,667		**35,000**
5023 Sub-total training				**701,000**	**527,000**	**434,500**	**105,000**	**0**	**0**	**1,767,500**	**670,000**	**502,500**	**595,000**	**0**	**1,767,500**
5024 Expendable procurement															
Anti-salt dyke	Lump sum	1	140,000	10,000	100,000	30,000	0			**140,000**	10,000	30,000	100,000		**140,000**
Phosphocalcic amendment	Lump sum	1	45,000	10,000	30,000	5,000	0			**45,000**	10,000	5,000	30,000		**45,000**
Composting boxes (3 per	Lump sum	1	130,000	0	80,000	50,000	0			**130,000**	0	50,000	80,000		**130,000**
Biofertilizer (acquisition and transport 5 tons per hectares)	Lump sum	1	110,000	0	70,000	40,000	0			**110,000**	0	40,000	70,000		**110,000**
Phosphate supply	Lump sum	1	75,000	0	60,000	15,000	0			**75,000**	0	15,000	60,000		**75,000**
Phosphogypsum (Acquisition 400 kg/ha)	Lump sum	1	60,000	0	40,000	20,000	0			**60,000**	0	20,000	40,000		**60,000**
Stone cordons (50 m of cordons per ha)	Lump sum	1	100,000	0	80,000	20,000	0			**100,000**	0	20,000	80,000		**100,000**
Bunds (5 per hectare)	Per	5	33,000	0	100,000	65,000	0			**165,000**	0	65,000	100,000		**165,000**
Certified Seedlings	per	5	44,000	10,000	160,000	50,000	0			**220,000**	10,000	50,000	160,000		**220,000**
Tree saplings	per	5	40,000	0	120,000	80,000	0			**200,000**	0	80,000	120,000		**200,000**
Crops	per	5	38,000	20,000	120,000	50,000	0			**190,000**	20,000	50,000	120,000		**190,000**
Software for improved land management	per item	1	23,000	23,000	0	0	0			**23,000**	23,000	0	0		**23,000**
Advanced earth observation, land productivity dynamics and vegetative land cover structure and change	per annum	5	16,000	80,000	0	0	0			**80,000**	80,000	0	0		**80,000**
Agricultural tools and inputs	per	5	18,000	0	50,000	40,000				**90,000**	0	40,000	50,000		**90,000**
Biodiversity Monitoring Equipment	lump sum	1	112,776	0	112,776	0				**112,776**	0	0	112,776		**112,776**
Communications Products and Publication Materials	per annum	5	24,000	30,000	20,000	30,000	40,000			**120,000**	43,333	43,333	33,333		**120,000**
5024 Sub-total expendable procurement				**183,000**	**1,142,776**	**495,000**	**40,000**	**0**	**0**	**1,860,776**	**196,333**	**508,333**	**1,156,109**	**0**	**1,860,776**
6100 Non-expendable procurement															
Computers, laptops, peripherals for knowledge management	Lump sum	1	20,000	0	0	0	15,000	0	5,000	**20,000**	6,667	6666.666667	6666.66667	0	**20,000**
6100 Sub-total non-expendable procurement				**0**	**0**	**0**	**15,000**	**0**	**5,000**	**20,000**	**6,667**	**6,667**	**6,667**	**0**	**20,000**
5028 GOE budget															
				0	0	0	0	0	0	**0**	0	0	0		-
				0	0	0	0	0	0	**0**	0	0	0		-
6300 Sub-total GOE budget				**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		-
TOTAL				**1,227,195**	**2,333,073**	**1,265,750**	**461,903**	**222,625**	**275,527**	**5,786,073**	**1,430,547**	**1,503,101**	**2,635,426**	**217,000**	**5,786,073**

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 Agencys 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.

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).