



GLOBAL ENVIRONMENT FACILITY  
INVESTING IN OUR PLANET

Naoko Ishii  
CEO and Chairperson

October 03, 2017

Dear LDCF/SCCF Council Member:

UNDP as the Implementing Agency for the project entitled: ***Senegal: Promoting Innovative Finance and Community Based Adaptation in Communes Surrounding Community Natural Reserves (Ferlo, Niokolo Koba, Senegal River Bas Delta & Saloum Delta), Senegal***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNDP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by LDCF/SCCF Council in December 2015 and the proposed project remains consistent with the Instrument and LDCF/SCCF policies and procedures. The attached explanation prepared by UNDP satisfactorily details how Council's comments have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.TheGEF.org](http://www.TheGEF.org). If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

for Naoko Ishii  
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document  
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



# GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: Least Developed Countries Fund

For more information about GEF, visit [TheGEF.org](http://TheGEF.org)

## PART I: PROJECT INFORMATION

Project Title: Promoting innovative finance and community based adaptation in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Senegal River Bas Delta & Saloum Delta)			
Country(ies):	Senegal	GEF Project ID: <sup>1</sup>	5867
GEF Agency(ies):	UNDP (select) (select)	GEF Agency Project ID:	5401
Other Executing Partner(s):	Ministry of Environment and Sustainable Development (MEDD) of Senegal	Submission Date:	26 May 2017
		Resubmission Date:	22 Aug 2017, 25 Sept 2017
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of Parent Program	[if applicable]	Agency Fee (\$)	518,700

## A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCA-1 (select)	Reduce vulnerability to the negative impacts of climate change, including local, national, regional and global variability	LDCF	3,000,000	17,841,169
CCA-2 (select)	Increase adaptation capacity to address the impacts of climate change, including local, national, regional and global variability	LDCF	460,000	3,000,000
CCA-3 (select)	Promote adaptation technologies transfer and adoption	LDCF	2,000,000	13,000,000
<b>Total project costs</b>			<b>5,460,000</b>	<b>33,841,169</b>

## B. PROJECT DESCRIPTION SUMMARY

<b>Project Objective: Promote sustainable community financing and adaptation mechanisms in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Low Senegal Delta, Saloum Delta sites), Senegal</b>						
Project Components/Programs	Financing Type <sup>3</sup>	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
1. Local innovative financing systems for climate sensitive activities	TA	Implementation of financing incentives in relation with the communes and communities financing systems to cover the extra costs of climate change adaptation	1.1 Climate change adaptation measures are integrated into local development plans and budgets and Decentralized Climate Funds (DCF) are established.	LDCF	1,000,000	6,054,475

<sup>1</sup> Project ID number remains the same as the assigned PIF number.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

<sup>3</sup> Financing type can be either investment or technical assistance.

			<p>1.2 Innovative financial mechanisms are established and contribute to finance adaptation measures at the local level (PPPs, benefit sharing mechanisms, offsets and CSR).</p> <p>1.3 Credit &amp; saving mutual network is strengthened and increased the farm credits delivered to vulnerable population (this output will capitalize the lessons learned from other mutuals, and build on the successful experience of the Saloum Delta mutual. In addition, access to micro-finance for climate change adaptation activities in remote vulnerable areas will be facilitated through the organization of 40 training sessions for women groups and the establishment of partnerships with MFIs).</p> <p>1.4 Capacity-building to identify priority adaptation interventions and to manage/monitor projects.</p>			
2. Inclusive access to resources and sustainable livelihood	Inv	Provision of investments and capacities to vulnerable households and community groups to provide holistic responses to address climate and future changes vulnerability.	2.1. Investments and resilient practices are adopted by 5,000 vulnerable households and increased their income under climate change (ie. restoration of PU/CNRs, development of water availability, including the creation of earth ponds and irrigation for income generating activities, restoration of	LDCF	4,200,000	27,266,694

			50 ha of fertile lowlands benefiting 250 households, production and distribution of certified resilient seed varieties in the intervention zones, development/ enhancement of resilient productive activities).			
	TA		<p>2.2. Resilient small-business development is supported through revolving funds (create producer groups/ entrepreneurs clusters, design a value chain benefit sharing mechanism, structure the funds into revolving funds, share the lessons learned).</p> <p>2.3. Climate information is disseminated and capacities of villagers (especially women and youth) are strengthened to secure against climate risks (procurement of 3 automatic meteorological stations, dissemination of climate information through radio, municipal focal points and SMS, and capacity building for communities to become pro-active in climate change risk management).</p> <p>2.4. Knowledge, key experience and lessons learnt are disseminated (PMU capacity-building, development of communication tools, including a film, study visits and creation of a website).</p>			
Subtotal					5,200,000	33,321,169

Project Management Cost (PMC) <sup>4</sup>	LDCF	260,000	520,000
<b>Total project costs</b>		5,460,000	33,841,169

**C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE**

Please include evidence for co-financing for the project with this form.

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Cofinancing</b>	<b>Amount (\$)</b>
GEF Agency	UNDP	Grants	500,000
Recipient Government	Ministry of Environment and Sustainable Development (MEDD) of Senegal	Grants	10,400,000
GEF Agency	UNDP	Grants	6,000,000
Beneficiaries	ANACEM	Grants	2,500,000
Others	PADAER	Grants	2,741,894
Others	PASA Loumakaf	Grants	10,879,741
Beneficiaries	Communes of the Project	Grants	819,534
<b>Total Co-financing</b>			33,841,169

**D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS**

<b>GEF Agency</b>	<b>Trust Fund</b>	<b>Country Name/Global</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>(in \$)</b>		
					<b>GEF Project Financing (a)</b>	<b>Agency Fee<sup>a)</sup> (b)<sup>2</sup></b>	<b>Total (c)=a+b</b>
UNDP	LDCF	Senegal	Climate Change	(select as applicable)	5,460,000	518,700	5,978,700
<b>Total Grant Resources</b>					5,460,000	578,700	5,978,700

a ) Refer to the Fee Policy for GEF Partner Agencies

<sup>4</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

## E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>5</sup>

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	0 hectares
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	1,485 hectares
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	0 Number of freshwater basins
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	0 Percent of fisheries, by volume
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	0 million metric tons
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	0 metric tons
	Reduction of 1000 tons of Mercury	0 metric tons
	Phase-out of 303.44 tons of ODP (HCFC)	0 ODP tons
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	Number of Countries: 0
	Functional environmental information systems are established to support decision-making in at least 10 countries	Number of Countries: 0

## F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

## PART II: PROJECT JUSTIFICATION

### A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF<sup>6</sup>

A.1. *Project Description*. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative

<sup>5</sup> Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

<sup>6</sup> For questions A.1 –A.7 in Part II, if there are no changes since PIF, no need to respond, please enter “NA” after the respective question.

scenario, GEF focal area<sup>7</sup> strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

- The PIF envisaged a first component with the objective to create innovative financial mechanisms at the local level to cover the incremental costs of climate change adaptation. During the PPG, these mechanisms have been largely detailed and are now organized in 3 main axes of intervention: (i) mechanisms to strengthen the role of the communes and the civil society to attract climate funding at the local level (decentralized climate fund, fund rising, etc.), (ii) mechanisms to involve the private sector in the climate adaptation projects (PPP with the cashew and mangoes industries in the Saloum area, CSR/offsets with the mining industries in the Niokolokoba area, etc.), (iii) development of financial products and activities dedicated to vulnerable population (strengthen of the Saloum Delta Saving & Credit Mutual as the analysis during the PPG highlights the development potential of this institution).

- Several partnerships have been developed during the PPG, including a strategic partnership with ANACIM for the production and dissemination of meteorological information (output 2.3).

- PPG activities have been undertaken to inform of the CEO Endorsement document: (i) baseline analysis and ongoing activities, (ii) multistakeholders consultation in the villages and in Dakar, (iii) technical coordination meetings, (iv) financial and economic analysis, (v) environmental and social assessments, (vi) gender assessment, (vii) design of implementation modalities, (viii) financial resource mobilization and partnerships development, (ix) CEO endorsement document validation workshop.

## **A.1. Project Description.**

### **Global environmental and/or adaptation problems**

Climate change is affecting Senegal and the situation is likely to worsen over time:

- as regards rainfall, the rain season has shortened and the isohyets shifted South. A general decrease has been observed over the past 70 years. Extreme climatic events, droughts and floods, will be more likely to happen.
- Over the past 70 years, the minimum temperatures drastically increased while maximum temperatures modestly increased. Temperature forecasts predict a + 1.1 to 1.8°C increase by 2035<sup>8</sup>.

Climate change triggers negative effects on ecosystems and people:

- (i) sea level rising and coastal erosion as well as beaches loss. Sea temperature increased by 0.04°C to 0.05°C per year between 1980 and 2009 and its salinity increased. Moreover, sea level rise reached 1.4 mm/year. By 2100, cumulated sea level rise is likely to reach 1 m, flooding and eroding 55 to 86 km<sup>2</sup> of beaches and 6000 km<sup>2</sup> of low lands<sup>9</sup>
- (ii) desertification, reduction of mangrove and spawning areas, arable lands and pastures loss,

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<sup>7</sup> For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving..

<sup>8</sup> Ministère de l'Environnement et du Développement Durable (2015), *Contribution prévue déterminée au niveau national*.

<sup>9</sup> UNDP, (2009), Rapport National sur le Développement humain au Sénégal 2009. *Changement climatique, sécurité alimentaire et développement humain*.

- (iii) salinization of water, the reduction or lack of available water for irrigation and other productive activities<sup>10</sup>. 1 to 2% of total land area is affected by salinization<sup>11</sup>, a surface that is prone to increase due to rainfall decrease and increasing need for water.

The disruption of ecosystems due to climate change has an impact on country's key economic sectors such as agriculture, gardening, breeding, fisheries and tourism. More specifically, it affects:

- (i) Farming: Specific impacts of climate change on the agricultural sector include the following: (i) reduced yields of major crops (millet, sorgho, corn, rice, peanuts, and beans), (ii) physical and chemical degradation of the soils, leading to reduced agricultural productivity and plant resources in pastures for animals, (iii) exacerbation of land ownership conflicts. Climate risks are exacerbated by a rain-fed production system, the importance of subsistence farming, of farm practices that are not adapted to a changing environment, perturbations of the farming calendar, and the lack of information and management of climate risks. In this context, food safety will be difficult to provide in the close future.
- (ii) Livestock raising is a source of livelihoods and income for a significant number of people, specifically in the Ferlo. Drought and rising temperatures may affect this activity, leading to an expected decrease in the availability of fodder and drying out of drinking areas. In the project's target sites, feeding livestock, which is essentially based on the availability of natural resources (pastures), represents a secondary income-generating activity (except for Ferlo where cattle raising is the first activity). The vulnerability of this sector to climate change is further exacerbated by the increased risk of plagues and diseases<sup>12</sup> which are unlikely to be addressed due to the current lack of veterinary monitoring. Risks relating to livestock loss can reduce drastically their income, which result in upheavals in family life, and further expose women and children.
- (iii) Water resources: Variations in precipitations and temperatures expected in the project provinces can lead to changes in rainwater, reduced runoff, increased water erosion and reduced water availability in the reservoirs. Furthermore, a decrease in water and alluvial table replenishment resulting from increased evaporation can lead to rapid drying out of ponds. An increase in the expected drought frequency, caused by climate change, will lead to reduced water resources availability. All of this can lead to a negative impact on the water supply and productivity of irrigated crops. Besides, an increased intensity and frequency of flooding is expected particularly in Senegal Oriental, and will also have an impact on the quality of water, which is expected to engender the widespread of a number of disease, impacting the health and well-being of humans and livestock.
- (iv) Forestry: Mangroves that are found in Senegal River and Saloum deltas are home to various animal species that contribute to people's livelihood. The principal impact of climate change over these stands (mainly *rizophora sp.*) is land salinization that contributes, together with other anthropogenic pressures, to their loss. In 1983, mangroves covered 440,000 ha while in 1997 they only covered 185,000 ha. Other forest stands, dry savannahs, wooded savannahs and sub-tropical forests, provide wood fuel, timber, game and non-timber forest products to the local population, for which the major threats induced by climate change are forest fire multiplication and desertification that lead to forest cover reduction.

For more details, please refer to the UNDP PRODOC, PART I: [Development challenges](#) Sections : **Context & Specific consequences of climate change in the intervention sites of the project**. pp. 7-16.

## Root causes

- In Senegal, the subsistence of 60% of population depends on natural resources<sup>13</sup>, and as a consequence, this share of the population undergoes climate change even more strongly.

<sup>10</sup> National Adaptation Programme of Actions, 2006

<sup>11</sup> Land Degradation Assessment (LADA) project, (2010), *National Land Degradation Assessment Senegal and review of global socio-economic parameters in the LADA database*.

<sup>12</sup> Mario Youan (2014), *Agricultural Adaptation to Climate Change in the Sahel: Expected Impacts on Pests and Diseases Afflicting Livestock*

<sup>13</sup> Intended National Determined Contribution, 2015



- The response capacity of the population (adaptation of practices) is highly limited by poverty since 57% of rural populations are considered as poor<sup>14</sup>. Moreover, the low access to technologies and to financial resources is also a key cause of the current challenge to adapt to climate change for vulnerable populations.
- To date there is insufficient technical, institutional and financial capacities at commune's level and at national level to uptake adaptations measures and practices.

For more details, please refer to the UNDP PRODOC, PART I: [Development challenges](#) Sections : **Context & Specific consequences of climate change in the intervention sites of the project.** pp. 7-16.

### **Two main barriers need to be addressed:**

Barrier 1) Limited capacity of local stakeholders (communes, financial institutions, civil society and private companies) and national level to partner and/or attract, manage additional finance dedicated to climate adaptation:

- Limited resources to finance climate change adaptation at local level
- Limited skills to develop innovative finance mechanisms
- Limited access to finance for local population to diversify IGA and develop resilient activities

Barrier 2) Limited capacity of communities (in particular women) and authorities to understand climate change information and to develop opportunities and generate income from their productive & climate resilient activities

- Insufficient access to farm inputs & infrastructure, to climate information and advice to adapt to design and implement adaptation measures related to agriculture/forestry and water
- Limited capacities of population to generate incomes from resilient productive activities

For more details, please refer to the UNDP PRODOC, PART I: [Development challenges](#) Section: **Long-term solution and barriers to overcome.** pp. 17-24.

### **Baseline scenario**

The project is intervening in four sites: the Saloum Delta, the Senegal river delta; the Ferlo (Sylvo-pastoral ecosystems) and; the Niokolo-Koba (Senegal Oriental). These sites were chosen based on (i) their vulnerability toward climate change, and (ii) the presence of a Community Natural Reserves (CNRs) as a key action for the adaptation strategy at the local level, as forests constitute a major tool for adaptation.

### Innovative local financing for enhancing climate adaptation activities and investments

- Currently, the communes and the local stakeholders face major problem to attract and manage climate funding at the local level. The incomes of the communes come from (i) fiscality, (ii) communal heritage, (iii) dotation from the State, (iv) contribution from the Decentralization Fund. In a recent report, the Ministry of Economy, Finance and Plan recognizes that resources from endowment funds represent only 20% of the needs of the communes. The budget of the communes is then tight and the environment sector, as one of the key mandate of the communes, is poorly allocated. The share of the budget dedicated to the environment is never above 1%. Among this share, no finance has been allocated to climate change adaptation. Both internal (local taxes) and external funding have to be developed in order to meet the objective for environmental protection.
- The local population have also important difficulties to access and benefit from climate funding, depending mainly from NGO or projects, which have the responsibility to select them.
- Credits and Saving Mutuels have been established in the project sites (under the PGIES implementation) in order to increase access to finance for rural communities. In spite of the challenges faced by the majority of the MECs,

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<sup>14</sup> IFAD, 2014

the MEC from the Saloum Delta is showing good results. The MEC is a powerful tool to support access to credits for the local population and the lessons learned from the failures and successes of the different MECs provide a strong baseline for improvement and development. In order to promote the access to farm credits, the MEC of the Saloum Delta should be strengthened and partnerships with others recognized financial institutions should be developed.

### Investments and adoption of diversified resilient practices by vulnerable communities

Currently, the climate variability and change have a broader range of impacts on individual households, beyond their impact on agriculture systems (see section on Development Challenge). This increased uncertainty – combined with the prevailing low capacity to manage climate risks and the limited number of available coping mechanisms – is likely to create additional obstacles for households, particularly women, to achieving familial food security.

For more details, please refer to the UNDP PRODOC, PART III: [Results and partnerships](#) Sections: **Component 1 without LDCF intervention** pp. 33-35 & **Component 2 without LDCF intervention** p. 47-48.

### **Associated baseline projects**

Several GEF and non-GEF projects on adapting to climate change are currently being implemented in Senegal. Previous projects and programmes have largely focused either on the policy level (design of NAPA) or on sector approach (promotion of resilient farming or management of watershed). Whereas the ongoing initiatives in the country provide opportunities for knowledge exchange and synergies with the LDCF-financed project, any of them has developed an integrated approach with the establishment of financial mechanisms.

- The **National Programme for Local Development (PNDL)** is currently implemented by the Government of Senegal to support effective, efficient and sustainable delivery of basic socio-economic services to populations.
- The **Programme to improve the Dynamics of Economic and Social Development (PRODES)** is a UNDP project financed by UNDP, Luxembourg and the Government of Senegal.
- The **Sectoral Policy on Micro-finance**, is implemented and financed by the Ministry of Economy and Finance.
- The LDCF-financed project entitled “**Integration of climate resilience in the agro-pastoral production for food security in vulnerable rural areas through the farmer field school approach**” is currently executed by FAO.
- The project entitled “**Strengthening land and ecosystem management under conditions of climate change in the Niayes and Casamance regions**” is financed by the LDCF, the Government of Senegal and UNDP.
- The **National Adaptation Plan Global Support Programme (NAP-GSP)** is a UNDP-UNEP programme, financed by the LDCF.
- The “**Strengthening Resilience to Food and Nutrition Insecurity Sahel Multinational Programme**” (later called P2RS) has the sectoral objective of contributing to reducing poverty, improving food security and nutrition as well increasing incomes of vulnerable rural populations.
- Additionally to the aforementioned LDCF-financed project, UNDP is the executing partners of the project entitled “**Senegal National Adaptation Plan**” financed by the LDCF. The objective of this project is to strengthen the capacity of sectoral Ministries and local governments to better assess the implications of climate change and to adjust existing policies and budgets for the integration of medium and long-term climate change risks and adaptation measures.

For more details, please refer to the UNDP PRODOC, PART II: [Strategy](#) Section: **On-going country intervention** pp. 29-30.

### **Proposed alternative scenario**

The LDCF-financed project will contribute towards achieving the long-term solution which is to promote innovative finance and community based adaptation in the communes surrounding the CNRs in Senegal.

The preferred solution pertains to increasing the resilience of local communities to climate change impacts in the four sites of Senegal and comprises the following:

- Additional budget dedicated to climate change adaptation at the local level
- Establishment of innovative mechanisms that brings additional funding in the long term
- Increased access to farm credits
- Enhanced capacity to develop resilient productive activities
- Increased investments for climate adaptation
- Improved transmission of climate and good practices information

For more details, please refer to the UNDP PRODOC, PART II: [Strategy pp. 25-29](#).

### **Expected outcomes and components of the project**

The objective of the LDCF-financed project is to promote innovative finance and community based adaptation in the communes surrounding the CNRs in Senegal. To achieve this objective, two complementary outcomes will be delivered:

- Component 1: Innovative local financing for enhancing climate adaptation activities and investments

Outcome 1 will establish innovative mechanisms to finance adaptation actions at the local level.

The communes must seek innovative ways to fulfill their roles of sustainably financing climate change adaptation in their territory, without falling into the trap of remaining donor dependent. Also, they must help to shift local economies away from subsistence towards more consistent and lucrative ventures that are adapted to climate change while also strengthen community and political interest. The first step in this process is the preparation of a clear CCA action plan (participative identification and prioritisation of CCA measures) and a well-reasoned budget. Each commune must do this and there is also interest in having Communes Interest Groups (*Groupement d'Intérêt Communautaire – GIC*) consider the same in order to finance corollary initiatives.

It is probably favorable to develop a range of economic growth options at each site as a means to buffer against political or market volatility, as well as to test the added values of different initiatives in varied local conditions. Diversifying options may also be useful with respect to time requirements for market development. The communes must also be able to generate revenues in order to progressively cover its recurrent costs. Part of this income may emanate from 'taxes' or agreed contributions for local economic interest groups but the LDCF project may be wise to explore possibilities of tapping into communal and/or regional taxes. Theoretically, the mechanisms are legislated but so far have eluded implementation.

The Mutual of Saloum Delta will be strengthened and partnerships will be developed with other micro-finance institution in order to increase credits allocation to vulnerable population. The project will pilot an innovative Decentralized Climate Funds (DCF) in order to enable local population to (i) access climate funds to finance local adaptation, and (ii) to build climate resilience into their planning and budgeting.

- Component 2: Investments and adoption of diversified resilient practices by vulnerable communities

Outcome 2 will invest in adaptation measures and support adoption of resilient practices by vulnerable communities (focusing largely on women groups).

With LDCF financing, the conditions for sustainable development will be implemented through the development of skills and technology required to ensure resilience family production from climate impacts. The commitment of communes, villagers, technical services and of other community partners remains a fundamental component of successful inclusive development.

As salinization and erosion are a crucial problem faced by farmers in coastal areas, the LDCF project will support land restoration and diversification of income-generating activities. For example, in the Senegal River area, women groups will be supported to switch from agriculture to seafood (enhanced by mangrove restoration) and salt production and

commercialization. Besides, access to water with a changing climate is another difficulties faced by villagers, in particular in the Ferlo area. The LDCF project will finance ponds restoration/ management to increase access to water. Anti-erosive actions, such as tree plantations in agroforestry systems, will be also implemented. The LDCF will finance CNR/UP restoration, including fire breaks maintenance. All these investments will be made with a key focus to diversify income-generating activities for villagers. Some value chains, such as Arabic gum, can bring more and better income for farmers during the dry season, and alternative income when climate change impacts agricultural yield and income.

One of the others challenges faced by communities, and particularly women groups and small farmers, is simply a lack of access to information that would facilitate climate resilient planning and risk management. The current mix of seeds/crop production is not associated with regular consideration of seasonal forecasts, an important input in the face of increasing temperatures and a greater frequency of variation in rainfall. Ensuring that women groups and small farmers are able to access critical information such as seasonal forecasts will support their efforts to manage their livelihoods in a context of uncertainty LDCF resources will help to disseminate a community-based climate services (information and tailored made advises) with users. This will tailor to support the resilience of farming practices within existing projects (e.g. PADAER, PASA Loumakaf) and livelihood initiatives developed with women and around ANACIM stations. Opportunity will be explored to diffuse community radios for wider audiences in disseminating climate information and to exchange instantaneous data collected and transmit local weather forecasts via SMS.

For more details, please refer to the UNDP PRODOC, PART III: [Results and partnerships](#) pp. 31-60.

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

#### Baseline

The original budget dedicated to the environment in the 21 communes is never above 1% of the annual budget, and no finance has been allocated to climate change adaptation.

Past programs (and in particular the PGIES in the village concerned by the LDCF project) have invested important funds in trees plantation which are now entering into production and, hence, are becoming important source of incomes for local population.

#### Project financing and co-financing

- The Government of Senegal, with the support of several partners, is supporting access to seeds for smallholders' farmers. Moreover, the LDCF-funded project will establish a partnership with the Programme National de Développement Local (progr) for capacities building of municipal staff and piloting Decentralized Climate Fund (DCF).
- The LDCF resources will support the improvement of existing chain of production and dissemination of agro-meteorological information (output 2.3.). ANACIM, the communes and the rural radio stations will be involved in implementing activities.
- Innovative finance mechanisms will be established (e.g. crowdfunding initiative). Moreover, one of the goals of the LDCF-funded project is to provide local stakeholders with capacities to attract climate funding at local level and map the existing sources of climate funding.
- In addition, a public-private partnerships (PPP) - between a local collectivity (commune for example) with a private company operating in its territory - is to be developed in order to increase funding for climate adaptation

For more details, please refer to the UNDP PRODOC, PART III: [Results and partnerships](#) pp. 31-60.

### **Global environmental benefits and/or adaptation benefits (LDCF/SCCF)**

The LDCF-funded project is targeting the following adaptation benefits:

- Reduce vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change

The aim is to deliver targeted adaptation benefits to 224 vulnerable villages in the four project sites, resulting in direct benefits for at least 50,000 people, which amounts to 5,000 households (among which 50% of women).

At the local level, the vulnerability of project beneficiaries to climate change will be reduced through several measures including: (i) introduction and dissemination of agricultural practices (adapted seeds, soil and water management, etc.), (ii) enhancement of climate resilient value chains (gum arabic, cashew, salt, etc.), (iii) increase of credits access for farmers, (iv) development of ponds and access to water for income generating activities. The project will stimulate a real dynamic in the creation of micro-business (specially managed by women) by training them on business and rural finance. Diversification of livelihood activities will improve safety nets for vulnerable households.

At least 75% of the target populations and farmers become aware of potential negative impacts of climate change and implement appropriate adaptation measures. At least 5,000 households get access to information broadcast by the 21 communes to secure production against climate risks. These activities will also include study trips of mayors and farmers to increase the knowledge of municipal and village officials on the management of climate funds and adapted practices toward climate change.

- Strengthen institutional and technical capacities for effective climate change adaptation

At the national level, the adaptation benefits generated by the LDCF-financed project will include building the overall capacity of the Ministry of Environment to develop innovative financial mechanisms for adaptation measures implementation, and to experiment adaptation actions in the sectors of agriculture, water resources and forestry. This will be achieved through training and capacity-building of officials within Ministry of Environment, ANACIM and ARD at the national and commune levels. Targeted beneficiaries of the project's capacity-building activities will, at a minimum, include: i) 40 national-level representatives; and iii) 60 commune-level representatives (in each of the 21 targeted communes).

Capacities building of the communal staff and the local civil society will be carried and will include (i) better understanding of climate change, (ii) skills to evaluate and manage climate change risks, (iii) learning skills to increase awareness of local population. As a result, the communes' institutional, technical and financial capacity to attract additional funding, to develop and implement site-specific adaptation interventions will be strengthened.

Producer groups and entrepreneur clusters will be created and their capacities will be reinforced. At least 40 micro-enterprises will be created and/or will develop their activities by 50%.

At least 20 revolving funds will be set up for profitable value chains.

- Integrate climate change adaptation in relevant policies, plans and associated processes

The aim is that 21 communes include climate change adaptation actions in their management and investment documents (PDC and budget).

The 35 PU/CNR management plans will include climate change adaptation.

Budgets of the communes will clearly state the co-funding corresponding to the actions carried on their territories by other stakeholders. The 21 communes located on the RNC/UP areas will set at least one (1) innovative and persistent financing mechanism, which allows at least the multiplication of the climate change adaptation budget by ten (10). Each of the 21 communes will implement an innovative financial mechanism (PPP, RSE, Eco tax, etc.) that allows them to generate additional financial resources dedicated to climate change adaptation and that is at least equivalent to 5% of the annual budget.

The Saloum Delta mutual will be reinforced to cover all project zones and reach a volume of granted loans at least equivalent to 300 millions FCFA. Partnerships have been established with at least one (1) additional mutual that grants 300 millions FCFA in each zone.

For more details, please refer to the UNDP PRODOC, PART III: [Results and partnerships](#) pp. 31-60.

### **Innovativeness**

The broader aim of this project is to pioneer a new paradigm for sustainable development in rural areas based on innovative financial mechanisms and resilient activities development in ecologically vulnerable landscapes. Innovation is a central



aim of the project with the focus on combining and sequencing instruments and approaches. Whereas all traditional projects in Senegal faces sustainability challenges (because of lack of funding after the implementation period), the LDCF-Project will pioneer an approach where financial mechanisms sustain adaptation activities implementation.

### Sustainability and potential for scaling-up

The overall question addressed through this project is how livelihoods can be better sustained through the climate change adaptation approach, drawing synergies from other programs, projects, processes and communities. The project can potentially share:

- Measurable, quantifiable and qualitative results and how to adhere to high-quality and fair practices/processes (resilient value chains development and sustainable lands / forestry uses);
- Process for linking with community-managed institutions, benefits and ownerships;
- Participation, decision-making, local and indigenous expertise, partnerships, networking, sharing of costs, equity and enhanced gender relations.
- How to meet local demands, link markets, partners with private sector and sustains actions on scale and areas.
- Adaptive management, informal and responsive arrangements and systems created, especially for income generation activities, marketing arrangements etc.
- Linkages with institutions/banks for access of resources, loans, repayments etc.
- Technology learnt, adopted, disseminated by the partners with other partners and institutions.

The project scaling up efforts will not only focus on increasing the number of beneficiaries or geographical area, but it will also address additional barriers, forge more partnerships and generate more co-financing. Sustainable finance models combined with adaptation best practices have tremendous potential for scale-up since once established and proven it's a ready-made performance-based financial mechanism that can be capitalized and disseminated by further donor or government investments and either used to catalyze additional roll-out of such an approach.

Documenting adaptation practices and technologies will constitute a precondition and point of departure for the process of scaling up and out (quantitative scaling up). The participatory processes and other collaborative planning approaches will be developed and will enable multiple stakeholders to share knowledge, develop awareness, and improve learning and foster replication in other sites.

For more details, please refer to the UNDP PRODOC, PART IV: [Feasibility](#) Section iv. **Sustainability and Scaling-up** pp. 70.

A.2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact.

The LDCF-funded project is not a child project.

A.3. *Stakeholders.* Identify key stakeholders and elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project. Do they include civil society organizations (yes ☒ /no ☐)? and indigenous peoples (yes ☐ /no ☒)? <sup>15</sup>

Outputs	Stakeholders	Key responsibilities
<b>1.1:</b> Climate change adaptation measures are integrated into local development plans and budgets and Decentralized Climate Funds (DCF) are established.	Communes and	Provide information and the documentation. Sign a partnership contract with PNDL at the beginning of the project - Technical support of the communes to integrate CCA and establish the DCF. Bring capitalization on DCF (DFID project).
	GIC	
	PNDL	
	ARD	
	IED Senegal	

<sup>15</sup> As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

Outputs	Stakeholders	Key responsibilities
	CSO, Local population	Identification of major threat to CC, key activities, support the implementation of activities, mobilization of communities.
<b>1.2:</b> Innovative financial mechanisms are established and contribute to finance adaptation measures at the local level.	DGF (MEDD) PNDL Private sector CNAPPP Local communities MIN	Provide assistance to design innovative financial mechanisms Technical support of the communes. Participate to workshops for designing CSR, offsets mechanisms. Train communes to establish PPP. Participatory design and implementation of financial mechanisms. Collaborate with MEDD for implanting the Mining Fund.
<b>1.3:</b> Credit & saving mutual network is strengthened and increased the farms credits delivered to vulnerable population.	MEC MFI DRS (Ministry of Finance) Women groups	Identify resilient activities to be funded. Develop specific CC adaptation financial products. Benefit from capacities building, motivation to become more professional. Develop partnerships with MEC and bring technical assistance to MEC. Provide technical support to MEC, facilitate partnerships with MFI and provide material for trainings to women groups. Benefit from training sessions; submit projects to be financed by MEC and MFI.
<b>1.4:</b> Capacity-building to identify priority adaptation interventions and to manage/monitor projects.	Communes NGO/CSO	Develop a funding strategy for CC adaptation. Benefit from training to mobilize funds for climate adaptation. Benefit from training to manage climate funds.
<b>2.1:</b> Investments and resilient practices are adopted by 5,000 vulnerable households and increased their income under climate change	IREF CVD/CIVD PEPAM, PAPIL PADAER Ministry of agriculture, National council on seeds	Integrate CC adaptation in the management plans. Technical support for CNR restoration, fire breaks opening and maintenance. Management and control the CNR, dissemination information to villagers and mobilize communities. Technical assistance for water access investment. Cofinance and technical support.

Outputs	Stakeholders	Key responsibilities
	Farmers, groups of women Private sector	Technical support and provide seeds. Testing and disseminating resilient seeds, training and supervise communities. Certification of resilient seeds. Production and dissemination of resilient seeds. Support the resilient value chains. Buy products.
<b>2.2:</b> Resilient small-business development is supported through revolving funds.	GIE/ Entrepreneurs  Other projects	Develop small-scale resilient business; motivation to be engaged in a cluster to boost the resilient business. Select GIE/entrepreneurs for the cluster.
<b>2.3:</b> Climate information is disseminated and capacities of villagers (especially women and youth) are strengthened to secure against climate risks.	ANACIM Local communities  Communes  Ministry of Agriculture Community-based radios CVD/ CIVD	Install new and rehabilitate existing meteorological and hydrological stations; Monitor and disseminate climate-related information (vulgarisateur, partnerships with radio - URAC, etc.); Develop meteorological services (SMS, advices). Play a key focal role for dissemination of climate information Support to advise farmers.  Dissemination of climate information.  Use and dissemination of climate information
<b>2.4:</b> Knowledge, key experience and lessons learnt are disseminated.	MEDD IREF and technical services Local and national media Mayors of communes	Capitalisation and sharing project results Diffusion of good practices  Support diffusion of project results  Share good practices with others.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men. In addition, 1) did the project conduct a gender analysis during project preparation (yes ☒ /no ☐)?; 2) did the project incorporate a gender responsive project results framework, including sex-disaggregated indicators (yes ☒ /no ☐)?; and 3) what is the share of women and men direct beneficiaries (women X%, men X%)? <sup>16</sup>

<sup>16</sup> Same as footnote 8 above.



food security and living conditions. In Senegal, 30% of the households live under the poverty line (i.e. less than 2,400 calories per day) and most of them are women and young people<sup>17</sup>. As regards climate change, they are also the most vulnerable.

However, in Senegal and on the project areas, women face challenges:

- (i) The arduousness of their work (e.g. drawing of water, crushing) has been highlighted by the women in the project areas. In wolof language, they called that being “weet”, meaning they are always thinking about their duties.
- (ii) Climate change amplifies the difficulty of women’s work. In the project areas, women stated that natural resources access (water and energy) is getting harder
- (iii) Lack of access to productive resources. Women only own 4% of arable lands in Senegal and lack of financial resources. In the project areas, women asserted that they experienced difficulties with access to credit and with development assistance for the value chains in which they are involved because of inadequate financial guarantees. They also stated that banks and mutual charge them higher rates of interest. In addition, they lack of access to information, law understanding and allocation of resources procedures.

The project supports a Gender and Development approach, to ensure equally shared opportunities, resources, benefits and climate change adaptation strategies between social groups in the target areas. In order to meet that objective, various tools and strategies have been developed. Gender-sensitive indicators and targets have been developed to monitor the progress of the LDCF-financed project and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers appointed by this project will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools under Outputs 2.3 and 2.4 will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to encourage the implementation of gender-sensitive initiatives beyond the project lifespan.

For more details, please refer to the UNDP PRODOC, PART II: [Strategy](#) Section **Gender considerations** pp. 28-29.

A.5 Risk. 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):

Project risks					
Description	Type	Impact & Probability (1-5)	Mitigation Measures	Owner	Status
Fiduciary risk due to the complex operation on setting up revolving funds, microfinance, and funds for capturing taxes or levies	Operational	Impact: 2 Probability: 3	<i>The project will build on the ongoing restructuring process following the recommendations of the 2012 performance and apply UNCDF and UNDP’s well-tested fiduciary risk management strategy in the sector of microfinance in Senegal. The project will assess the success and failures of the Mutuels, will strengthen the Mutuels, and will involve communities in this process.</i>	PMU IMF Mutuals	Medium – decreasing.

<sup>17</sup> International Monetary Fund, (2013), *Sénégal : Document de stratégie pour la réduction de la pauvreté – note consultative conjointe*, n°13/195f, 13p.

			<i>Several partnerships will be developed with IMF.</i>		
Lack of collaboration between different sectorial ministries, departments, agencies, central authorities and communities' organizations.	<i>Operational &amp; Strategic.</i>	Impact: 3 Probability: 2	<i>The project will be implemented according to management arrangements as described in Section VII of this Project Document. The project management arrangement as currently established promotes coordination of government authorities on the Project Board. The chair of the Project Board will intervene and implement the remedial actions if limited coordination among government authorities hinder the progress of the LDCF-financed project. Several partnership agreements will be established at the inception of the project (PNDL, Ministries in charge of local collectivities, etc.)</i>	<i>PMU</i>	<i>Low - Decreasing</i>
Limited capacity of local / technical institutions to support vulnerable communities on adaptation	<i>Political &amp; operational</i>	Impact: 3 Probability: 3	<i>Local institutions benefit from the PNDL to increase their capacities. Technical services are currently benefiting from the on-going LDCF project awareness activities on climate change and adaptation options. Complementary capacity building actions are planned in the proposed project.</i>	<i>Communes, MEDD</i>	<i>Medium – decreasing.</i>
Lack of involvement of the communes (e.g. co-funding), of private/ public actors.	<i>Political &amp; operational</i>	Impact: 4 Probability: 3	<i>During the PPG, all the communes have been visited and committed their engagement to the project. The major were attending the validation workshop of the project. Moreover the project will provide capacity building, regular meetings, and ensure involvement in each stage of the process.</i>	<i>PMU</i>	<i>Medium</i>
Lack of involvement / participation of the villagers.	<i>Organizational</i>	Impact: 4 Probability: 2	<i>The LDCF-financed interventions were developed through multiple stakeholder consultations with local communities in 2016. Extensive engagement of local communities in decision making will be pursued throughout the implementation phase. Tangible and visible activities that addressed community priorities will be implemented early during the project implementation phase. The Technical Assistants appointed as part of the Project Management Unit in each site will maintain</i>	<i>PMU</i>	<i>Medium – decreasing.</i>

			<i>strong communication link with the project beneficiaries, manage expectations of local communities, and ensure alignment of project results, targets and benefits with communities' needs. The project will provide capacity building, regular meetings, and ensure involvement in each stage of the process.</i>		
Climate hazards delay the implementation of project interventions. (Drought, flood)	<i>Environmental</i>	Impact: 4 Probability: 3	<i>Project activities that are particularly sensitive to climate conditions. Use of resistant varieties, implementation and dissemination of good practices. This will include collaboration with ANACIM.</i>	<i>PMU ANACIM</i>	<i>Medium</i>
Lack of collaboration with the other projects present on action sites	<i>Organizational</i>	Impact: 3 Probability: 1	<i>The project has been designed based on large consultations with other on-going projects. Several partnership letters have already been signed. The PMU will communicate extensively with the partners and share information all along the project implementation.</i>	<i>PMU</i>	<i>Low – decreasing.</i>
Non-participation of stakeholders in the proposed offset partnership with mining industries	<i>Strategic</i>	Impact: 3 Probability: 3	<i>The level of financial offset will be established through a participative approach, involving the concerned stakeholders, and will vary between products. This will increase the ownership of the activities by the stakeholders. In addition, consultations were already held during the formulation phase, to ensure that targeted stakeholders adheres to the offsets. Finally, the monitoring capacity of the MEDD to enforce the Business and Biodiversity Offsets Programme (BBOP) will be strengthened</i>	<i>PMU</i>	<i>Medium</i>
Low mobilization of local population for crowdfunding initiatives	<i>Strategic</i>	Impact: 2 Probability: 3	<i>Crowdfunding activities require local populations to be mobilized and adhere to the initiative promoted. In Sokone, where the Telethon was held, the mayor had successful management skills for mobilizing the populations. During the project implementation, the PMU will have to ensure that the benefits of the initiatives are understood and responds to a need of local populations. The PMU will also ensure the funds are</i>	<i>PMU</i>	<i>Low-Medium</i>

			<i>transparently managed for the local population to be confident about the adequate use of the funds.</i>		
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## Social and Environmental safeguards

The Project meets the requirements of UNDPs' Environmental and Social Standards (2014), most particularly the three overarching principles and the 7 project level standards.

**Principle 1: Human rights.** The approach is inclusive, non-discriminatory and transparent, and is thus respectful of human rights. The members of targeted vulnerable communities will benefit equally from project activities and project activities will be designed to protect community lives and assets. No conflicts within the communities are expected as a result of the project interventions.

**Principle 2: Gender Equality and Women's Empowerment.** The project supports a Gender and Development approach, to ensure equally shared opportunities, resources, benefits and climate change adaptation strategies between social groups in the target areas. In order to meet that objective, various tools and strategies have been developed. Gender-sensitive indicators and targets have already been developed and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to encourage the implementation of gender-sensitive initiatives beyond the project's lifespan.

**Principle 3: Environmental Sustainability.** Three standards have been elaborated (Biodiversity Conservation and Natural Resource Management; Community Health, Safety and Working Conditions; Pollution Prevention and Resource Efficiency) and described in the Project Document pages 62-63.

Mitigation measures: five key mitigation measures have been elaborated (page 64 of the project document) and address (i) child labor, (ii) planting of non-native species, (iii) development and management of water retention structures, (iv) transformation and commercialization of commercial crops, (v) grievance redress mechanism.

*A.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.

The PMU will take attention to harmonize practices between the on-going projects.

First, the project will establish a partnership with the Programme National de Développement Local (PNDL) for capacities building of municipal staff and piloting the Decentralized Climate Fund (DCF). Then it will build on and strengthen the Credits and Saving Mutuals established in the project sites under the PGIES implementation in order to increase access to finance for rural communities.

The PMU will also create synergies with other LDCF-financed projects:

- The "Integration of climate resilience in the agro-pastoral production for food security in vulnerable rural areas through the farmer field school approach" project, currently executed by FAO and aiming at (i) facilitate the use of agro-climatic information and the adoption of adaptation to Climate Change by the agro-forestry-pastoral producers and (ii) improve the capacity of agro-forestry-pastoral sector to cope with Climate Change by integrating policies, programs and agro-forestry-pastoral development projects adaptation strategies to Climate Change.
- The "Strengthening land and ecosystem management under conditions of climate change in the Niayes and Casamance regions" project, co-financed by the Government of Senegal and UNDP, which aims at strengthening an enabling environment for adaptation measures based on ecosystems management through (i) climate forecast and diffusion of climate information, (ii) capacities building, (iii) better evaluation of the climate risks, (iv) piloting and adoption of adaptation techniques.
- The "National Adaptation Plan Global Support Programme" (NAP-GSP). The main areas of work are (1) Assisting countries to integrate climate into planning and budgeting; (2) Providing in-country and virtual support

on stocktaking of capacity gaps and needs as well as of ongoing adaptation plans and activities to identify entry points for NAP support; and (3) Assisting Senegal to integrate vulnerable sectors, thematic areas, sub-national approaches and legal issues into adaptation planning and budgeting.

- The “Senegal National Adaptation Plan”. The objective of this project is to strengthen the capacity of sectoral Ministries and local governments to better assess the implications of climate change and to adjust existing policies and budgets for the integration of medium and long-term climate change risks and adaptation measures.

Partner projects also include:

- The “Support Programme to Agricultural Development and Rural Entrepreneurship” (later called PADAER) aiming at sustainably improve food security, the income of small scale producers (farmers and herders) and create sustainable jobs for rural people, especially youth and women.
- The project entitled “Food Security Support Project in Louga, Matam and Kaffrine regions” (later called PASA LouMaKaf) targets the sustainable increase of crop and animal productions, the improvement of small producers’ incomes (farmers and livestock breeders) and women in particular.

#### Additional Information not well elaborated at PIF Stage:

**A.7 Benefits.** Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

#### **Describe the socioeconomic benefits to be delivered by the project at the national and local levels**

The LDCF-funded project will allow at least 5,000 households to adopt resilient means of subsistence and opportunities to adapt towards climate change through the diversification of activities. Farmers will also gain access to climate information and adapted seeds that will allow at least 75% of them to make informed choices and to have the possibility to concretize them.

Moreover, rural entrepreneurship will be encouraged through the creation of at least 20 revolving funds that will support the development of activities and at least the implementation of 40 micro-enterprises.

The overall objective is to improve the livelihood of the rural populations in the long-run, hence the concern over climate change adaptation.

#### **How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?**

Strengthening social and economical improvement over the long run requires climate change adaptation to be taken into account. This is precisely why the LDCF-funded project is focusing on reducing vulnerability of people and livelihoods to the adverse effects of climate change through capacity building and development of resilient activities, while securing and improving fund attraction. Moreover, producers groups and entrepreneurs clusters are to be created and empowered which will result in social reinforcement. Strengthening institutional and technical capacities and include climate change adaptation in relevant policies are objectives but they are also tools for supporting and ease the implementation of resilient livelihoods which generate socio-economic benefits.

**A.8 Knowledge Management.** Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

With the objective to benefit from capitalization / good practices / lessons learnt, the current project is meant to build on other relevant projects and initiatives within the country:

- Partnership with the *Programme National de Développement Local* (PNDL) for capacities building of municipal staff and piloting the Decentralized Climate Fund (DCF).
- Experience from the DFID project, led by IED in Senegal
- Experience from the Wula Nafa project, that designed a tax of 15 FCFA per kg of baobab fruit sold. The amount of the money collected is then divided: 50% for the management fund, and 50% for the commune. In the case of the LDCF project, the level of financial offset will be established through a participative approach, involving the concerned stakeholders, and will vary between products.
- Partnerships between MEC and MFIs are welcomed, and will be supported by the LDCF project. Microfinance institutions

Lessons learnt from former projects will also be capitalized:

- The feasibility study carried out in 2010 by EcoSecurities and Kinomé that showed that the carbon potential in the CNR is important, but the development of a carbon project is highly risky due to technical reasons
- Identification of several companies operating in the communes concerned by the project during the PPG: OROMIN, IAM Gold in Sadio and Teranga Gold operations in Sabadola.

The knowledge management approach for the project is addressed under output 2.4.: knowledge, key experience and lessons learnt from the project will be disseminated. First, a movie will be made and broadcast in French and Wolof/ local language among the 21 communes and among at least 150 villages (evening screenings). It will tackle better practices for CCA. Then a CCA manual will be written and distributed to 5000 households. Exchange meetings will also be organised between mayors (at least 15) and 500 villagers (among which 75% of women) will participate in exchange meetings for good practices. In addition, a website will be created to share the project outcomes and at least 5 thematic articles (exposure, adaptation-undp.).

- B. Description of the consistency of the project with:

**B.1 Consistency with National Priorities.** Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

The project is consistent with the government's development priorities, and specifically responds to: (i) The Plan Sénégal Emergent (PSE), (ii) The Poverty Reduction Strategy Paper (2013-2017), (iii) The National Adaptation Plan for Action (NAPA), (iv) The New Forestry Policy (2005-2015), (v) The Sectorial Policy Letter for Environment, (vi) Programme de Développement Inclusif et Durable de l'Agrobusiness au Sénégal (PEDIDAS), (vii) National Framework for Strategic Investment.

The project will also support the Senegal to reach the Sustainable Development Goals (as people highly depend on natural resources and notably, on agricultural revenue). The most relevant goals to which it will meet are SDGs 1, 2, 3, 5, 6, 8, 10, 13, 15, 16, 17. The project will also address issues at the intersection of the UNCCD, CBD and the UNFCCC and their respective action programmes. The Senegal Intended Nationally Determined Contributions (INDC) identifies measures in the Agriculture Forestry and other land uses sector: sustainable land management, application of good agroforestry practices, of Assisted Natural Regeneration (RNA), combinaison of trees, conventional crops and/or animals in the form of arrangement, etc.

The Plan Senegal Emergent (PSE) is the new strategic framework of reference for the development of Senegal, which envisions "a truly emerged Senegal by 2035, with an inclusive society and the rule of law". It promotes actions for the environment, in particular the development of a green economy and green jobs in and around the protected areas. The PSE also highlights the role of agro-poles as the driving force of industrialization in Senegal through enhancement of agricultural added value. These agro-poles will serve as enterprise incubators providing facilities and services with the main objective of strengthening and supporting agro-industry value chains, and promoting commercial farming among local and regional producers through integrated training plans, capacity building and the establishment of appropriate PPP financial schemes.

The Poverty Reduction Strategy Paper highlights the creation of an attractive rural environment providing incentives to (i) transform family by effecting a transition from extensive production systems to intensive, diversified, sustainable systems that are respectful of natural resources; (ii) promote the emergence of agricultural and rural entrepreneurship. About 20 years ago, as part of the process of decentralization, a new national Law on the transfer of responsibilities to local authorities paved the way for initiatives of communes to invest for environment, natural resources management and climate change adaptation. The government of Senegal launched an ambitious programme which introduced the Community Natural Reserves (CNRs) in the country, firstly around the National Parks and now largely replicated throughout the country. The CNR policy promote a participatory and sustainable use of natural resources, emissions reduction, prevention of ecosystems degradation, and incentive measures for conservation through technical and institutional capacities enhancement and community-based management of ecosystems and biodiversity. The project will also support the coordination and harmonization of efforts to promote a coherent multi-stakeholder approach on climate change adaptation and innovative financing.

C. Describe the budgeted m & e plan:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>18</sup> (US\$)		Time frame
		GEF grant	Co-financing	
<b>Inception Workshop</b>	UNDP Country Office	USD 11,000		Within two months of project document signature
<b>Inception Report</b>	Project Manager	None	None	Within two weeks of inception workshop
<b>Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP</b>	UNDP Country Office	None	None	Quarterly, annually
<b>Monitoring of indicators in project results framework</b>	Project Manager	Per year: USD 4,000	UNDP	Annually
<b>GEF Project Implementation Report (PIR)</b>	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
<b>NIM Audit as per UNDP audit policies</b>	UNDP Country Office	Per year: USD 3,000	UNDP	Annually or other frequency as per UNDP Audit policies
<b>Lessons learned and knowledge generation</b>	Project Manager	<i>Include in output 2.4</i>	UNDP	Annually
<b>Monitoring of environmental and social risks, and corresponding management plans as relevant</b>	Project Manager UNDP CO	None	UNDP	On-going
<b>PSC/ Project Board meetings</b>	Project Board UNDP Country Office Project Manager	None	<i>Government of Senegal</i>	At minimum annually
<b>Mid-term GEF Tracking Tool to be updated by project M&amp;E specialist</b>	<i>Project Manager</i>	<i>USD 10,000</i>	UNDP	<i>Before mid-term review mission takes place.</i>

<sup>18</sup> Excluding project team staff time and UNDP staff time and travel expenses.


GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>18</sup> (US\$)		Time frame
		GEF grant	Co-financing	
<i>Independent Mid-term Review (MTR) and management response</i>	<i>UNDP Country Office and Project team and UNDP-GEF team</i>	<i>USD 30,000</i>	<i>UNDP</i>	<i>Between 2<sup>nd</sup> and 3<sup>rd</sup> PIR.</i>
<b>Terminal GEF Tracking Tool to be updated by project M&amp;E specialist</b>	Project Manager	USD 10,000	UNDP	Before terminal evaluation mission takes place
<b>Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response</b>	UNDP Country Office and Project team and UNDP-GEF team	USD 40,000	UNDP	At least three months before operational closure
<i>Translation of MTR and TE reports into English</i>	<i>UNDP Country Office</i>	<i>USD 5,000</i>	<i>UNDP</i>	<i>As required. GEF will only accept reports in English.</i>
<b>TOTAL indicative COST</b> Excluding project team staff time, and UNDP staff and travel expenses		<i>USD 134,000</i>		



### **PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)**

#### **A. GEF Agency(ies) certification**

**This request has been prepared in accordance with GEF policies<sup>19</sup> and procedures and meets the GEF criteria for CEO endorsement under GEF-6.**

<b>Agency Coordinator, Agency Name</b>	<b>Signature</b>	<b>Date (MM/dd/yyyy)</b>	<b>Project Contact Person</b>	<b>Telephone</b>	<b>Email Address</b>
Adriana Dinu Executive Coordinator UNDP-GEF		09/25/2017	Clotilde Goeman	+90 (534) 073 31 59	<a href="mailto:clotilde.goeman@undp.org">clotilde.goeman@undp.org</a>

<sup>19</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT  
GEF6 CEO Endorsement /Approval Template-August2016

**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).

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
<b>Project Objective:</b>  <b>To Promote innovative finance and community-based adaptation in the communes surrounding the CNR</b>	<b>Indicator 1:</b> Amount of communal budget dedicated to climate change adaptation and amount of fund from IMF granted to vulnerable populations.	Through PGIES Programme, 35 RNC and UP were created around the National Parks borders in Senegal. They bring 203 villages from 21 communes together in these lands management. The 2012 evaluation shows significant improvements in biodiversity conservation and climate change mitigation, but it also highlights the major difficulties the villagers face in their agricultural activities because of delayed rains and of water and lands salinization. Moreover, the communes don't have enough financial resources to invest in CCA measures at local level.	At least 2 innovative financing mechanisms are designed and implemented and bring (even a small amount of) additional financing.	At least 3 innovative financing mechanisms are designed and implemented and bring additional financing for at least 15 communes..	<u>Hypothesis</u> <ul style="list-style-type: none"> <li>- Existence of national expertise able to support the communes and households in their adaptation efforts.</li> <li>- Mayors and target communities participation and involvement</li> </ul>
	<b>Indicator 2:</b> Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).		At least 2,000 households (approximately 10%) have adopted resilient means of subsistence.	At least 5,000 households (approximately 25%) have adopted resilient means of subsistence, such as diversification activities, climate information and adapted seeds in order to ease development opportunities particularly for women, and offer them more opportunities to adapt to the current and future impacts of climate change.	
					<ul style="list-style-type: none"> <li>• <u>Risks</u> <ul style="list-style-type: none"> <li>- Local stakeholders (IMF, private sector, communes, etc.) don't collaborate with the project.</li> <li>- Financial resources too limited for local communities and institutions to implement resilient activities.</li> </ul> </li> <li>• <u>Means of verification</u> <p>Interview reporting, communal budget monitoring and evaluation.</p> <p>-Frequency: yearly (communal budget + target households)</p> <p>-Resp.: PMU.</p> </li> </ul>
<b>Component/Outcome 1</b>	<b>Indicator 3:</b> Number of communes including climate change adaptation in their development plans, communal	The 21 target communes all have an approved communal	The 21 communes include climate change adaptation actions in	The 21 communes include climate change adaptation actions in their	<u>Hypothesis</u> <ul style="list-style-type: none"> <li>- Mayors and communal staff are deeply committed</li> </ul>

Innovative mechanisms fund climate change adaptation actions at local level.	budgets and PU/CNR land use and management plans.	development plan or in process of approval. However, none of them include CCA actions. Moreover, only four (4) communes include the PU/CNR presence and management, while the law 96/07 of 22 <sup>nd</sup> March 1996 gave them management mandate. In addition, only two (2) communes mention a dedicated budget for environment in their yearly budget.	their management and investment documents (PDC and budget). Budgets of the communes clearly state the co-funding corresponding to the actions carried on their territories by other stakeholders. The 35 PU/CNR management plan include climate change adaptation.	management and investment documents (PDC and budget). Budgets of the communes clearly state the co-funding corresponding to the actions carried on their territories by other stakeholders. The 35 PU/CNR management plan include climate change adaptation.	<ul style="list-style-type: none"> <li>- Efficient partnership with PNDL</li> <li>- Efficient partnership with UCAD</li> <li>- Existence of national expertise able to support the communes</li> <li>- Local populations have confidence in the Saloum Delta MEC</li> <li>- The IMF wish to develop actions in the project intervention zone</li> </ul>
	<b>Indicator 4:</b> % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.	The Ministry of Finance admits that the resources emerging from endowment funds cover only 20% of local communities needs. Environment is the poor relative for communal budget allocation. The annual budget of the 21 target communes varies from 45 to 200 millions FCFA, but the share dedicated to environment rarely exceeds 1%. From this share, no funding is dedicated to CCA.	At least 5 communes have implemented an innovative financial mechanism (PPP, RSE, Eco tax, etc.) that allows them to generate additional financial resources dedicated to CCA.	Each of the 21 communes has implemented an innovative financial mechanism (PPP, RSE, Eco tax, etc.) that allows them to generate additional financial resources dedicated to climate change adaptation and that is at least equivalent to 5% of the annual budget	<ul style="list-style-type: none"> <li>•</li> </ul> <p><u>Risks</u></p> <ul style="list-style-type: none"> <li>- Limited capacities of town councils</li> <li>- Municipal elections that ought to be held in 2019 interfere with the project</li> <li>- The IMF don't collaborate with the project</li> </ul> <p><u>Means of verification</u></p> <p>PDC and communes budget; UP/CNR management plans. Communal budget and Monitoring &amp; Evaluation</p> <p>Mutual accounting books and IMF, MEC financial reports. Grant application forms and partnership agreements with backers. Creation and strategic CIC document.</p>
	<b>Indicator 5:</b> Increase in the volume of loans granted to vulnerable populations	Among the 9 savings and credit mutual	The deed analysis of the MEC network has been	The Saloum Delta mutual has been reinforced, covers	<p>-Frequency: yearly</p> <p>-Resp.: PMU.</p>

	by the credit and micro-finance institutions.	(MEC) implemented by the PGIES in the 4 zones of the project, only the Saloum Delta mutual is still working and has a volume of loans granted equivalent to 24 millions FCFA for 2015. The URMECS is present in the Koar zone but doesn't collaborate with the MEC. Other mutual wish to open in the project zones.	carried out and showed clear actions plan for the future.  The technical assistance has carried out at least 10 trainings and the Saloum Delta mutual is now professional: computability is updated and conformed to official exigencies, governance procedure has been reviewed.	all project zones and reaches a volume of granted loans at least equivalent to 300 millions FCFA. Partnerships have been established with at least one (1) additional mutual that grants 300 millions FCFA in each zone.	
	<b>Indicator 6:</b> Number of non-governmental financings obtained thanks to communes and local associations capacity enforcement (additional funding obtained and managed)	Among the 21 target communes, only Sokone commune has the capacity to identify and obtain non-governmental funding for CCA, but it still needs to enhance its capacities for financing management. The other communes don't have this capacity. Gandon and Gandioul communes adopted a GIC approach together with Saint-Louis commune to deal with environment issues. Additional communes wish to create GIC in order to join their forces for	At least 8 project proposals have been written and submitted by communes and/or CSO.  At least 2 GIC are under creation.	Each commune, CIC or local associations partner of the city council concerned by the project has obtained a non-governmental funding for CCA. At least four (4) GIC have been created in order to join forces for CCA. Number of perennial jobs created to obtain and manage those additional funds.	

		environmental and CC issues.			
<b>Component/ Outcome 2</b>  Vulnerable households adopt investments, diversified and resilient subsistence practices (aimed at women groups) as key strategies for climate risks management.	<b>Indicator 7:</b> Investments and resilient practices (sustainable water management, sustainable agro-sylvo-pastoral production, early-warning system, CNR/PU restoration, resilient agro-forestry value chains, etc.) shaped to increase agricultural income under current and future climate change (AMAT 1.2.1.5.)	<p>Notably with PUDC, the villages of the four (4) project sites are being equipped with drilling device. However, irrigated perimeters have not been created yet, they could help generate more income.</p> <p>Some projects have distributed adapted genetic material for agriculture, based upon ISRA research. But access to genetic material is limited for women groups and farmers living in the 15 project target communes.</p> <p>In addition, the crops (gum trees, cashew trees, mangrove trees) planted over the PGIES past 10 years are gradually maturing and constitute a good solution for income sources diversification. However, the income raised is really low in comparison with the</p>	<p>Hydraulic systems:</p> <ul style="list-style-type: none"> <li>- At least 10 ha of irrigations perimeters are realized from water drilling</li> <li>- At least 20 ha of lowlands development</li> <li>- At least 20 ha of lands restoration</li> <li>- At least 2 ponds creation</li> </ul> <p>Agro-sylvo-pastoral systems:</p> <ul style="list-style-type: none"> <li>- At least 2000 households, among which 50% of women, benefit from resistant seeds producing higher yields</li> <li>- At least 300 km of firewalls are created and the hay harvested provides additional income</li> <li>- At least 20% sales revenue increase for gum, cashew and fish products value chains thanks to the implementation of alternative and profitable means of subsistence implying agro-forestry systems and the installation of processing units.</li> </ul>	<p>Hydraulic systems:</p> <ul style="list-style-type: none"> <li>- At least 25 ha of irrigations perimeters are realized from water drilling</li> <li>- At least 50 ha of lowlands development</li> <li>- At least 50 ha of lands restoration</li> <li>- At least 3 ponds creation</li> </ul> <p>Agro-sylvo-pastoral systems:</p> <ul style="list-style-type: none"> <li>- At least 5000 households, among which 50% of women, benefit from resistant seeds producing higher yields</li> <li>- At least 800 km of firewalls are created and the hay harvested provides additional income</li> <li>- At least 50% sales revenue increase for gum, cashew and fish products value chains thanks to the implementation of alternative and profitable means of subsistence implying agro-forestry systems and the installation of processing units.</li> </ul>	<p><u>Hypothesis</u></p> <ul style="list-style-type: none"> <li>- Existence of national expertise to support the households in their adaptation efforts</li> <li>- Efficient partnership with ANACIM</li> <li>- Participation and involvement of target communities</li> <li>- Private sector is actively involved in the project.</li> </ul> <p><u>Risks</u></p> <ul style="list-style-type: none"> <li>- Lack of participation of the target group due to poor understanding of climate change issues</li> <li>- Market fluctuations resulting from low sales</li> <li>- High cost of the energy used for the functioning of the processing units</li> <li>- Inappropriate organisation of farmers and women groups.</li> </ul> <p><u>Means of verification</u>  Activities monitoring &amp; evaluation.  Reports and interviews.</p> <p>-Frequency: yearly</p>

		Amount of work necessary to produce, because producers are not trained on basic techniques (e.g. gum tree groove) and transformation.			-Resp.: PMU.
	<b>Indicator 8:</b> Number of revolving credits granted enabling the rural micro-enterprises financing as well as climate change resilient and profitable value chains financing.	Under PGIES, profitable activities have emerged at local level. Although they have a strong multiplication potential, these activities remain small-scale.	At least 20 GIE/Entrepreneurs are trained with the cluster approach.	At least 20 revolving funds have been set up for profitable value chains. At least 40 micro-enterprises have been created and/or developed their activities by 50%.	
	<b>Indicator 9:</b> % of the target population understanding the negative impacts of climate change and the appropriate solutions (indicator AMAT 2.3.1.)	Less than 10%. Because of the on-going projects in the four (4) project zones, some members of the staff for agricultural extension services, rural associations and farmers benefiting from CC training, but with no mention of adaptation. No easy-to-read manual is available. Less than 10% of the farmers and city representatives get access to weather information. One of the great challenges for communities,	At least 3 meteo stations are functional.  At least 25% of the target populations and farmers become aware of potential negative impacts of climate change and implement appropriate adaptation measures.  At least 2000 households get access to information broadcast by the 21 communes to secure production against climate risks.	At least 75% of the target populations and farmers become aware of potential negative impacts of climate change and implement appropriate adaptation measures.  At least 5000 households get access to information broadcast by the 21 communes to secure production against climate risks.	

		particularly for women and smallholders, is the lack of access to information that would ease planning and risk management.			
	<b>Indicator 10:</b> Effective communication systems (institutional, educational and social communication) and learning mechanisms establishment for community and national/regional levels.	The PGIES is the project on which this intervention is based, it has been running for ten (10) years but there is a lack of communications on its outcomes (evaluation report, 2011). In addition, communes and farmers don't have access to good practices manuals for CCA.	<ul style="list-style-type: none"> <li>- A website is functional.</li> <li>- At least 5 exchange meetings between mayors.</li> <li>- 500 villagers (among which 75% of women) participate in exchange meetings for good practices.</li> <li>- Writing of two (2) articles (about exposure, adaptation-undp.) to be published on the website</li> </ul>	<ul style="list-style-type: none"> <li>- A movie is made (French and Wolof/ local language) on better practices for CCA and is distributed among the 21 communes and among at least 150 villages (evening screenings).</li> <li>- A CCA manual is written and distributed to 5000 households.</li> <li>- At least 15 exchange meetings between mayors.</li> <li>- 500 villagers (among which 75% of women) participate in exchange meetings for good practices.</li> <li>- Project website shared the project outcomes.</li> <li>- Writing of five (5) articles (exposure, adaptation-undp.) to be published on the website</li> </ul>	

**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).

**RESPONSES TO COUNCIL RECOMMENDATIONS**

Comment	Response	Comment
<p>The LDCF/SCCF Council reviewed the PIF entitled Senegal: Promoting Innovative Finance and Community Based Adaptation in Communes Surrounding Community Natural Reserves (Ferlo, Nioloko Koba, Senegal River Bas Delta &amp; Saloum Delta), Senegal (GEF ID: 5867à (LDCF Project Grant \$5,460,000) (Agency Fee \$518,700), posted on October 28, 2015 and approves it on a no objection basis subject to the comments submitted to the Secretariat.</p> <p>The Council finds that the PIF (i) is, or would be, consistent with the Instrument and GEF policies and procedures, and (ii) maybe endorsed by the CEO for final approval by the GEF Agency, provided that the final project document fully incorporates and addresses the Council's and the STAP reviewer's comments on the PIF, and that the CEO confirms that the project continues to be consistent with the Instrument and GEF/LDCF/SCCF policies and procedures.</p>	See responses to STAP recommendations below.	

**RESPONSES TO STAP RECOMMENDATIONS**

Comment	Response	Reference
<p>1. STAP welcomes the UNDP proposal "Promoting innovative finance and community based adaptation in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Senegal river Bas Delta &amp; Saloum Delta), Senegal". The proposed project aims to reduce the vulnerability of local communities to the impacts of climate change by introducing innovative financing mechanisms, at local and community scales, to address the incremental costs of adaptation.</p> <p>While the objective of the project is unexceptionable, and it fits well with relevant national objectives and plans, the PIF is quite sketchy in its presentation of the intervention logic, and in clearly identifying how the LDCF intervention will reshape the baselines to enhance climate resilience. While STAP's overall advisory response is "minor revision", STAP believes that there are significant weaknesses in the PIF that would need to be adequately and comprehensively addressed during the course of project development.</p> <p>The first concern is the lack of detail on the proposed intervention modalities. On page 4, the PIF talks about creating "innovative financing mechanisms" to support "climate change governance at communes level" â€“ however, it is not clear what they are; how they would differ (if at all) from the current credit &amp; savings mutuals and what "climate change governance" means. There is considerable history and work on micro-finance in West Africa â€“ and in other</p>	<p>1. The project document describes the “innovative financing mechanisms” (Annex F is dedicated to innovative finance). These mechanisms have been largely detailed and are now organized in 3 main axes of intervention: (i) mechanisms to strengthen the role of the communes and the civil society to attract climate funding at the local level (decentralized climate fund, fund rising, etc.), (ii) mechanisms to involve the private sector in to the climate adaptation projects (PPP with the cashew and mangoes industries in the Saloum area, CSR/offsets with the mining industries in the Niokolokoba area, etc.), (iii) development of financial products and activities dedicated to vulnerable</p>	<p>Pages 30 to 44 and Annex F of the Project Document</p>



<p>countries and there are many barriers to accessing and using financial instruments such as micro-credits. It is not clear how the proposed intervention would strengthen the existing mechanisms and help them address issues relevant for long-term adaptation.</p> <p>2. A second concern is that the PIF does not draw an adequate connection between the proposed interventions and the source of the communities' vulnerability to climate change – which lies in the vulnerability &amp; degradation of the natural resource base. The creation of community natural reserves appears to be a key step for improving the management and condition of the natural resource base. How would this approach be modified to help address climate variability and climate change? The PIF fails to clearly justify from a science perspective why and how the selected communities will be facing increased risks under a changing climate. Addressing this issue should be prioritized in the project preparation phase.</p> <p>3. The following additional observations may also be considered to strengthen the project:</p> <ul style="list-style-type: none"> <li>- Identify climate impacts based on the latest projections (e.g. IPCC AR5), with a time horizon relevant to project-planning. It is currently unclear how a 3% change in annual precipitation by the 2090s could significantly increase risks and vulnerability for the concerned communities. Correctly identifying risks brought on by a changing climate will help better target interventions both in terms of location/identification of target communities, and funding priorities.</li> <li>- The project should aim to build and learn from the already existing 9 credit and savings mutuals currently helping to improve living conditions of households with a focus on women. It is unclear how such learning will be integrated into the project design to focus on resilience building, but also how this relates to expected output 2.4 (Mechanisms for capturing and dissemination key experiences &amp; good practices established for replication).</li> <li>- STAP values the large focus given to the inclusion of numerous stakeholders, and in particular to women groups and youth. STAP also encourages the involvement of other local partners, including universities, to support capacity-building with regards to climate information and knowledge management (Expected outputs 2.3) and reduce the risk of the inappropriate assignment of funds due to a lack of understanding of local climate impacts, risks, and adaptation priorities.</li> </ul>	<p>population (strengthen of the Saloum Delta Saving &amp; Credit Mutual as the analysis during the PPG highlights the development potential of this institution).</p> <p>The “climate change governance” means the institutional organisation, leadership and capacities to finance and address climate change adaptation at the local level. Hence, the project document describes now the capacities building actions to be carried out (at the communes level), the creation of the decentralized climate fund to attract climate funding, and the cooperation facilitation between communes themselves and with the civil society.</p> <p>2. The project document describes the scientific evidence of climate change in Senegal (pages 8 to 11). It also includes a description of the climate climate main characteristics and impacts on socio-ecosystems (table 2) . The technical report in annex G of the project document gives more details on climate variabilities and uncertainties in Senegal, including the review of a recent paper using LUCID model and CMIP5 scenarii (Sy and al., 2016).</p> <p>3. Additional information has been analysed:</p> <ul style="list-style-type: none"> <li>- The project document describes the climate change impacts (pages 10 to 14; table 2 and annex G). The adverse impact of changes in rainfalls on communities is rather due to uncertainties of rainfall pattern and the increased occurrence of extreme events such as droughts and floods (rather than a 3% change in annual precipitation). This has been confirmed by local consultation in the villages. Hence projects activities have been determined according to these vulnerabilities.</li> <li>- The project will strengthen the Mutual of the Saloum delta with the objective to allocate more funding to vulnerable communities (women in priority) and</li> </ul>	<p>Pages 30 to 44 of the Project Document.</p> <p>Pages 10 to 14; table 2 and annex G of the Project Document</p>
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	<p>enhance climate resilient activities (adaptation option identified is the diversification of economic activities that are climate resilient). The project will builds on the lessons learned from both the successes and failures of these MECs.</p> <p>- Several partnerships have been developed during the PPG, including a strategic partenership with ANACIM for the production and dissemination of meteorological information (output 2.3) and training for better understanding of climate change impacts at the local level.</p>	
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**ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS<sup>20</sup>**

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: <b>150,000</b>			
<b><i>Project Preparation Activities Implemented</i></b>	<b><i>GETF/LDCF/SCCF/CBIT Amount (\$)</i></b>		
	<b><i>Budgeted Amount</i></b>	<b><i>Amount Spent Todate</i></b>	<b><i>Amount Committed</i></b>
<p>The following PPG Activities have been completed:</p> <ul style="list-style-type: none"> <li>▪ Baseline assessment;</li> <li>▪ Capacity and needs assessment of local authorities, local finance platforms and communities;</li> <li>▪ Site selection;</li> <li>▪ Definition of indicators and targets;</li> </ul>	150,000	88,122.54	61,877.46
<b>Total</b>	150,000	88,122.54	61,877.46

<sup>20</sup> If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.  
GEF6 CEO Endorsement /Approval Template-August2016

**ANNEX D: CALENDAR OF EXPECTED REFLOWS** (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A



Empowered lives.  
Resilient nations.

**UNDP Project Document**  
**United Nations Development Programme**  
**Least Developed Country Fund (LDCF)**

<b>Project title:</b> Promoting innovative finance and community based adaptation in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Senegal River Bas Delta & Saloum Delta)		
<b>Country:</b> Senegal	<b>Implementing Partner:</b> <i>Ministry of Environment and Sustainable Development (MEDD)</i>	<b>Management Arrangements:</b> National Implementation Modality (NIM)
<b>UNDAF/Country Programme Outcome:</b> <i>Outcome 1: Producers increase their income using innovative knowledge, technologies and investment with high added value.</i> <i>Outcome 7: Climate Change adaptation initiatives promote access to fundamental needs and sustainable livelihoods.</i> <i>Outcome 8: National and local institutions have capacities to promote policy and programme governance with participative, transparent and fair approach.</i>		
<b>UNDP Strategic Plan Output:</b> Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.  Indicator 1.3.1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or subnational level.  Indicator 1.3.2: a) Number of additional people benefitting from strengthened livelihoods through solutions for management of natural resources, ecosystems services, chemicals and waste b) Number of new jobs created through solutions for management of natural resources, ecosystem services, chemicals and waste.		
<b>UNDP Social and Environmental Screening Category:</b> <i>Low</i>		<b>UNDP Gender Marker:</b> 2.
<b>Atlas Project ID/Award ID number:</b> 00103749		<b>Atlas Output ID/Project ID number:</b> 00105641
<b>UNDP-GEF PIMS ID number:</b> 5401		<b>GEF ID number:</b> 5867
<b>Planned start date:</b> <i>September 2017</i>		<b>Planned end date:</b> <i>June 2021</i>
<b>LPAC date:</b>		
<b>Brief project description:</b>  Senegal is particularly vulnerable to climate change, which threatens the main components of its rural economy. Under the LDCF project, four sites have been chosen because of their vulnerability towards climate change and the presence of Community Natural Reserves (CNRs) considered as key tools for the adaptation strategy at the local level: the Saloum Delta, the Senegal River Delta, the Ferlo and Niokolo-Koba. CNRs were created in 2002 as part of the Programme of Integrated Management of Ecosystems (PGIES) and are forest areas (covering one or more communes) that are co-managed by the communes and a group of villages that ensure the participatory and sustainable use of natural resources.		

LDCF project intends to build upon the existing CNR/PU to strengthen the adaptation capacity while overcoming the identified barriers:

- Limited capacities of local stakeholders (communes, financial institutions, civil societies and private companies) to mobilize and manage finance dedicated to climate adaptation;
- Limited capacity of communities (in particular women) to develop opportunities and generate income from their productive and climate resilient activities.

Therefore, the project is based upon two axes:

- Establishing innovative finance mechanisms that bring regular additional incomes at local level dedicated to finance climate change adaptation actions;
- Bringing investments and increasing capacities of communities (in particular women and young people) in order to provide them with more long-term solutions to adapt climate change and variability.

The expected outcomes of this project are as follow:

- At national and commune level, building the overall capacity of the Ministry of Environment, ANACIM and ARD to develop innovative financial mechanisms for adaptation measures implementation and to experiment adaptation actions in the sectors of agriculture, water resources and forestry (at minimum 40 national-level representatives and 60 commune-level representatives).
- Targeted adaptation benefits to 224 villages in the four project sites, resulting in direct benefits for at least 50,000 people which account for 5,000 households (i) introducing multiple measures to reduce vulnerability to climate change, including measures to increase resilience with both investments and capacities building for communities, (ii) developing partnerships with other on-going projects in the same sites and implementing awareness-raising activities on climate information and good practices to adapt to climate change to at least 100,000 people. These activities will also include study trips of mayors and farmers to increase the knowledge of municipal and village officials on the mobilization and management of climate finance and the introduction of climate change adapted practices.
- The vulnerability of project beneficiaries to climate change will be reduced through several measures including (i) introduction and dissemination of agricultural practices (adapted seeds, soil and water management etc.) (ii) enhancement of climate resilient value chains (Arabic gum, cashew, salt, etc.) (iii) increased credit access for farmers (iv) development of ponds and access to water for income generating activities. The project will stimulate a real dynamic in the creation of microbusinesses (specially managed by women) by training them on business and rural finance. Diversification of livelihood activities will improve safety nets for vulnerable households.
- The communes' capacity to attract additional funding, to develop and implement site-specific adaptation interventions will be strengthened.

#### FINANCING PLAN

GEF LDCF	5,460,000 USD
UNDP TRAC resources	500,000 USD
<b>(1) Total Budget administered by UNDP</b>	<b>5,960,000 USD</b>
<b>PARALLEL CO-FINANCING (all other co-financing that is not cash co-financing administered by UNDP)</b>	
UNDP	6,000,000 USD
Government	10,400,000 USD
ANACIM	2,500,000 USD
PADAER	2,741,894 USD
PASA Loumakaf	10,879,741 USD
<i>Communes concerned by the Project</i>	<i>819,534 USD</i>

<b>(2) Total co-financing</b>		<b>33,341,169 USD</b>
<b>(3) Grand-Total Project Financing (1)+(2)</b>		<b>39,301,169 USD</b>
<b>SIGNATURES</b>		
<b>Signature:</b> print name below	<b>Agreed by Government</b>	<b>Date/Month/Year:</b>
<b>Signature:</b> print name below	<b>Agreed by Implementing Partner</b>	<b>Date/Month/Year:</b>
<b>Signature:</b> print name below	<b>Agreed by UNDP</b>	<b>Date/Month/Year:</b>

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## List of Acronyms and Abbreviations

ANEV	<i>Agence Nationale des Ecovillages</i> / National Ecovillages Agency
APR	Annual Project Review
ARD	<i>Agence Régionale de Développement</i> / Regional Agency for Development
AWP	Annual Work Plan
BBOP	Business and Biodiversity Offsets Programme
CBO	Community-based organisation
CC	Climate Change
CCA	Climate Change Adaptation
CIVD	<i>Comité inter-villageois de développement</i>
CNAPPP	<i>Comité National d'Appui aux Partenariats Public Privé</i>
CNR	Community Natural Reserve
CO	Country Office
CSE	Centre de Suivi Ecologique
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CVD	<i>Comité Villageois de Développement</i>
DCF	Decentralized Climate Fund
DEFCC	Directorate of Water, Forests, Hunting and Soil Conservation
DFID	Department for International Development (British government)
DGF	Directorate of Green Finance
DMG	Directorate of Mines and Geology
DPN	Directorate of National Parks
DRS	Directorate of Regulation and Supervision
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FEM	Fonds pour l'Environnement Mondial / Global Environment Facility (GEF)
FSP	Full Sized Project
GEF	Global Environment Facility
GEFSEC	Global Environment Facility Secretariat
GIC	<i>Groupement d'Intérêt Communautaire</i> / Community Interest based Group
GIZ	Deutsche Gesellschaft für International Zusammenarbeit
IED	<i>Innovation Environnement Développement</i> / Innovation Environment Development
IGA	Income-generating activity
IRD	<i>Institut de Recherche pour le Développement</i>
IREF	<i>Inspection Régionale des Eaux et Forêts</i>
M&E	Monitoring & Evaluation
MFI	Micro Finance Institutions
MEC	<i>Mutuelle d'Epargne et de Crédit</i> / Credit & Saving Mutual
MEDD	<i>Ministère de l'Environnement et du Développement Durable</i>
MIN	Ministry of Industry and Mine
MSP	Medium Sized Project
NGO	Non-governmental organization
NPC	National Project Coordinator
PA	Protected Area

PAG	<i>Plan d'Aménagement et de Gestion / Management Plan (of a CNR)</i>
PES	Payment for environmental services
PGIES	<i>Projet de Gestion Intégrée des Ecosystèmes du Sénégal</i>
PIF	Project Identification Form
PIR	GEF Project Implementation Report
PMU	Project Management Unit
PNDL	<i>Programme National de Développement Local</i>
PNDS	Parc National du Delta du Saloum
PNNK	Parc National du Niokolo Koba
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
PRODOC	Project Document
PSC	Project Steering Committee
PTA	Project Technical Advisor
PU	Pastoral Unit
REMEDE	Network of mutual savings and microcredits for environmental development
RTA	Regional Technical Advisor
STAP	GEF Scientific Technical Advisory Panel
UNDP-GEF	UNDP Global Environmental Finance Unit
URAC	Union des Radios Associatives et Communautaires du Sénégal
USAID	United States development agency
USD	United States dollar
WB	World Bank

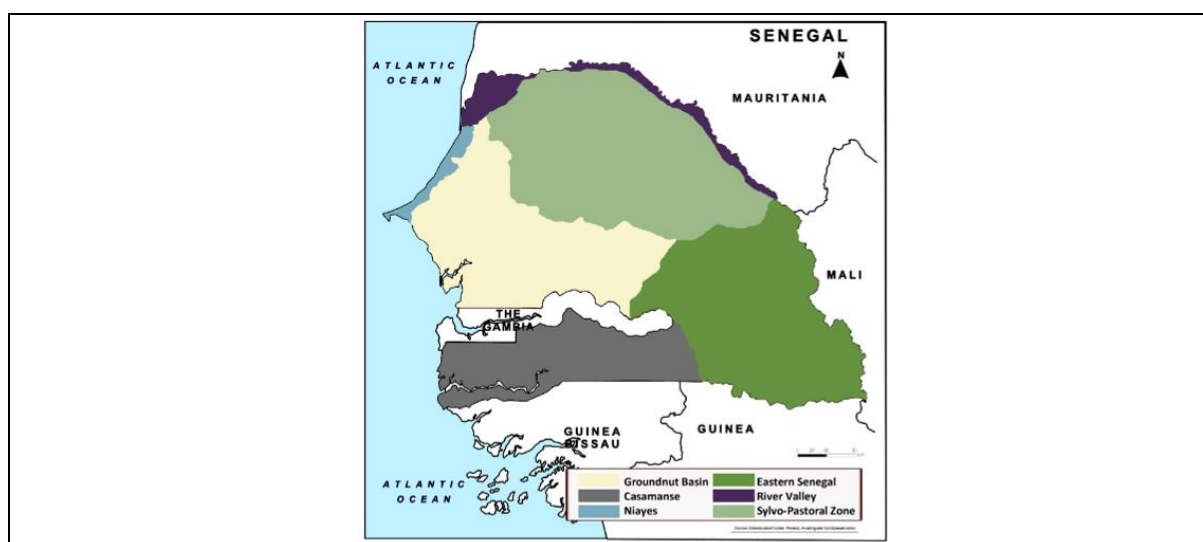
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## II. DEVELOPMENT CHALLENGE

### Context

1. Senegal is situated in West Africa, with Mauritania to the north, Mali to the east, Guinea Bissau and Guinea to the south and the small country of The Gambia completely enclosed within Senegal except where it meets the Atlantic coast. The country lies between 12° 20' and 16° 40' North and 11° 20' and 17° 30' West. The western boundary of Senegal is its Atlantic coastline, which stretches along 530 km from North to South. The total land area is 196,722 km<sup>2</sup> (75,955 sq miles), with a land border of 2,640 km.

2. Senegal has a sudano-sahelian climate with a rainy season between June and October, and encompasses a wide range of eco-climatic zones and ecosystems. Most of the country is fairly flat and low lying, with low hills along the coast south of Dakar and in the South-East, rising to a maximum of 581 m in the South-West of Kedougou. Dry ecosystems (less than 600 mm annual rainfall in the North and between 600 and 1000 mm annual rainfall to the South) can be found in the northern part of the country. They are composed of steppes, thorn bush and wooded savannas. They transform gradually into forests, then wetter and denser sub-tropical forests (>1000 mm annual rainfall) in the South and the East. There are also several major river systems home to fluvial and lacustrine ecosystems. The Senegal River which forms most of the country's eastern and northern boundary, reaches the sea at St Louis; the River Gambia which flows out of the Fouta Djallon mountain range in Guinea and through Niokolo Koba National Park. In the South, the River Casamance also flows west to the Atlantic Ocean. Given the length of the coastline, there is also a diversity of coastal ecosystems, including deltas, estuarian areas and Niayes Coastal ecosystems<sup>1</sup>.



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<sup>1</sup> Ministère de l'Environnement et de la Protection de la Nature, Direction des Parcs Nationaux, (2010), *Quatrième rapport national sur la mise en œuvre de la convention sur la biodiversité biologique*, Dakar.

**Figure 1. Map of Senegal where the Eco-geographic Zones are represented<sup>2</sup>**

3. The 2015 World Bank estimate for Senegal's population was 15.1 million, with a population growth rate estimate of 3,1%<sup>3</sup>. Over 40% of the population is urban (over 2 million people in Dakar; 4.3 million people in the *Grand Dakar*), with an estimated annual rate of change in urbanization of 3.8%. Although much of the population is rural and relies on extensive agriculture, pastoralism, forestry and fishing, low income and opportunities drive a significant rural exodus (especially of young people) and illegal emigration to Europe in search of employment. In 2015, the per capita GDP was 910.8 USD and Human Development Index (HDI) – which gives a broader assessment of development including measures of life expectancy, education and standard of living – was 0.466 (rank 154<sup>th</sup> out of 182 countries with data)<sup>4</sup>. Between 1990 and 2014, HDI rose by 1.00% annually<sup>5</sup>. Main exports are refined petroleum (347 millions USD), gold (246 millions USD), ciment (174 millions USD), phosphate (160 millions USD), fishes (134 millions USD). Despite a very stable democracy, varied ecosystems, rich natural resources and significant exports, poverty is widespread – the poverty rate across the country is 46,7% with a US\$ 1.25 per day poverty line<sup>6</sup> - and the country still relies heavily on external donor assistance.

### **Observed climate change and future trends**

4. The main indicators of climate change affecting Senegal are variations in rainfall patterns, temperature increase and sea level rise. As regards rainfall, the rain season has shortened and the isohyets shifted South (Figure 2). A general decrease has been observed over the past 70 years (Figure 3). Compared to present climate, precipitations will be prone to decrease in West Africa during the period 2031-2050: -0.5 mm/day on the West coast, and up to -2.5 mm/day in the North of Senegal<sup>7</sup>. Extreme climatic events, droughts and floods, will be more likely to happen.

<sup>2</sup> The 6 eco-geographic zones identified by the Centre de Suivi Ecologique (CSE) are: (i) the Niayes Coastal Ecosystem; (ii) Sylvo-pastoral ecosystems; (iii) Forest Ecosystems (Senegal Oriental); (iv) Groundnut basin, (v) Delta and Valley of the River Senegal and (vi) the Casamance Region.

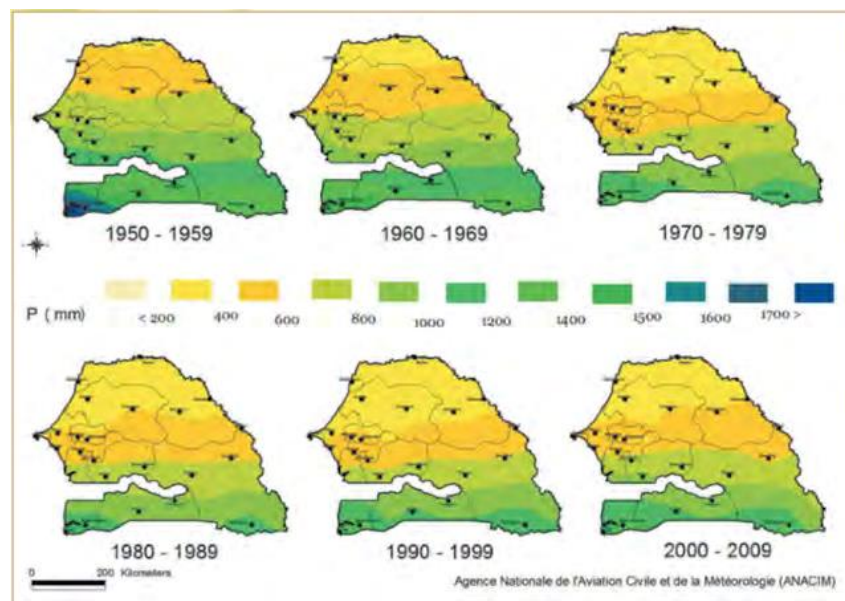
<sup>3</sup> <http://databank.worldbank.org/data/reports.aspx?source=2&country=SEN>

<sup>4</sup> UNDP Human Development Report 2014

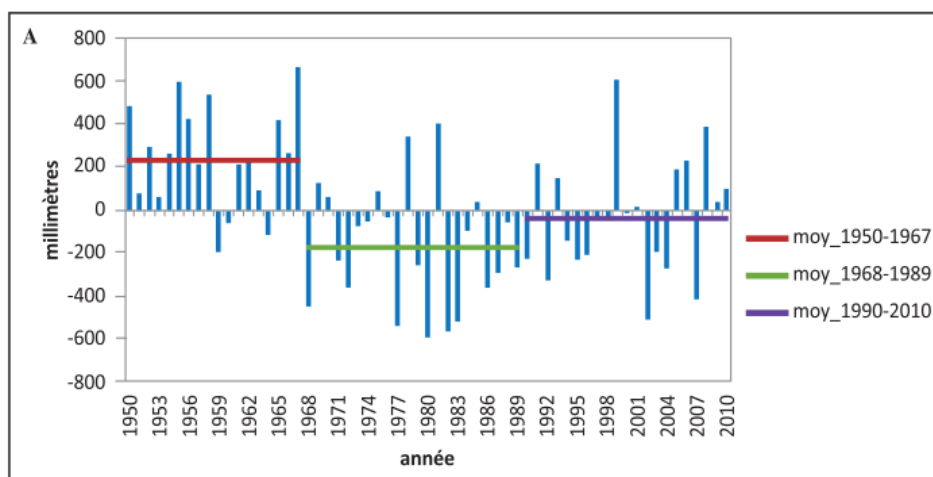
<sup>5</sup> UNDP Human Development Report 2014

<sup>6</sup> The World FactBook, CIA (<https://www.cia.gov>), consulted the 18th of November 2016.

<sup>7</sup> Third National Communication, CCNUCC, July 2015



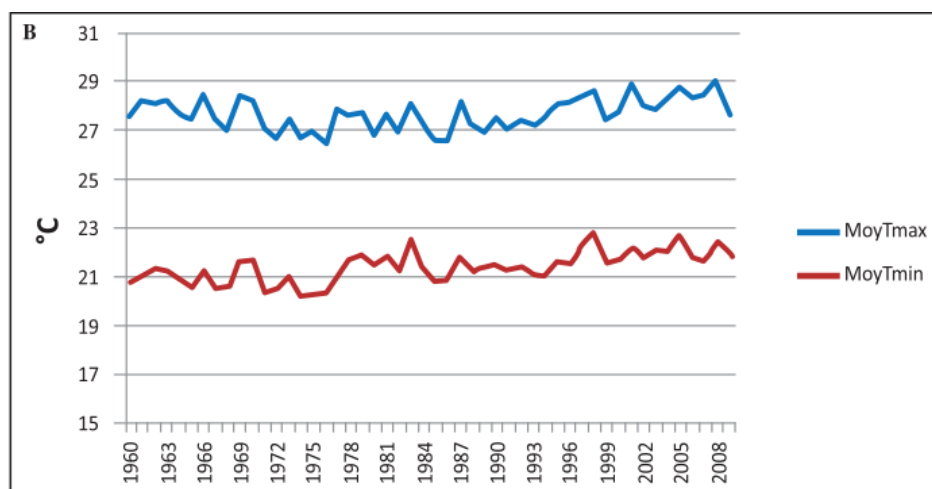
**Figure 2: Changing in rainfall patterns in Senegal per decade (source: Centre de Suivi Ecologique)**



**Figure 3: Changing in average rainfalls in Senegal (source: Centre de Suivi Ecologique)**

5. Over the past 70 years, the minimum temperatures drastically increased while maximum temperatures modestly increased (Figure 4). Temperature forecasts predict a + 1.1 to 1.8°C increase by 2035<sup>8</sup>.

<sup>8</sup> Ministère de l'Environnement et du Développement Durable (2015), *Contribution prévue déterminée au niveau national*.



**Figure 4: Changing in temperatures over time (1960-2010) (source: ANACIM)**

6. According to Biasutti (2013)<sup>9</sup>, the observed rainfall variability in the Sahel region, the semiarid transition zone located south of the Sahara desert, has undergone strong decadal variations. After a period of pronounced wetness in the 1950s, extended droughts were experienced in the 1970s and 1980s with devastating environmental and socio-economic impacts. Future climate change projections indicate a large range of future rainfall trends from strong drying to wetting. According to this assessment large scale restoration of vegetative cover might be among the most effective adaptation solutions in the country. Thus additional pressures were suggested to become important in the future, among others land-cover changes. These uncertainties in future Sahel region, confirmed by Park and al. (2014)<sup>10</sup> should not delay action as climate change is already a reality in Senegal.

7. Climate change triggers negative effects on ecosystems and people:

- (i) sea level rising and coastal erosion as well as beaches loss. Sea temperature increased by 0.04°C to 0.05°C per year between 1980 and 2009 and its salinity increased. Moreover, sea level rise reached 1.4 mm/year. By 2100, cumulated sea level rise is likely to reach 1 m, flooding and eroding 55 to 86 km<sup>2</sup> of beaches and 6000 km<sup>2</sup> of low lands<sup>11</sup>
- (ii) desertification, reduction of mangrove and spawning areas (Ndour and al, 2012<sup>12</sup> & Dieye and al., 2013<sup>13</sup>), arable lands and pastures loss,

<sup>9</sup> Biasutti, M. 2013. Forced Sahel rainfall trends in the CMIP5 archive. *Journal of Geophysical Research: Atmospheres*. 118 (4) : 1613-1623.

<sup>10</sup> Park, J.-Y, Bader, J., and Matei, D. 2014. Northern-hemispheric differential warming is the key to understanding the discrepancies in the projected Sahel rainfall. *Nature Communications*. 5: 5985.

<sup>11</sup> UNDP, (2009), Rapport National sur le Développement humain au Sénégal 2009. *Changement climatique, sécurité alimentaire et développement humain*.

<sup>12</sup> Ngor Ndour, Sara Dieng et Mamadou Fall, « Rôles des mangroves, modes et perspectives de gestion au Delta du Saloum (Sénégal) », *Vertigo - la revue électronique en sciences de l'environnement* [En ligne], Volume 11 Numéro 3 | décembre 2011, mis en ligne le 07 février 2012, consulté le 28 juin 2016. URL : <http://vertigo.revues.org/11515> ; DOI : 10.4000/vertigo.11515

<sup>13</sup> EL Hadji Balla Dieye, Amadou Tahirou Diaw, Tidiane Sané et Ngor Ndour, « Dynamique de la mangrove de l'estuaire du Saloum (Sénégal) entre 1972 et 2010 », *Cybergeo : European Journal of Geography* [En ligne], Environnement, Nature, Paysage, document 629, mis en ligne le 09 janvier 2013, consulté le 29 juin 2016. URL : <http://cybergeo.revues.org/25671> ; DOI : 10.4000/cybergeo.25671

- (iii) salinization of water, the reduction or lack of available water for irrigation and other productive activities<sup>14</sup>. 1 to 2% of total land area is affected by salinization<sup>15</sup>, a surface that is prone to increase due to rainfall decrease and increasing need for water.

The disruption of ecosystems has an impact on country's key economic sectors such as agriculture, gardening, breeding, fisheries and tourism. Some of the socioeconomic consequences of climate change impacts are the following:

- (i) Farming: Climate risks are exacerbated by a rain-fed production system, the importance of subsistence farming, of farm practices that are not adapted to a changing environment, perturbations of the farming calendar, and the lack of information and management of climate risks. In this context, food safety will be difficult to provide in the close future. Specific impacts on the agricultural sector include the following: (i) reduced yields of major crops (millet, sorgho, corn, rice, peanuts, and beans), (ii) physical and chemical degradation of the soils, leading to reduced agricultural productivity and plant resources in pastures for animals, (iii) exacerbation of land ownership conflicts.
- (ii) Livestock raising is a source of livelihoods and income for a significant number of people, specifically in the Ferlo. Drought and rising temperatures may affect this activity, leading to an expected decrease in the availability of fodder and drying out of drinking areas. In the project's target sites, feeding livestock, which is essentially based on the availability of natural resources (pastures), represents a secondary income-generating activity (except for Ferlo where cattle raising is the first activity). The vulnerability of this sector to climate change is further exacerbated by the increased risk of plagues and diseases<sup>16</sup> which are unlikely to be addressed due to the current lack of veterinary monitoring. Risks relating to livestock loss can reduce drastically their income, which result in upheavals in family life, and further expose women and children.
- (iii) Water resources: Variations in precipitations and temperatures expected in the project provinces can lead to changes in rainwater, reduced runoff, increased water erosion and reduced water availability in the reservoirs. Furthermore, a decrease in water and alluvial table replenishment resulting from increased evaporation can lead to rapid drying out of ponds. An increase in the expected drought frequency, caused by climate change, will lead to reduced water resources availability. All of this can lead to a negative impact on the water supply and productivity of irrigated crops. Besides, an increased intensity and frequency of flooding is expected particularly in Senegal Oriental, and will also have an impact on the quality of water, which is expected to engender the widespread of a number of disease, impacting the health and well-being of humans and livestock.
- (iv) Forestry: Mangroves that are found in Senegal River and Saloum deltas are home to various animal species that contribute to people's livelihood. The principal impact of climate change over these stands (mainly *rizophora sp.*) is land salinization that contributes, together with other anthropogenic pressures, to their loss. In 1975, mangroves covered 200,000 ha while in 2013 they only covered 185,000 ha<sup>17</sup>. Hence the deforestation rate of the mangrove is about 2.6% each year. Other forest

<sup>14</sup> National Adaptation Programme of Actions, 2006

<sup>15</sup> Land Degradation Assessment (LADA) project, (2010), *National Land Degradation Assessment Senegal and review of global socio-economic parameters in the LADA database*.

<sup>16</sup> Mario Youan (2014), *Agricultural Adaptation to Climate Change in the Sahel: Expected Impacts on Pests and Diseases Afflicting Livestock*

<sup>17</sup> <https://eros.usgs.gov/westafrica/mangrove>

stands, dry savannahs, wooded savannahs and sub-tropical forests, provide wood fuel, timber, game and non-timber forest products to the local population, for which the major threats induced by climate change are forest fire multiplication and desertification that lead to forest cover reduction.

8. According to FAO, Senegal is one of the 15 countries worldwide for which the agriculture sector is the most affected by climate change. In Senegal, the subsistence of 60% of population depends on natural resources<sup>18</sup>, and as a consequence, this share of the population undergoes climate change even more strongly. The response capacity of the population is highly limited by poverty since 57% of rural populations are considered as poor<sup>19</sup>. According to a study commissioned by the FARM Foundation and conducted by the CIRAD, food security in Africa is at stake by 2050 because of the increasing population and climate change threatening food availability<sup>20</sup>. The high dependency of people on natural resources and notably, on agricultural revenue is an additional difficulty for Senegal to reach the SDGs, in particular SDG 1 *No poverty* and SDG 2 *No hunger*. Moreover, the low access to technologies and to financial resources is also a key cause of the current challenge to adapt to climate change for vulnerable populations.

The increased climate variability and extreme events, causing crop failures and the loss of forestry areas is accelerating the trend of rural exodus, as most of the rural households rely on vulnerable natural resource (ie. agriculture and forestry products) for their livelihoods.

That is why it is a key challenge for Senegal to develop adaptation measures – with an integrated approach including natural resources, agriculture and water resources – to future climate perspectives in order to control their potential impacts on environment and populations.

### **Specific consequences of climate change in the intervention sites of the project**

9. The project is intervening in four sites: the Saloum Delta, the Senegal river delta; the Ferlo (Sylvo-pastoral ecosystems) and; the Niokolo-Koba (Senegal Oriental). These sites were chosen based on (i) their vulnerability toward climate change, and (ii) the presence of a Community Natural Reserves (CNRs) as a key action for the adaptation strategy at the local level.

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<sup>18</sup> Intended National Determined Contribution, 2015

<sup>19</sup> IFAD, 2014

<sup>20</sup> FARM, Changement climatique : un défi de plus pour l'agriculture en Afrique Perspectives 2050 pour la sécurité alimentaire et la productivité agricole, 2015



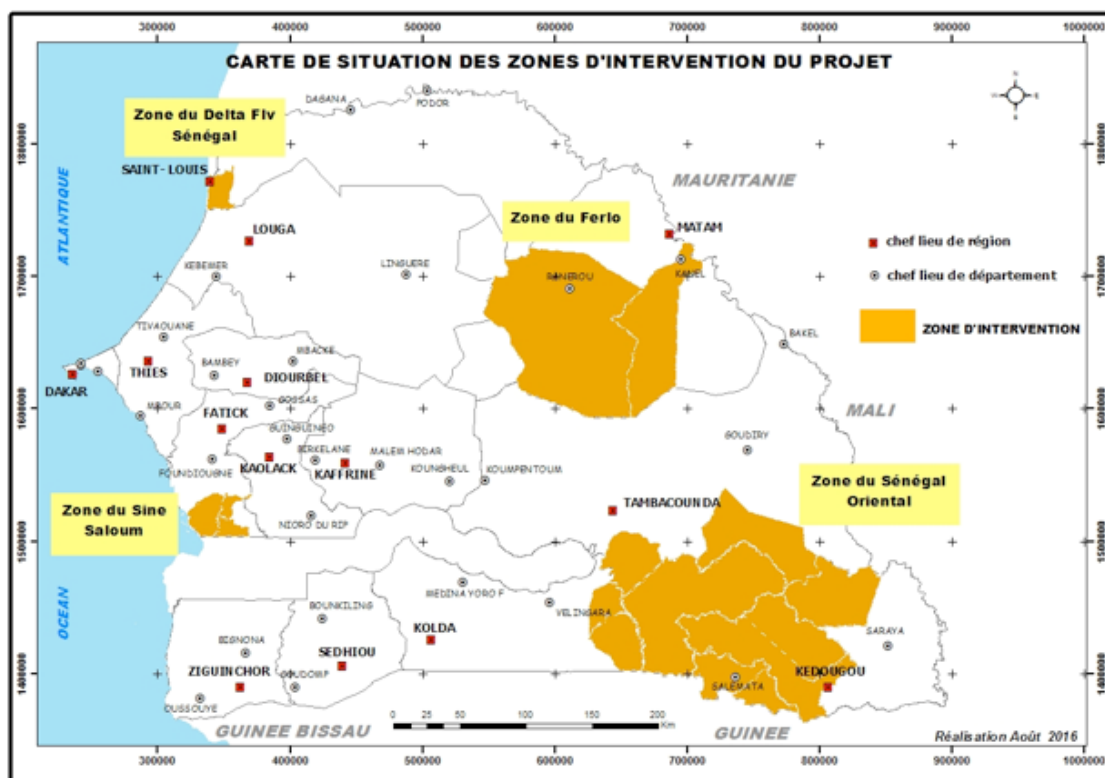


Figure 5: Carte de situation des zones d'intervention du projet (source: PPG)

10. The project proposed to build the local measures of adaptation to climate change around the CNRs, as forests constitute as major tool for adaptation. Science evidence has recently highlighted the role of forests in micro-climatic dynamic equilibrium because of its interaction with the soil and atmosphere compartments. Trees and tree stands have biochemical and biophysical characteristics that directly impact soils and atmosphere<sup>21</sup> by increasing local air moisture while diminishing the greenhouse gases quantity in atmosphere.

With deforestation, rainfall patterns and the amount of rain, the dry season's duration as well as wind conditions<sup>22</sup> are becoming increasingly unreliable. Besides, forest loss increases surface runoff during rainy periods, reduces runoff during the dry season and decreases soil moisture<sup>23</sup>, therefore having a significant buffer role for the surface hydrological cycle.

11. In 2002, the Ministry of Environment and Nature Protection launched an ambitious programme of integrated management of ecosystems (PGIES) for a period of ten years. This programme aimed at reducing greenhouse gases emissions through carbon sequestration, by preventing ecosystems degradation, and taking incitative measures for conservation through technical and institutional capacities enhancement and community-based management of ecosystems and biodiversity. In order to meet these objectives, the programme created

<sup>21</sup> Rajaud A., (2016), *Reforester les tropiques semi-arides ? Enjeux, contraintes et opportunités climatiques dans la perspective du changement global*, Thèse de doctorat en météorologie, océanographie, physique de l'environnement, Université Paris-Saclay, Université Versailles Saint-Quentin, 236 p.

<sup>22</sup> Monnier Y., (1988), *L'homme et la forêt. Les étapes de la dégradation forestière et les conséquences*, Ecologie Humaine, Vol. 6/ n°2, pp. 77-96.

<sup>23</sup> Salati E., Nobre C., (1991), *Possible climatic impacts of tropical deforestation*, *Climatic Change*, Vol. 19/n°1, pp. 177-196.

Community Natural Reserves (CNRs), promoting a participatory and sustainable use of natural resources. Under the legal responsibility of the communes, a CNR is a forest area (covering one or more communes) that are deliberated by the commune(s) for the benefit of a group of villages (called *Comité Villageois de Développement - CVD*) that ensure its sustainable management. All the CVD of one CNR are organized in an Committee InterVillage for Development (CIVD) leading protection activities, enhancement and mangement of natural resources. Among these activities, there is the development of a mangement plan of the CNR, creation of firewalls, monitoring by local eco-guards, reforestation actions, the establishment of a savings and microcredit mutual, etc.

12. The final evaluation of the PGIES (2013) reports key challenges, and in particular the need of: (i) consolidating CNRs sustainability by promoting innovative finance in communes surrounding CNRs and, (ii) increasing resilience of local territories (including CNRs) for helping community to adapt to climate change. Hence, the Ministry of Environment developed a project idea, in collaboration with UNDP, where CNRs are a key adaptation measure and are integrated into a broader strategy for adaptation to climate change at the local level, including also agricultural and water management aspects. Additionally, promoting innovative finance is targeted with the objective to sustainably rise additional funding for climate adaptation of the commune territories.

13. Others projects, such as PASA Loumakaf or PADAER, are developing CNRs/PUs in the same site of intervention and are facing the same risks: (i) vulnerability towards climate change, and (ii) financial sustainability of the CNRs/PUs and others key actions for climate change adaptation.

14. The proposed LDCF project intends to build upon the existing CNR/PU to strengthen the adaptation with the implementation of a range of comprehensive measures at the local level. Hence the intervention sites of the project included an existing CNR/PU. The table below presents the main CNR/PU already created or under creation in the four zones of intervention.

**Table 1. Main CNRs/PUs created or under creation in the four intervention sites of the project**

ZONES OF INTERVENTION	CNR OR PU	COMMUNES CONCERNED	PROJECT THAT SUPPORTED THE CREATION OF THE CNR/PU
<b>Saloum Delta</b>	Missirah	Toubacouta	PGIES
	Nema Bah	Toubacouta	
	Mansarinko	Toubacouta	
	Ndinderleng	Toubacouta and Keur Samba Gueye	
	Samé-Saroudia	Toubacouta	
	Touba baria	Keur Samba Gueye	
	Mbowène	Keur Samba Gueye	
	Sokone	Sokone	
<b>Senegal River Delta</b>	Gandon	Gandon and Ndièbène Gandiole	PGIES
<b>Ferlo</b>	UP Loumbol Samba Abdoul	Oudalaye	PGIES
	UP Malandou	Wouro Sidi	
	UP Wendou Diohi	Wouro Sidi and Ndendory	
	RNC MOUNGUIEL	Wouro Sidi	
	UP Louguéré Thioly	Louguère Thioly	PASA Loumakaf
	UP Kossas Namary	Louguère Thioly	

ZONES OF INTERVENTION	CNR OR PU	COMMUNES CONCERNED	PROJECT THAT SUPPORTED THE CREATION OF THE CNR/PU
	UP Badagor	Louguère Thioly	
	UP Naouré	Oudalaye	
	UP Mbam	Oudalaye	
	UP Sararatou	Oudalaye	
	UP Ngoyédji	Oudalaye	
	UP Mbackedji Samba Niacky	Oudalaye	PADAER
	UP Woyndou Makam	Oudalaye	
	UP Lougué Thiecodji	Oudalaye	
	UP Ouro Mamadou	Oudalaye	
<b>Niokolo-Koba</b>	Mansadala	Dialakoto	PGIES
	Koar	Missira	
	Linkering	Linkering	
	Niemenike	Tomboronkoto	
	Medina Gounas	Medina Gounas	
	Dar Salam	Dialakoto	
	Oubadji	Salemata, Dakateli, Oubadji, Dar Salam, Kevoye, Ethiolo	
	Thiabedji	Bandafassi	
	Dialamakha	Dialakoto	PROGEDE
	Waguiyatoulaye	Linkering	
	Tomboronko / Bandafassi	Tomboronkoto, Bandafassi	

15. During the PPG, surveys in a sample of villages have been carried out. The following table summarizes the climate change characteristics, impacts and main issues by region, where the project of “Promotion of innovative finance and community based adaptation in communes surrounding community natural reserves” will be implemented.

Table 2. Characteristics of the Intervention Sites of the project				
	Saloum Delta	Senegal River Delta	Ferlo	Niokolo-Koba
<b>Communes (total = 21)</b>	<u>3 communes</u> : Toubacouta, Keur Samba Gueye and Sokone	<u>2 communes</u> : Gandon and Ndiébène Gandiole.	<u>4 communes</u> : Oudalaye, Ouro Sidi, Ndendory et Louguère Thioly.	<u>12 communes</u> : Dialakoto, Missirah, Linkering, Tomboronkoto, Médina Gounass, Salémata, Dakatély, Oubadji, Dar Salam, Kévoye, Ethiolo et Bandafassy.
<b>Number of CNRs (total = 35)</b>	<ul style="list-style-type: none"> <li>• 8 CNRs</li> <li>• 4,204 ha in total</li> </ul>	<ul style="list-style-type: none"> <li>• 1 CNR</li> <li>• 2,000 ha in total</li> </ul>	<ul style="list-style-type: none"> <li>• 15 PU/CNR</li> <li>• &gt;326,426 ha in total</li> </ul>	<ul style="list-style-type: none"> <li>• 11 CNR</li> <li>• &gt;236,494 ha in total</li> </ul>
<b>Observed climate trend</b>	<ul style="list-style-type: none"> <li>• Temperature increased by 1,7°C over the last 50 years<sup>24</sup></li> <li>• Fall of the water table level between 5 and 10 m<sup>25</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Annual precipitations decreased by 200 m and high variability</li> <li>• High evapotranspiration</li> <li>• Shoreline retreat by 1 to 2 m<sup>26</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Increased variability of precipitations with an alternation of humid and dry years<sup>27</sup></li> <li>• Rain season shorter and delayed of 10 to 20 days<sup>28</sup></li> <li>• An increase of temperature with a significant higher percentage of warm day and nights<sup>29</sup></li> <li>• Increased evapotranspiration</li> </ul>	<ul style="list-style-type: none"> <li>• Annual precipitations decreased by 400 mm</li> <li>• Increased evapotranspiration</li> </ul>
<b>Impacts on socio-ecosystems</b>	<ul style="list-style-type: none"> <li>• Increased salinity of the groundwater due to a rise of marine water level</li> <li>• River flow decreased by 50%</li> <li>• Salinization of lands</li> <li>• Weakening of wetlands<sup>30</sup> (habitats fragmentation and degradation)</li> <li>• Reduction of vegetation cover triggering hydric and wind erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Lowering of the groundwater table<sup>31</sup></li> <li>• Land and ground water salinization</li> <li>• Drying wind</li> <li>• Desertification</li> </ul>	<ul style="list-style-type: none"> <li>• Low availability of water resources</li> <li>• Deficiency of fodder and ligneous resources</li> <li>• Degradation of lands and vegetation cover</li> <li>• Wind erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease of vegetation cover</li> <li>• Land degradation because of deforestation, wind erosion and run off water</li> </ul>
<b>Main climate change impact</b>	Sea water intrusion and salinization of soil and groundwater	Desertification and coastal erosion	Increased vulnerability of the vegetation cover and access to water	Increased vulnerability of the vegetation cover

<sup>24</sup> Regional Integrated Development Plan (PRDI), 2013

<sup>25</sup> PANA, 2006

<sup>26</sup> Ibid.

<sup>27</sup> Climtterr Atlas Geres, November 2013

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Directory of National Parks (DPN), 2010

<sup>31</sup> Descroix, 2015

## Long-term solution and barriers to overcome

16. While there are many challenges facing Senegal with respect to adaptation to climate change, the long-term solution will be to provide climate resilient practices for vulnerable communities in the 21 communes together with an improved access to finance for climate-resilient activities to ensure the sustainability and ownership of the interventions. By improving the access to resilient alternative livelihoods and natural resources (ie. Water, improved seeds), the actions conducted under the outcome 2 will provide a direct response to water shortages, salinization or the degradation of vegetation cover that have direct impact on the livelihoods and food security of targeted communities. And the establishment of innovative financial mechanisms under outcome 1 will create a conducive environment for the upscale of climate-resilient practices and the dissemination of the benefits of and the lessons learned from the project beyond the targeted beneficiaries. More specifically, this involves two axes of action:

17. First, it establishes innovative finance mechanisms that bring regular additional incomes at local level dedicated to finance climate change adaptation actions. Climate finance for vulnerable households will help sustainably respond to the aforementioned challenges while ensuring the ownership of the interventions by the beneficiaries. This is possible through the capacity building at different level: (i) at the commune level, to mobilize additional financial resources from both internal (taxes, PPP, etc.) and external sources (grants, CSR, etc.) for climate change adaptation by integrating it in their Communal Development Plan (CDP), (ii) at the local financial institution level, to evaluate and understand the opportunities arising from the financing of climate change adaptation strategies for vulnerable communities, (iii) at the local association (civil society) level, to access & manage funds, (iv) at the private sector level, to contribute to the adaptation of the vulnerable territories. With this capacity building component, the objective is to raise finance in the long term, both with endogenous solution (taxes, benefits sharing from value chains, PPP, etc.) and exogenous solution (fund raising for grants, foundation, CSR, etc.)

18. Secondly, the long-term solution brings investments and increases capacities of communities (in particular women and youth) in order to give them more abilities to adapt to climate change and variability by providing alternative livelihoods that are less vulnerable to the climate stresses faced by each commune. These solutions were based on the strategy of the Government, the results of previously implemented or on-going projects, the needs of the population. This includes commune-specific interventions so as to provide better access to resilient infrastructures and technologies, technical & managerial trainings; improve economic conditions through climate resilient activities, access to secured natural resources for agro-forestry (ie. Water, resilient seeds) as well as participation in decision-making process at the local level.

19. The preferred solution pertains to increasing the resilience of local communities to climate change impacts in the four sites of Senegal and comprises the following:

- Additional budget dedicated to climate change adaptation at the local level: The preferred solution would include strengthening the capacity of the relevant local stakeholders in Senegal – such as the communes, but also the local civil society – to identify, attract and manage additional funding to be able to implement and monitor adaptation measures in the commune territory. Based on the Communal Development Plan (CDP) of each commune, strategy and action plans will be developed by municipal (and village-level authorities) to

adapt toward climate change. These measures will be integrated to the annual budget of the commune, showing clearly the potential co-financing from the other actions/projects carried out in the commune. As a result, these plans would consider and include (with a rank of priorities) actions to be carried out for (i) agricultural and cattle farming sector, (ii) better management of the CNR (including plantation of adapted species), (iii) water management (including improvement of accessibility and quality), (iv) dissemination of information (awareness campaigns). The role of women and youth will be clearly specified in these plans.

Based on these plans, technical staff from the communes, the civil society and the Village Development Committees (VDC) will receive training on fund raising and support to write concept notes and submit project proposals to funders (see annex F for more details). In particular, the VDC will be trained to collect funds through crowdfunding platform (in partnership with the communes and the civil society). A focal point (based in each commune or in the inter-communes group) will bring assistance to projects developers (communes, but also civil society) to raise and manage funds.

The successful fund raising success stories, such as the Telethon organized by the mayor of Sokone (60,000 USD collected for the co-financing of the dredging of the coast), will be promoted and replicated in other communes. Thanks to the leadership of the mayor and an active collaboration to the civil society, the commune has sold raffle tickets to the inhabitants while communicating on the “Plan Sokone Emergent”, which explains the desirable future for the commune. The commune organized a local Olympic Game to raise attention on the Telethon and to federate the local population around the project of the city. Local population have largely contributed to this Telethon. This is an example of internal funds rising in order to invest in the commune. This low-cost solution can be replicated in other commune as main condition is the leadership of the mayor and the civil society.

- Establishment of innovative mechanisms that brings additional funding in the long term: The preferred solution would include the participative conception and implementation of innovative mechanisms, in particular (as identified during the PPG): (i) public private partnership establishment with cashew/mangoes and tourism industries in the Saloum Delta, (ii) a solidarity funds (based on the beneficiaries-payer principle) for the adaptation toward salinization and coastal erosion of the population in the Gandon and Gandiol communes, (iii) offset partnerships with the mining industries in the Niokolo-Koba sites, and (iv) for each sites of the project, establishment of a benefit sharing mechanism for the key resilient & productive value chains (salt and oysters in Senegal river delta, gum arabic and fodder/hay in the Ferlo, etc.). These pilot innovative mechanisms will be experimented with the objective to disseminate the key lessons learnt in order to replicate successful mechanisms. Capacities of both national Ministry (Directorate of green innovative finance) and the local level (commune and civil society) will be increased through trainings and technical assistance of experts.
- Increased access to farm credits: The preferred solution would include the strengthening of the credit & saving mutual of the Saloum Delta: technical assistance for the professional staff in Toubacouta (including appropriate equipments), for the development of adapted financial products, for the opening of 3 affiliates (Gandon, Ranenou, Koar-Linkering-Mansadala). Based on its good financial results and through intensive capacity building,

the Delta of saloum MEC activities will be expanded to the three other project sites. Partnerships will be developed with other financial institutions (U-IMCEC, URMECS and CAURIE6-Microfinance expressed their interest during the PPG) with the objective to increase the access to farm credits for local population.

- Enhanced capacity to develop resilient productive activities: The preferred solution would include strengthening the capacities of local populations (especially women and youth) to adopt diversified resilient practices such as (i) adapted seeds and proper soil management for agriculture, (ii) water collection for gardening, (iii) rehabilitation of low lands which have better humidity in soil, (iv) development of resilient diversified value chains: gum Arabic (Acacia plays a very important role in rural economy: it represents a source of immediate revenue, especially during the dry season), salt (alternative promising income generating activities for the inhabitants of Gandon/Gandioul who cannot cultivate soil because of salinization), etc. To ensure the development and sustainability of these activities, capacities building and trainings (management, marketing and finance in particular) will be provided to the local entrepreneurs. These activities will also benefit preferably from the access to credits.
- Increased investments for climate adaptation: The preferred solution would include the investment of infrastructure that lower the vulnerability of local population, such as: Rehabilitation of low lands, opening and maintenance of firebreaks and a better management of CNR, water collection, development of ponds for cattle farming and access to water, etc.
- Improved transmission of climate and good practices information: The preferred solution would include an increased level of awareness of rural communities and municipalities. Climatic information will be disseminated through municipal focal point and local radios. Capacity-building activities would include the provision of training to both national and local authorities on resilient practices developed at the communal level. A center will be created in Ranerou to further sensibilize and train local communities. To educate the public and increase their knowledge on climate change impacts, various forms of media would be used, including posters and radio broadcasts. In addition, education programmes would be implemented for school children, which would ensure increased long-term public awareness of climate change risks and the adoption of appropriate practices.

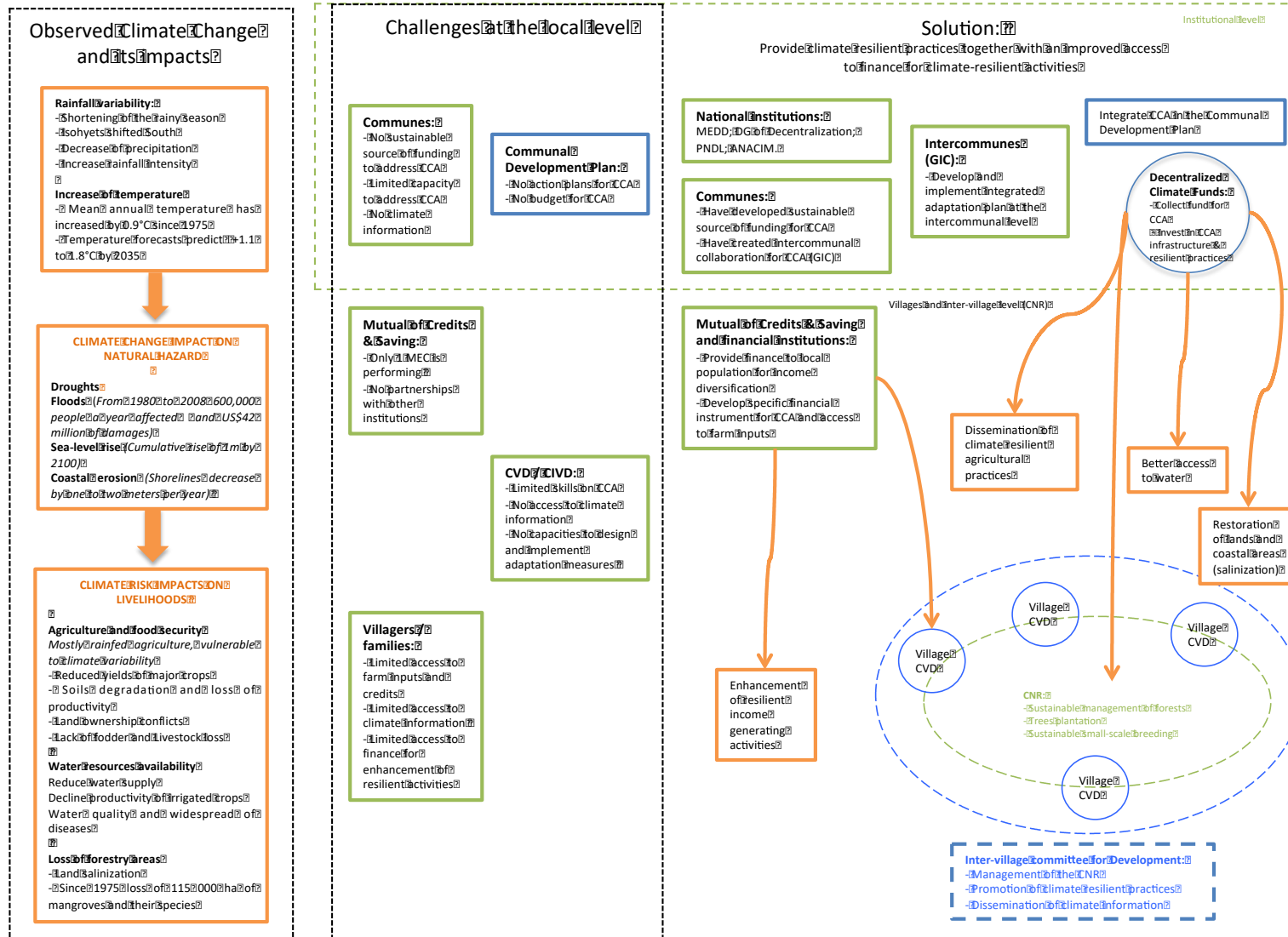


Figure 6: concept of the long-term solution



20. However, to date there is insufficient technical, institutional and financial capacities at commune's level and at national level to uptake adaptations measures and practices. Some of the barriers to overcome have been identified, among which:

**Barrier 1) Limited capacity of local stakeholders (communes, financial institutions, civil society and private companies) and national level to mobilize and manage finance dedicated to climate adaptation:**

This barrier has three sub-components:

- Limited resources to finance climate change adaptation at local level: The Ministry of Economy, Finance and Plan recognizes that resources from endowment funds represent only 20% of the needs of the communes. The budget of the communes is then tight and the environment sector, as one of the key mandate of the communes, is poorly allocated. In the 15 communes targeted by the project, the annual budget goes from 90,000 USD to 400,000 USD. The share of the budget dedicated to the environment is never above 1%. Among this share, no finance has been allocated to climate change adaptation. Both internal (local taxes) and external funding have to be developed. Few communes have integrated climate change adaptation in their development plans and none of them have a detailed business plan. Most donors require budget and co-financing as a precondition to funding. The existence of good-quality adaptable business plans must be an imperative for all communes. Communes, together with the civil society and the CV/CIV, needs to strengthen their capacities to write funding document, manage the funds and monitor the project result and impact.

An important step in funding the actions against climate change was taken in 2015 with the establishment of the National Climate Fund (NCF). This fund is administered by the Centre de Suivi Ecologique (CSE) and will raise and manage 60M\$ per year to combat the negative effects of climate change and ensure sustainable development. However, despite the significant progress that has been made in decentralization, the management and disbursement of climate funds still rests with national-level bodies or non-governmental organisations (NGOs), leaving local government and communities with little control over financial decision-making and management. Their concerns and priorities often are not sufficiently accounted for when spending decisions are made.

At the national level, there is a lack of understanding of the impact of climate change which result in low involvement (of government and national companies) and low priority given to climate change adaptation measures financing and implementing.

- Limited skills to develop innovative finance mechanisms: Communes have legal authority to develop financial mechanism (public private partnership, local tax, etc.) to support its resilient development. However, their knowledge and capacity to employ some of these instruments are limited.

For example, as a key adaptation action at the local level, the RNC (established through public funding 10 years ago) has been suffering from lack of funding to maintain them. It is widely considered that the RNC network should be less dependent on long-term donor support than other protected areas. These sites should be able to generate revenues from their own natural resources, albeit with the bulk going to local communities. There is also

a willingness among several communes to engage with business, thus opening a diverse array of financial opportunities. Potential options include certified organic/fair trade products such as gum Arabic, salt, cashew nuts and maad, ecotourism/hunting concession, and mining corporate social responsibility programs, but so far none of the communes have explored options. The current barriers are as follows. Communes and NGOs are largely unfamiliar with the business world and lack experience or knowledge in creating opportunities. Communes and NGOs may be reluctant to venture into new business opportunities and prefer to maintain focus on improving subsistence production. Buyers generally require minimum volumes and consistent quality. The start-up years are also problematic as producers must gain confidence in their products and may be dismayed if they cannot sell owing to failure to meet production quotas.

Other innovative financing mechanisms are available in Senegal but not exploited. The potential for offsets linked to mining is promising with Torogold, Afrigold and Teranga Gold operations (and its subsidiary Sabodala gold operations). As the mining sector is in expansion in Senegal, establishment of offsets might be significant potential revenue for the local stakeholders (communes, NGO and CIV) to finance climate adaptation in their “terroirs”. Several reputable companies have committed to establishing CSR programs worldwide (including Total and Eiffage, very active in Senegal). Moreover, there is a growing interest from the Government of Senegal to identify areas of improvement in its regulations to leverage the industry of Mining, Minerals and Metals to advance sustainable development<sup>32</sup>. The principal barriers in Senegal are likely to be the following: to varying degrees, NGO fear that proven economic mineral could cause government reversal on conservation commitments in favor of industry (see debate in Kedougou region), and many remain hesitant to engage with corporations for ethical reasons; most projects are still in the exploration/confirmation stage and companies may reasonably decline social and climate change commitments until production decisions are made; the extractive industry sector is increasingly attracting companies with little or no history/interest in doing any more than their minimal contractual requirements with respect to compensation and environmental protection.

Besides, crowdfunding has high potential to finance local climate adaptation project. Main barriers for the local stakeholders are the lack of technical capacities to develop such a partnership with a crowdfunding platform.

Finally, at the national level, the Directorate of Green Finance has low capacities and very few concrete projects under implementation.

- Limited access to finance for local population to diversify IGA and develop resilient activities: The generalized lack of access to farm credits is due mainly to the low-income level generated by farming activities. Lending money to small producers is considered high risk by credit institutions. The problem is that most of the credits granted are low (around \$100 US) and with a very short reimbursement period (one week at most). Furthermore, interest rates are high and many farmers are unable to reimburse the loan within the time provided, since their small business activity does not generate sufficient revenue. Through the PGIES, the government has developed 9 financial institutions (*mutuelle d'épargne et de credits*, called later MEC) in the 4 identified zones of the proposed project. Whereas the MEC of Saloum Delta has relatively strong and promising results, the other 8

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<sup>32</sup> <http://igfmining.org/mpf-senegal/>

MECs faced important challenges and are not viable (see annex F for more details on the status of the MECs). This situation is explained by: (i) legal microfinance framework has been strengthened by the government to the extent that the 8 other MECs are not registered by the Directorate of regulation and supervision (they don't have the official approval of the Ministry to operate), (ii) the 8 MEC suffers from absence of activities during the past two years (no financial movement has been registered) so that the MEC are today in difficult financial situation, (iii) the MEC are operating at small scale and doesn't manage sufficient activities to be viable. Nevertheless, the diagnosis carried out during the PPG showed that the MEC of the Saloum Delta was successful and has been a powerful tool to support access to credits for the local population. In order to promote the access to farm credits, the MEC network should be strengthened by building on the successful experience in the Saloum Delta and establishing partnerships with others recognized financial institutions.

**Barrier 2) Limited capacity of communities (in particular women) and authorities to understand climate change information and to develop opportunities and generate income from their productive & climate resilient activities:**

Farming, raising cattle, and water resources are affected by climate change, but these socio-economic sectors, if sufficiently resilient, are also part of the solution for adaptation. However, strengthening and dissemination of productive & climate resilient activities faces a number of barriers in the 4 sites concerned by the project.

- Insufficient access to farm inputs & infrastructure, to climate information and advice to adapt to design and implement adaptation measures related to agriculture/forestry and water: (credits, short cycle seeds, medicine for cattle),

There is a lack of information on climate (rains, wind, and temperature) and on impacts of climate change (what are the damages of climate change? How farmers can change practices to adapt? Where can farms find adapted crops? Etc.). The PPG surveys show that none of the communities concerned by the project has specific climate risks adaptation strategy.

At present, the availability and accessibility of reliable weather data can be improved and scaled-up to strengthen accurate prediction of rainfall, wind and temperature at local level by ANACIM and to advise farmers (by relevant Ministries and technical services). These institutions therefore can improve their capacity to generate weather-related information to disseminate largely timely. The transmission of information and warning to the relevant local communities can be improved. The following means have been experimented and should be scaled up throughout the country: i) radio; ii) internet; iii) phone calls / SMS to local key stakeholders to reach villages; and iv) weekly news bulletins. Moreover, the majority of the population of the rural areas covered by the project are unable to access this climatic information.

- Limited capacities of population to generate incomes from resilient productive activities: whereas climate risks are exacerbated by a rain-dependent production system, farmers have rarely diversified production and climate resilient activities are not enough developed yet. For example, in the communes of Gandon and Ndiébène Gandiole, the water has been saltier for the last 10 years such as the traditional agriculture wasn't feasible anymore. The

population has developed oyster and salt production with the support of the PGIES. However, these value chains need to be developed with improvement of production and transformation techniques and marketing strengthen. Another example is the production of gum Arabic in the Ferlo site. The PGIES supported the plantation of acacia Senegal trees that are now productive. However, trees are low productive (the production is estimated at less than 100 gr per tree whereas a tree can produce 500 gr each year with the appropriate practices), and the commercial aspects are not organized (CVD are not involved in the commercialization phase).

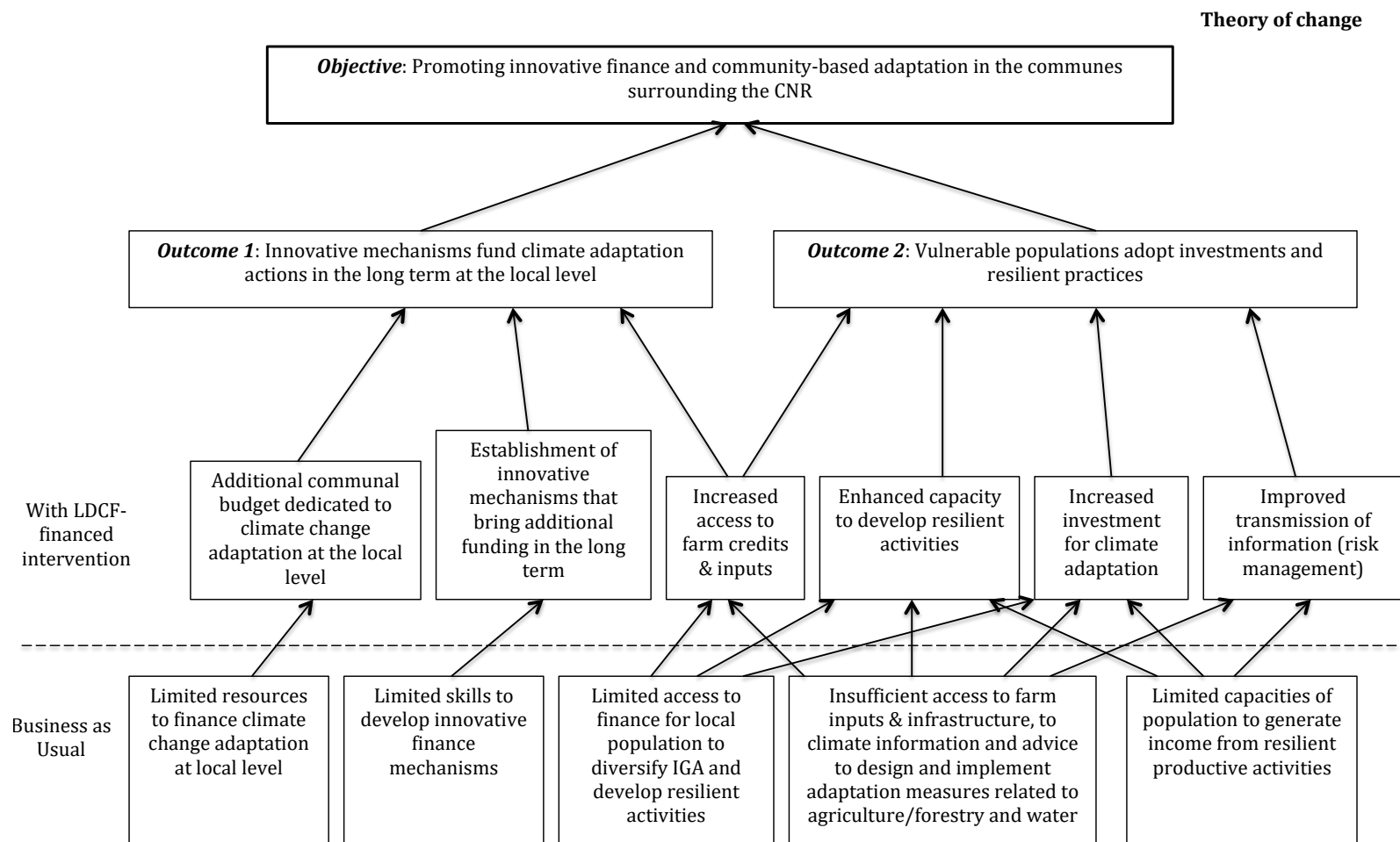
Besides, in the Ferlo site, the climate change is affecting the economic activities through the expansion of disease for cattle, by drying out of drinking areas and with the decrease in available fodder. The local population has identified some opportunities (for example, the production and commercialization of hay out of the firebreaks created to protect the CNR). However, they face limited technical and financial capacities to develop these productive income-generating activities.

Other high potential climate resilient activities have been identified during the PPG (see Annex G). All these productive activities should have a financial mechanism in order to finance climate adaptation in the “terroirs”.

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### **III. STRATEGY**

21. The LDCF-financed project will contribute towards achieving the long-term solution which is to promote innovative finance and community based adaptation in the communes surrounding the CNRs in Senegal. The theory of change adopted for this LDCF-financed project comprises addressing the barriers discussed in Section I while contributing to the preferred solution discussed below through the delivery of Outcomes 1 and 2. The theory of change diagram is presented in figure 7.



**Figure 7: Theory of change diagram (source: PPG)**

22. LDCF finances will therefore be used to increase the capacity of Senegal, especially local communes and local population, to manage the risks of climate change impacts by increasing the financial resource for adaptation measures. The LDCF-financed project has been designed to respond to Senegal's national priorities and will support the implementation of communes strategies and plans.

### **National and local benefits**

23. At the national level, the adaptation benefits generated by the LDCF-financed project will include building the overall capacity of the Ministry of Environment to develop innovative financial mechanisms for adaptation measures implementation, and to experiment adaptation actions in the sectors of agriculture, water resources and forestry (Knowledge and lesson learnt will be disseminated through the component 2 for the benefit for other projects in Senegal). This will be achieved through training and capacity-building of officials within Ministry of Environment, ANACIM and ARD at the national and commune levels. Targeted beneficiaries of the project's capacity-building activities will, at a minimum, include: i) 40 national-level representatives; and iii) 60 commune-level representatives (in each of the 21 targeted communes).

24. At the local level, the LDCF-financed project activities will deliver targeted adaptation benefits to 224 vulnerable villages in the four project sites, resulting in direct benefits for at least 50,000 people which amounts to 5,000 households. Within these target intervention sites, the project will introduce multiple measures to reduce vulnerability to climate change, including measures to increase resilience with both investments and capacities building for communities. In addition to providing direct support to communities, the project will develop partnerships with other on-going projects in the same sites and implement awareness-raising activities on the climate informations and good practices to adapt to climate change to at least 100,000 people within the 21 communes. These activities will also include study trips of mayors and farmers to increase the knowledge of municipal and village officials on the management of climate funds and adapted practices toward climate change.

25. At the local level, the vulnerability of project beneficiaries to climate change will be reduced through several measures including: (i) introduction and dissemination of agricultural practices (adapted seeds, soil and water management, etc.), (ii) enhancement of climate resilient value chains (gum arabic, cashew, salt, etc.), (iii) increase of credits access for farmers, (iv) development of ponds and access to water for income generating activities. The project will stimulate a real dynamic in the creation of micro-business (specially managed by women) by training them on business and rural finance. Diversification of livelihood activities will improve safety nets for vulnerable households.

26. Municipal and village authorities in the 21 communes that have been selected for LDCF-financed interventions will benefit from capacity-building activities. As a result, the communes' institutional, technical and financial capacity to attract additional funding, to develop and implement site-specific adaptation interventions will be strengthened.

### **Gender considerations**

27. Women, young people and disabled people form social groups among the Senegalese rural society that are affected by inequality of rights, resources (land, financial resources, productive capital) and power in decision taking due to existing socio-cultural organisation. As a consequence, these social groups are the most affected by poverty, which threaten their food security and living conditions. In Senegal, 30% of the households live under the poverty line (i.e. less than 2,400 calories per day) and most of them are women and young people<sup>33</sup>. As regards climate change, they are also the most vulnerable.

28. Women represent 52% of Senegal population. They play a major role in terms of:

- (i) **Income generation and income supplementation generation** through market gardening, fishing, gathering and marketing of non-timber products. In the project areas, for instance, women are in charge of cashew production, market gardening, oyster farming and forest products gathering. In rural areas they are responsible for more than 80% of agricultural production<sup>34</sup>
- (ii) **Domestic work** such as cooking, dishwashing, laundry, drawing of water etc.
- (iii) **Social organisation** as they take care of children and elderly
- (iv) **Community dynamics**. In the project areas, almost all women were involved in formal or non-formal associations. They also set up women's groups (Groupement de Promotion Féminin) and economic interest groups (Groupement d'Intérêt Economique), as well as revolving credits actions in order to promote mutual support, solidarity and economic development.

29. However, in Senegal and on the project areas, women face challenges:

- (i) The **arduousness of their work** (e.g. drawing of water, crushing) has been highlighted by the women in the project areas. In wolof language, they called that being "weet", meaning they are always thinking about their duties.
- (ii) Climate change amplifies the difficulty of women's work. In the project areas, women stated that **natural resources access** (water and energy) is getting harder
- (iii) **Lack of access to productive resources**. Women only own 4% of arable lands in Senegal and lack of financial resources. In the project areas, women asserted that they experienced difficulties with access to credit and with development assistance for the value chains in which they are involved because of inadequate financial guarantees. They also stated that banks and mutual charge them higher rates of interest. In addition, they lack of access to information, law understanding and allocation of resources procedures.

30. This is due to the burden of the patriarchal system, which implies that their participation in the household decision-making is very limited and that the illiteracy rate, 67,9%<sup>35</sup>, is higher for women. However, the Government of Senegal launched a national strategy for poverty reduction, that include gender and vulnerable groups equity consideration. The Government also ratified the

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<sup>33</sup> International Monetary Fund, (2013), *Sénégal : Document de stratégie pour la réduction de la pauvreté – note consultative conjointe*, n°13/195f, 13p.

<sup>34</sup> Gouvernement du Sénégal, (2015), *Stratégie Nationale pour l'Egalité et l'Equité de Genre (SNEEG)*, 117 p.

<sup>35</sup> Gouvernement du Sénégal, (2015), *Stratégie Nationale pour l'Egalité et l'Equité de Genre (SNEEG)*, 117 p.



International Human Rights Convention and the Convention on the Elimination of all Forms of Gender Discrimination (1985). Gender equity is also enshrined in Constitution in the fields of family law, penal law, labour law and access to land and has been implemented through various programmes. As a consequence, the illiteracy rate has decreased (78% in 1995 and 72% in 2001)<sup>36</sup> and there are women in the institutions of the project areas. Moreover, the Government launched a National Strategy for Gender Equity and Equality (*Stratégie Nationale pour l'Egalité et l'Equité des Genres (SNEEG)* in 2008.

31. The project supports a Gender and Development approach, to ensure equally shared opportunities, resources, benefits and climate change adaptation strategies between social groups in the target areas. In order to meet that objective, various tools and strategies have been developed. Gender-sensitive indicators and targets have been developed to monitor the progress of the LDCF-financed project and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers appointed by this project will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools under Outputs 2.3 and 2.4 will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to encourage the implementation of gender-sensitive initiatives beyond the project lifespan.

### **On-going country intervention**

32. Several GEF and non-GEF projects on adapting to climate change are currently being implemented in Senegal. Previous projects and programmes have largely focused either on the policy level (design of NAPA) or on sector approach (promotion of resilient farming or management of watershed). Whereas the ongoing initiatives in the country provide opportunities for knowledge exchange and synergies with the LDCF-financed project, any of them has developed an integrated approach with the establishment of financial mechanisms. These ongoing initiatives are described below:

33. The **National Programme for Local Development (PNDL)** implemented by the Government of Senegal supports effective, efficient and sustainable delivery of basic socio-economic services to populations. It is implemented within the objectives of the Poverty Reduction Document (DSRP) as well as the MDGs. The objectives are to (i) increase the access to basic social infrastructure and services through direct and indirect interventions, and (ii) increase the access to financial resources for the development of income-generating activities by the poorest populations.

34. The UNDP-implemented **Programme to improve the Dynamics of Economic and Social Development** is financed by UNDP, the Government of Senegal and the Government of Luxembourg. The project has four outputs: (i) Local economic development initiatives for women and young people are promoted; (ii) The funding mechanism for the integration of young people

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<sup>36</sup> Gouvernement du Sénégal, (2015), *Stratégie Nationale pour l'Egalité et l'Equité de Genre (SNEEG)*, 117 p.

from the Technical and Professional Training Teaching (ETFP) system is strengthened and expanded; (iii) Social protection of vulnerable groups for inclusive economic growth is increased and expanded; (iv) The strategic management of the National Strategy for Economic and Social Development (SNDES) and the monitoring of poverty for the promotion of sustainable human development are ensured.

35. The **Sectoral Policy on Micro-finance**, is implemented and financed by the Ministry of Economy and Finance. The policy is implemented as part of the Letter for the Sectoral Policy on Micro-Finance. The objectives are to (i) diversify and strengthen the supply of micro-finance products, (ii) strengthen the quality and innovativeness of collaborations, (iii) provide alternative financial models to strengthen SME for an increased resilience of households, and (iv) improve household access to local financial sources.

36. The LDCF-financed project entitled “**Integration of climate resilience in the agro-pastoral production for food security in vulnerable rural areas through the farmer field school approach**” is currently executed by FAO. The project specific objective is : (i) facilitate the use of agro-climatic information and the adoption of adaptation to Climate Change by the agro-forestry-pastoral producers and (ii) improve the capacity of agro-forestry-pastoral sector to cope with Climate Change by integrating policies, programs and agro-forestry-pastoral development projects adaptation strategies to Climate Change. The project is organized around 4 components: (i) Development and refinement of Climate Change adaptation strategies and tools based on new or improved knowledge and management of Climate Change adaptation practices in agro-forestry-pastoral systems, (ii) Capacity building and dissemination of strategies, technologies, and best practices of ACC, in small agro-forestry-pastoral producers across a growing network of field schools, (iii) Integration of an ACC strategies coordinated in policies, programs and projects under development of agro-forestry-pastoral production sectors at national level and in vulnerable project areas (vi) Coordination, monitoring and evaluation.

37. Project entitled “**Strengthening land and ecosystem management under conditions of climate change in the Niayes and Casamance regions**” is financed by the LDCF, the Gouvernement of Senegal and UNDP. The objective is to strengthen an enabling environment for adaptation measures based on ecosystems management. This will be done through (i) climate forecast and diffusion of climate information, (ii) capacities building, (iii) better evaluation of the climate risks, (iv) piloting and adoption of adaptation techniques. The total budget of the project is 18,100,000 USD, including the LDCF financing of 4,100,000 USD, the government co-financing of 8,000,000 USD, the UNDP co-financing of 2,500,000 USD, and the ANACIM co-financing of 3,500,000 USD.

38. The **National Adaptation Plan Global Support Programme (NAP-GSP)** is a UNDP-UNEP programme, financed by the LDCF. The main areas of work are (1) Assisting countries to integrate climate into planning and budgeting; (2) Providing in-country and virtual support on stocktaking of capacity gaps and needs as well as of ongoing adaptation plans and activities to identify entry points for NAP support; and (3) Assisting Senegal to integrate vulnerable sectors, thematic areas, sub-national approaches and legal issues into adaptation planning and budgeting.

39. The “**Strengthening Resilience to Food and Nutrition Insecurity Sahel Multinational Programme**” (later called P2RS) has the sectoral objective of contributing to reducing poverty, improving food security and nutrition as well increasing incomes of vulnerable rural populations. The Senegal P2RS program covers six regions vulnerable and at risk: Fatick, Kedougou, Kolda, Matam, Tambacounda and Ziguinchor. It is an AFDB via AFDF funded programme with a budget of 18,3 Billions FCFA, the first phase will be implemented over six years (2015-2020) and is including three components i) development of rural infrastructure, ii) the development of value chains and regional markets and iii) program management.

40. Additionally to the aforementioned LDCF-financed project, UNDP is the executing partners of the project entitled “**Senegal National Adaptation Plan**” financed by the LDCF. The objective of this project is to strengthen the capacity of sectoral Ministries and local governments to better assess the implications of climate change and to adjust existing policies and budgets for the integration of medium and long-term climate change risks and adaptation measures.

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## IV. RESULTS AND PARTNERSHIPS

### *i. Expected Results:*

41. The objective of the LDCF-financed project is to promote innovative finance and community based adaptation in the communes surrounding the CNRs in Senegal. To achieve this objective, two complementary outcomes will be delivered:

- Outcome 1 will establish innovative mechanisms to finance adaptation actions at the local level.
- Outcome 2 will invest in adaptation measures and support adoption of resilient practices by vulnerable communities.

42. The LDCF-financed project will build on baseline projects to maximise benefits to the recipient local communities. Six on-going baseline projects were identified in the project sites, namely:

43. The project entitled “**Food Security Support Project in Louga, Matam and Kaffrine regions**” (later called PASA LouMaKaf) aims to contribute to food security and rural poverty reduction in the regions of Louga, Matam and Kaffrine. More specifically, the project targets the sustainable increase of crop and animal productions, the improvement of small producers’ incomes (farmers and livestock breeders) and women in particular. During the 5 years’ implementation period, the project implementation will specifically focus on issues associated with gender promotion (emphasis put on interventions directed towards women and youth) and ecological viability (taking in account mitigation measures at the level of environment and actions of adaption to climate change). It has three components: (i) Development of agricultural and livestock infrastructures, (ii) Support to the development and organization of producers and livestock breeders, (iii) Project management. The PASA LouMaKaf will provide a baseline to the UNDP project by testing improved agricultural practices and promoting gender equality. However, climate change has only been considered as a side factor to food security and this project will advance the agro-forestry sector by strengthening adaptation considerations. The project total cost is 40 million US\$ (20 billion CFA Francs) funded by GAFSP through AFDB.

44. The “**Support Programme to Agricultural Development and Rural Entrepreneurship**” (later called PADAER) aims to contribute to rural poverty reduction and stimulate economic growth. The specific objective is to sustainably improve food security, the income of small scale producers (farmers and herders) and create sustainable jobs for rural people, especially youth and women. Intervening in the regions of Tambacounda, Kolda, Matam and Kedougou, the programme is expected to directly benefit 50,000 households, reach 975 producer organizations, and create and support 200 rural microenterprises and small businesses. The total project cost is US\$ 51.7 million shared between IFAD: US\$ 32.3 million; Spanish Fund: US\$ 10.1 million; beneficiaries US\$ 0.62 million and Senegalese State US\$ 8.66 million. The implementation duration is 6 years (2011-2017). Its three components – (i) Improvement of the supply of agricultural products, (ii) valuation and marketing, (iii) Coordination, monitoring and evaluation, knowledge management and gender – provide a baseline to the strengthening of the agricultural sector and in particular the private sector actors. The LDCF-financed project will help

reinforce the adaptation focus of the project and improve the sustainability of the actions by providing financial mechanisms to perform the activities.

45. The “**Agricultural Value Chains Support Project – Extension**” (later called PAFA-E) is an IFAD-funded project. The overall goal of the PAFA-E Project is to contribute to the sustainable improvement of livelihoods of family farms of the groundnut basin in the Centre and North and in the Western Sylvopastoral Region. The specific objective of the Project is to sustainably improve food security and incomes of smallholder farmers (crop and livestock farmers) and to create sustainable and remunerative employment for rural people, especially youth (of both sexes) and women. The PAFA-E covers: (i) the central and northern groundnut basin, encompassing the regions of Kaolack, Fatick, Kaffrine and Diourbel; and (ii) the Louga agropastoral region. The total project cost is US\$50.4 million and the main financiers of the project are the Senegalese Government, IFAD and the beneficiaries. IFAD contribute an equivalent of US\$34.7 million in the form of a loan on highly concessional terms. The Government contribute an equivalent of US\$12.7 million. The beneficiaries’ contribution is estimated at US\$3.0 million. The project will be implemented during 6 years 2014-2020. By opening the ground for the development of the agricultural private sector, this LDCF project will create a market for the use of financial mechanisms that will support the expansion of the private sector towards more resilient livelihoods.

46. The “**West Africa Agricultural Productivity Program 2A**” (later called WAAPP 2A) aims to scale-up the generation, dissemination and adoption of improved technologies in the participating countries’ priority agricultural commodity areas. It has four components: (1) Enabling conditions for Sub-Regional Cooperation in the Generation, Dissemination and Adoption of Agricultural Technologies; (2) National Centers of Specialisation (NCOS); (3) Support to Demand-driven Technology Generation, Dissemination and Adoption; (4) Project Coordination, Management and Monitoring and Evaluation. The implementation period is from December 2012 to December 2018 and the total project cost is US\$ 135 million of which US\$ 120 million is funded by IDA. The LDCF-financed project will build on the work undertaken by up-scaling the agricultural practices and technologies promoted and tested through this program.

47. The “**Community Development Emergency Program**” (later called PUDC) aims to contribute to improving rural access to basic social services through the implementation of socio-economic infrastructure. The activities are implemented through 4 components (i) Development of core socio-economic infrastructures, (ii) Improving agricultural productivity and development of rural entrepreneurship, (iii) Institutional capacity building of local actors (iv) Development of a geo-referenced information system. The first phase of the program is being implemented for 2 years (2014-2016). It is funded by the Senegalese Government for a budget of FCFA 113,339,327,531. The LDCF-financed project will complement the activities related to agricultural productivity and rural entrepreneurship development by upscaling the activities and ensuring their sustainability.

48. The “**Sustainable and Inclusive Agribusiness Development Project**” (later called **PDIDAS**) aims to develop inclusive commercial agriculture and sustainable land management in project areas, which covers 9 rural communes. The project will provide technical assistance to key stakeholders (rural communes in particular) and the private sector (in particular, smallholders

engaged in commercial agriculture) as well as investments in critical irrigation infrastructure. This will enable the sustainable and inclusive exploitation of 10,000 ha of irrigated land in the Ngalam Valley and around the Lac de Guiers (Saint-Louis and Louga regions). The proposed lending instrument is a six-year Investment Project Financing (IPF) in the amount of US\$80 million blended with a US\$6 million GEF grant. The project will finance the following activities: (i) Component 1: Support to sector actors (ii) Component 2: Development of irrigation infrastructure and sustainable natural resources management (iii) Component 3: Project Coordination, Management, Communication, Monitoring and Evaluation. The UNDP project will build on the lessons learned from this project, in particular in terms of agribusiness and irrigation and integrate climate change consideration in the design of these practices.

49. All of these 6 projects do not taken into account adaptation to climate change consideration: none of them address the need to channel climate finance to the local level (commune and local population) in order to establish recurrent source of financing for adaptation towards climate change. Besides, none of them has developed a systemic strategy for adaptation to climate change centred on a CNR/PU.

50. The two complementary outcomes of the LDCF-financed project are discussed below.

#### **Component 1:** Innovative local financing for enhancing climate adaptation activities and investments

**Outcome 1:** Innovative mechanisms finance the incremental costs of climate change adaptation measures at the local level

Co-financing amounts for Outcome 1: US\$ 6,054,475

LDCF project grant requested: US\$ 1,000,000

#### *Without LDCF Intervention (baseline):*

51. Currently, the communes and the local stakeholders face major problem to attract and manage climate funding at the local level. The incomes of the communes come from (i) fiscality, (ii) communal heritage, (iii) dotation from the State, (iv) contribution from the Decentralization Fund. In a recent report, the Ministry of Economy, Finance and Plan recognizes that resources from endowment funds represent only 20% of the needs of the communes. The budget of the communes is then tight and the environment sector, as one of the key mandate of the communes, is poorly allocated. In the 21 communes concerned by the project, the annual budget goes from 90,000 USD to 400,000 USD. The share of the budget dedicated to the environment is never above 1%. Among this share, no finance has been allocated to climate change adaptation (see table 1). Both internal (local taxes) and external funding have to be developed in order to meet the objective for environmental protection.

52. In 1996, as part of the process of decentralization, a new national Law on the transfer of responsibilities to local authorities paved the way for initiatives of communes to invest for environment, natural resources management and climate change adaptation. A key result was the creation of Community Nature Reserves (CNRs) as a new status and an important community contribution to forest protection and climate change adaptation. Under this Law, management

rights and responsibilities are transferred to the communes and CNRs are managed by and for the benefit of communities, with advice from administrations (DPN and DEFCCS). The CNR is the key entry point for the adaptation strategy at the local level: around the CNR which will maintain micro-climate, several actions of CCA will be developed such as improved access to water (creation of ponds, development of small irrigated perimeters for the women), restoration of lands and coastal areas, dissemination of resilient agricultural practices, etc. This integrated approach at the CNR level will be combined by the enhancement to resilient income generating activities in order to support vulnerable communities in the diversification. 21 CNRs are concerned by the proposed project, but important incomes are missing to be able to manage them properly. According to various estimation, the annual financial needs for the 26 CNRs is between 1,707,372 USD<sup>37</sup> to 3,505,804 USD<sup>38</sup>.

53. Other environmental initiatives have been implemented (tree plantation, nurseries, waste collection, etc.) but at a small scale and often driven by projects and NGOs. The recent Acte III of Decentralization (2013) reinforce the role of the communes to address environmental challenge at the local level: (i) management of forests, (ii) management of ponds, (iii) management of water and soil, (iv) tree plantation operations, (v) assisted natural regeneration, etc. These actions are key measures for adaptation to climate change. However, very little resources are effectively mobilized by the commune to address climate change impacts.

*Table 1: Annual budget of the commune and share dedicated to environment and climate change adaptation (in F CFA)*

Communes	Annual budget (F CFA)	Budget affected to environment (FCFA)	Mention of CCA in the local plan
<b>Saloum Delta site</b>			
Toubacouta	195,940,715	5,160,315	No
Keur Samba Gueye	95,527,447	2,500,000	No
Sokone	175,322,659	10,065,000	Partially
<b>Senegal River Delta site</b>			
Gandon	723,922,942	1,399,163	No
Ndiobène Gandiole	199,306,784	3,500,000	No
<b>Ferlo site</b>			
Oudalaye	130,000,000	1,000,000	No
Ouro Sidy	149,567,185	1,130,000 (0,7%)	No
Ndendory	113,243,621	2,000,000	No
Louguère Thioly	183,428,183	400,000	No
<b>Niokolo-Koba site</b>			
Dialakoto	131,700,000	1,450,000	No
Missirah	43,524,000	1,865,000	No
Linkering	151,129,959	3,310,162	No
Tomboronkoto	n/a	n/a	
Médina Gounass	400,000,000	8,500,000	
Salémata	40,000,000	2,000,000	No
Dakatély	n/a	n/a	
Oubadji	n/a	n/a	
Dar Salam	n/a	n/a	

<sup>37</sup> Estimation of 3 USD/ha/year, commonly adopted for management of protected areas in Africa.

<sup>38</sup> Estimation of 6.16 USD/ha/year, according to Kuhn et al., 2011.

Kévoye	n/a	n/a	
Ethiolo	n/a	n/a	
Bandafassy	n/a	n/a	

54. The local population have also important difficulties to access and benefit from climate funding, depending mainly from NGO or projects, which have the responsibility to select them. However, organisations do exist at the local level: Village Development Committee (CVD) are in charge of natural resource management, Inter-Village Development Committees (CIVD) are organised between several villages around the CNR, the CINTRAS is the federation of CIVD in each project sites, and the CINTER is the national federation of CIVD. All these community-based organisations lack of technical and financial capacity to attract and manage climate funding. In some communes, the civil society is very dynamic. For example, in Sokone, more than 20 local associations are involved in environment protection.

55. Credits and Saving Mutuels have been established in the project sites (under the PGIES implementation) in order to increase access to finance for rural communities. Whereas they However, these MECs face important challenges. For example, the Gandon Mutual has a total amount of 1,963,050 F CFA of savings from local population, but a total of 46,421,375 FCFA of credits to be recovered. This highlights the difficult viability of the financial institution. The diagnosis carried out during the PPG showed that the MEC of the Saloum Delta is today the only viable institution. With a total amount of savings of 34,218,000 F CFA and a total of 24,475,000 FCFA of credits allocated to the members (with “only” 1,133,085 FCFA to be recovered), this Mutual has potential to grow on a viable basis. However, others Mutuels have important difficulties. This situation is explained by: (i) legal microfinance framework has been strengthened by the government to the extent that the 8 other MECs are not registered by the Directorate of regulation and supervision (they don’t have the official approval of the Ministry to operate), (ii) the 8 MECs suffers from absence of activities during the past two years (no financial movement has been registered) so that the MECs are today in difficult financial situation. However, the MEC is a powerful tool to support access to credits for the local population, (iii) the MECs are operating at small scale and don’t manage sufficient activities to be viable. In order to promote the access to farm credits, the MEC of the Saloum Delta should be strengthened and partnerships with others recognized financial institutions should be developed.

#### With LDCF Intervention (adaptation alternative)

56. The communes must seek innovative ways to fulfill their roles of sustainably financing climate change adaptation in their territory, without falling into the trap of remaining donor dependent. Also, they must help to shift local economies away from subsistence towards more consistent and lucrative ventures that are adapted to climate change while also strengthen community and political interest. The first step in this process is the preparation of a clear action plan and a well-reasoned budget. Each commune must do this and there is also interest in having Communes Interest Groups (*Groupement d’Intérêt Communautaire* – GIC) consider the same in order to finance corollary initiatives. The example of Gandon and Gandiol, which are creating a GIC with Saint-Louis in order to raise fund and manage the mangrove protection, should be promoted in the other intervention sites of the project.



57. It is probably favorable to develop a range of economic growth options at each site as a means to buffer against political or market volatility, as well as to test the added values of different initiatives in varied local conditions. Diversifying options may also be useful with respect to time requirements for market development. It is a given that partnerships are critical to sustainability. Public-private partnerships between business, communities and NGO promoters are essential and, once they are running effectively, the NGO can progressively withdraw. Business partnerships would appear to be essential with respect to engendering innovative, entrepreneurial attitudes and approaches to climate change management. Finally, it will not be enough to stimulate economic growth among local stakeholder groups. The communes must also be able to generate revenues in order to progressively cover its recurrent costs. Part of this income may emanate from 'taxes' or agreed contributions for local economic interest groups but the LDCF project may be wise to explore possibilities of tapping into communal and/or regional taxes. Theoretically, the mechanisms are legislated but so far have eluded implementation.

58. The Mutual of Saloum Delta will be strengthened and partnerships will be developed with other micro-finance institution in order to increase credits allocation to vulnerable population. The project will pilot an innovative Decentralized Climate Funds (DCF) in order to enable local population to (i) access climate funds to finance local adaptation, and (ii) to build climate resilience into their planning and budgeting.

***Output 1.1: Climate change adaptation measures are integrated into local development plans and budgets and Decentralized Climate Funds (DCF) are established***

59. Under this output, the LDCF-financed project will support the development of a convincing plan for each commune, showing clear priority actions for adaptation to climate change and a budget including co-financing of initiatives running in the commune territory. It will look at the successful experience of DCF establishment in 3 communes of Senegal. It will be based on the communal development plan (PDC) and the land uses management plan, and will integrate the management plan of the RNC (PAG), the priorities for climate adaptation assessed during the PPG and complete with others surveys. The CNR/UP will be in the center of the adaptation strategy (see figure 6), as already existing in the intervention sites of the project. Budget will follow on from this action plans, including all initiatives contributing to adaptation in the commune by all the stakeholders. Site-based plans must be approved by the majority (or all) stakeholders, and be integrated into the PDC. Success may be enhanced if the communes of the same site cooperate to develop one or more business plans covering sectoral activities impacting more than one commune (in the institutional form of a GIC).

60. Capacities building of the communal staff and the local civil society will be carried out under this output and include (i) better understanding of climate change, (ii) skills to evaluate and manage climate change risks, (iii) learning skills to increase awareness of local population.

61. The following activities will contribute to achieve this output 1.1:

**Activity 1.1.1: Design a clear climate adaptation actions plan and a convincing budget**

The actions to be undertaken include:

- Establish a partnership with the *Programme National de Développement Local* (PNDL) for capacities building of municipal staff and piloting the Decentralized Climate Fund (DCF).
- Carry out additional surveys when necessary, and Monitor of the CCA initiatives carried out in the communal territory.
- Update the CNR management plan (PAG) with the integration of climate change interventions defined through a participatory approach.
- Design consistently two key tools: (1) an action plan for climate adaptation measures, (2) a budget including co-financing.

**Activity 1.1.2:** Support the establishment and initiation of Decentralized Climate Funds (DCF)

The DCF will be governed by the national public accounts regime and a partnership agreement with the *Programme National de Développement Local* (PNDL) has to be signed in the early stage of the project implementation (output 1.1). This agreement will permit the pilot DCF to be managed as part of the PNDL's funding arrangements for local communities. Experience from the DFID project, led by IED in Senegal, will be capitalized. This funding mechanism has the advantage of empowering locally elected officials, while also safeguarding the principle of transparency and good governance. The DCF will be established firstly in two pilot sites: the Saloum Delta site (where the DCF could be establish in the Mutual) and the Senegal river Basin (where the DCF could be supported by the ARD, in the framework of the emerging GIC). After a capitalization process (lessons learnt from the establishment of these 2 pilot DCF and experience sharing with the DFID/IED initiative), the DCF will be expanded in the other sites.

**Activity 1.1.3:** Map the existing sources of climate funding that can be attracted at the local level  
A short-term consultant will carry out a study which aims at mapping all the existing source of climate financing that can be attracted by local stakeholders (communes, groups of villagers, CVD/CIVD, CSO/NGO). The consultant will deliver a database with key entries (name of the finance source, amount of budget, deadlines, criteria for the attribution of the funds, etc.). The PMU will use this database during the project and will provide this information to the communes and to the local stakeholders.

***Output 1.2: Innovative financial mechanisms are established and contribute to finance adaptation measures at the local level***

62. Under this output, the LDCF-financed project will establish innovative financial mechanisms with the objective to have recurrent and perennial source of funds to implement climate change adaptation measures. Through the development of these financial instruments – in collaboration with the communes, the Directorate of Green Finance (MEDD), the PNDL, and international expertise – local authorities will have increased availability of funds to support climate change adaptation measures (identified in the plans developed under output 1.1).

**Activity 1.2.1:** Develop public-private partnerships (PPP) to increase funding for climate adaptation

The recent law of the February 2014 aims to facilitate PPP between a local collectivity (commune for example) with a private company operating in its territory. The objective is to generate more

incomes to the commune with the establishment of agreements such as lease contract of concession, equity participation (article 241 of the code of the local collectivities) and farm out. However, the PPG highlights the fact that none of the communal staff are aware of these new opportunities. Some communes would have direct opportunities to establish such partnerships if they were trained for that. For example, a private company is currently negotiating with the commune of Sokone to invest in a cashew and mangoes processing industry in the commune. With better knowledge and capacities, the municipalities could better establish an innovative PPP which would aim at supporting farmers in adopting resilient agricultural practices. This PPP will bring adaptation benefits to local communities by having local collectivities members of the companies' boards and promoting improved management of the industry (eg. investments in soil and water quality management) that will both benefit the company through higher yields and the surrounding communities by re-establishing the ecosystem benefits of high quality soil and water.

The actions to be undertaken include:

- Assess the PPP opportunities for climate adaptation activities in each of the project site;
- Train the communal staff (the new law, including CCA legal framework);
- Establish a partnership with the *Comité National d'Appui aux Partenariats Public Privé* which has the objective to support PPP and strengthen the emphasize on climate adaptation;
- Facilitate the creation of opportunities to raise income to CCA measures;
- Design a mechanism rules that bring additional income to climate adaptation funding, notably through the Decentralized Climate Funds (DCF);
- Establish contractual agreements and monitor the additional funding to ensure it is directed towards climate adaptation measures for the most vulnerable communities.

Activity 1.2.2: Develop benefit-sharing mechanisms for revenue from values chains in order to finance climate adaptation measures

Past programs (and in particular the PGIES in the village concerned by the LDCF project) have invested important funds in trees plantation which are now entering into production and, hence, are becoming important source of incomes for local population. For example, in the Ferlo site, at least 1,850 ha of acacia trees have been planted (by the PGIES and others) in 44 villages, and have started producing gum Arabic last year. The acacia perimeters are fenced and well protected. However, major improvement in productivity and commercialization could be achieved (that will be covered by the project – see component 2) with simple technical and organizational capacity building (outputs 2.1 and 2.2).

Hence, there should be opportunities to introduce benefit-sharing mechanisms (BSM) to cover climate adaptation recurrent costs (and continuous investment in resilient activities such as gum Arabic value chain). Local producers recognized that their improved wealth is directly or indirectly linked to the previous project (PGIES in particular) and the communes (as legal responsible of the CNRs). The project will support the establishment of a mechanism which aims to redistribute a share (%) of the income generated by the value chains to a climate funds (the DCF – see output 1.1). This will be applied to the value chains benefits coming from the activities of the Project, the PGIES and from other projects. Key elements for the participative design of this benefit-sharing mechanism are given in the Annex F (forestry expert of the PPG) and include questions such as: what is the fair amount of the appropriate 'tax'? Is it based on the quantity produced? Who control

the production and the amount of tax to be paid? Who decide the investment to be done by the funds?

Other initiatives will be capitalized. For example, the Wula Nafa project designed a tax of 15 FCFA per kg of baobab fruit sold. The amount of the money collected has then been divided: 50% for the management fund, and 50% for the commune. In the case of the LDCF project, the level of financial offset will be established through a participative approach, involving the concerned stakeholders, and will vary between products.

Another example is the production of shellfish that has been increasing for the past years, thanks to the PGIES investments in mangrove restoration in the communes of Gandon and Gandiole. These activities are now the largest source of incomes

The actions to be undertaken include:

- Assess key economics figures of the climate resilient value chains in the areas: gum Arabic, shellfish, salt, honey, etc.
- Design a fair benefit sharing mechanism (BSM) and discuss it with the main stakeholders: participatory workshops to discuss the common interest to finance sustainably adaptation to climate change of these activities (these resilient income-generating activities have been funding by PGIES and other projects).
- Study the feasibility to allocate funds from the BSM into the DCF.
- Establish the mechanism with appropriate legal disposition.
- Monitor the flux among the value chain (quantity produced, tax to be paid, etc.)

Activity 1.2.3: Develop offsets and CSR for financing CC adaptation in collaboration with the private sector

Biodiversity offsets are of growing interest to mining companies (see Annex F), especially when the latter have sound environmental and social policies<sup>39</sup>. During the PPG, several companies operating in the communes concerned by the project were identified and consulted (they will be invited to the inception workshop of the project and several specific workshops will be organized during the project): OROMIN, IAM Gold in Sadio and Teranga Gold operations in Sabadola. This mechanism could also be applied to SODEFITEX or other companies operating in the area.

According to the mining legal framework in Senegal, each mining concession has to carry out an Environmental Impact Assessment (EIA) study and design an action plan with a budget to implement it. However, because of a lack of monitoring by the MEDD and the local authorities, very few action plans are effectively implemented. The project will thus support a study to design a mechanism, which efficiently mobilizes the funds (Mining Fund) for climate change adaptation activities implementation. The mechanism will also look at the best monitoring practices to be conducted by the MEDD that will ensure the sustainable implementation of the activities. Then, the project will introduce Business and Biodiversity Offsets Programme (BBOP) and Corporate and Social Responsibility (CSR) through specific workshops that will strengthen targeted mining companies' capacity to identify and implement activities that will support the surrounding communities in adapting to climate change. The objective is to mobilize additional funding through Mining Fund/BBOP/CSR for climate change activities at the local level.

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<sup>39</sup> <http://documents.worldbank.org/curated/en/344901481176051661/pdf/110820-WP-BiodiversityOffsetsUserGuideFinalWebRevised-PUBLIC.pdf>

Offsets are largely untried to date in Senegal but opportunities are expected to arise in the near future when these industries become operational. BBOP hierarchy is appreciated by many companies, and there is a growing call to go beyond these standards by aiming for net biodiversity gain rather than no net loss. Extractive industry CSR policy is potentially exciting option for the communes with their economic growth preoccupations. As noted earlier, there is no a priori legal reason why mining production cannot occur in communes as long as biodiversity goals are respected and local communities agree. On the contrary, Senegal is in the process of revising its laws to identify areas for improvement so it can leverage the growing mining industry to advance sustainable development<sup>40</sup>. At a global level, there exist promising models for CSR integration and complementarities, offering guidelines for similar partnerships in Senegal. Finally, the discussions conducted during the PPG identified willingness from mining companies to contribute to earmarked DCF.

Even though as stated earlier EIA are weakly implemented, Senegal has still experienced some positive EIA designs, that could be relevant for this project. This is the case of Toro Gold Ltd, which is developing a gold mine in the Kedougou region in southeast Senegal. The project is currently in early construction phase, having completed the Environmental and Social Impact Assessment (ESIA) in Q3 of 2015. The project landscape features areas of gallery forest, set in a matrix of wooded savannah. Key biodiversity values for the project are the Western Chimpanzee, two species of restricted range plants, and hippos. The project is also in close proximity to Niokolo Koba National Park (also a World Heritage Site), where there are a number of threatened mammals and birds (vultures, lion, wild dogs and elephants). The project has a Biodiversity Action Plan, and employed the Mitigation Hierarchy during the project design and ESIA, with a goal of achieving no net loss on biodiversity. The project has an Offset Strategy, and an Offset Action Plan, and is in early stages of offset implementation. Toro Gold has worked closely with stakeholders throughout the development of their biodiversity management, and continues to do so. This LDCF project will therefore build on this experience to feed in the mechanism to be developed for an upscale to other extractive companies, and support Toro Gold Ltd to effectively implement this plan through capacity building.

This activity will be piloted in the mining areas of the Niokolo-Koba site (in partnership with the mining social program) and include the following actions:

- Mapping the companies operating in the communes concerned by the project, and evaluate their EIA, their actions plan and budget and their CSR policy;
- Carry out a study to identify a mechanism able to mobilize funds for MEDD and communes to implement CCA activities in the field, this will include an efficient monitoring plan for MEDD;
- Initiate discussion with private companies and propose a mechanism based on BBOP offsets;
- Design a collaborative strategy to canalize fund into CCA measures in the field.
- Strengthen capacities of national and local authorities on BBOP offsets.

***Output 1.3: Credit & saving mutual network is strengthened and increased the farm credits delivered to vulnerable population***

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<sup>40</sup> <http://igfmining.org/mpf-senegal/>

63. Under this output, the LDCF-financed project will increase the amount of funds allocated to vulnerable population to help them adapting to climate change. To achieve this output, two main roads will be developed in parallel: (i) strengthening and expanding the credit & saving mutual network, and (ii) developing partnerships with other micro-finance institutions. A complete understanding of the causes of the success of the Saloum Mutual and the causes of the difficulties addressed by the others mutual is needed to capitalize on the 10 years efforts to establish this Mutual network.

64. Although the difficulties that are facing the credit & savings mutual are important (see diagnosis in Annex F), increasing microfinance is a key element of a successful adaptation strategy and should be developed (Assessing the role of microfinance in foresting adaptation to climate change, OECD 2010) as it reduces the vulnerability of the poor. It is well recognized that the “financing microfinance” is a fundamental challenge in many countries in Africa: start-up funding is critical for microfinance.

Activity 1.3.1: Carry out a thorough evaluation of the successes and failures of the Mutuals

The 9 mutuals have achieved a number of successes, such as delivering credits to poor and remote population, usually considered as non-bankable by the traditional financial institutions. The nine mutual have been established by the PGIES with the support of public funding. After the closure of the PGIES, the mutual experienced difficulties to maintain activities. This situation is explained by: (i) legal microfinance framework has been strengthened by the government to the extent that the 8 other MECs are not registered by the Directorate of regulation and supervision (they don't have the official approval of the Ministry to operate), (ii) the 8 MECs suffer from absence of activities during the past two years (no financial movement has been registered) so that the MECs are today in difficult financial situation, (iii) the MECs are operating at small scale and don't manage sufficient activities to be viable.

The PPG shows that the MEC of the Saloum Delta (with a targeted population of 40,180 people) appears to be viable, whereas the 8 others MECs have major difficulties. The MEC of the Saloum Delta has recently financed 20 motors in the commune of Toubacouta for youth people and a millet mill for the village of Nema Bah.

Under this activity, a thorough evaluation of successes and failures of the Mutuals will be carried out. The objective is to understand why the Mutual is functioning in Saloum Delta (what are the key factors?) and why the other Mutuals are not functioning in the other site. In particular, the governance of the Committee, which selects the projects to finance, will be analyzed. Moreover, there is a lack of understanding from the populations on the benefits they can get from accessing credit and reimbursing. A special attention will be put on governance challenges.

The evaluation will at least include:

- Analysis of the governance.
- Design of a strategic pluri-annual plan with clear objectives, activities and budget.
- Implementation of strict governance reform of the Mutual.

Activity 1.3.2: Strengthen the leading role of the Saloum Mutual to attract, manage and finance adaptation measures identified by vulnerable communities

The MEC of the Saloum Delta is a powerful tool to support access to credits for the local population. In order to promote the access to farm credits, with a focus on climate adaptation activities, the MEC of the Saloum Delta should be strengthened and partnerships with other

recognized financial institutions should be developed. Under this activity, key recommendations issued from the thorough evaluation (activity 1.3.1) will be implemented thanks to a technical assistance. A consulting firm specialized in rural micro-finance will be recruited for this specific activity. The preliminary analysis and action plan are described in the Annex E. The Mutual of the Saloum Delta will play a key role in the national network, using the other mutuals as affiliate when adequate.

Moreover, although farmer groups (in particular women groups) are high potential clients, they are too little addressed by the Mutual, in particular due to their high vulnerability to climate change, caused by their high reliance on subsistence farming. Hence the project will support the strategy to increase credit allocation to farmer groups for climate adaptation interventions and raise the understanding of mutual on the benefits of involving in climate adaptation for smallholder farmers. The technical assistance evaluation will at least include:

- Strengthen the governance through capacity building, coaching of professional staff for the Mutual and improvement of process for allocating credits and reimbursing them;
- Transform the MEC of the Saloum Delta in a national MEC operating with the other functional MEC (including the improvement of the office in Toubacouta);
- Train the staff of the MEC on selecting viable investments with high potential for credit recovery, with a particular focus on climate adaptation investments from farmer and women groups;
- Support the selection of farmer groups to be financed (including the increase of clients) with a particular focus on climate adaptation interventions;
- Establish of clear rules and processes to be respected for the selection of financings;
- Design a clear strategy, detailed step by step, to increase the volume of activity and increase the probability of credit recovery.

**Activity 1.3.3: Organize trainings for women groups to help them accessing microfinance for the financing of climate adaptation activities**

Under this activity, at least 40 training sessions will be organized for women groups on (i) understanding micro-finance, (ii) responsibilities and roles of each parties under a credit, (iii) entrepreneurship and business development, taking into account the challenges of climate change and adaptation options, etc.



**Figure 6: Training of women groups on micro-finance in the commune of Linkering (source: PPG)**

Activity 1.3.4: Develop partnerships with other micro-finance institutions to develop climate resilient financial products

One of the main achievements of the MEC network has been to provide credits to remote rural population. These rural areas have been considered as non-bankable during the last decades by the classical micro-finance institutions (MFI). Several interviews have been carried out with the DGs of MFIs during the PPG (see Annex E) and showed a rising interests of these institutions towards these remote population. For example, in the Saloum Delta site, the fast growing population and the increasing incomes from activities (cashew nuts, mangoes, sesame, cereals, etc.) observed the last 5 years created a change in the MFI's vision of these areas. However, the classical MFIs lack capacities and information on climate change impacts. They have no strategy to cover climate risks of farmers.

Partnerships between MEC and MFIs are welcomed, and will be supported by the LDCF project. Microfinance institutions have the know-how and information networks necessary to track a large number of small transactions. This is particularly relevant in the context of adaptation, which will require financing of thousands of actions involving changes and adjustments to existing practices. The MEC network has a strong experience (including success and failure) of micro-finance in rural area.

The LDCF project will support the establishment of partnerships between the MEC network and the other micro-finance institutions (during the PPG, several have shown an interest to capitalize on MEC experience and to develop a strategy and actions to give access to credits to remote villagers involved in the project). This will concern "Credit plus" elements which include the development of an appropriate enabling environment, training and skill development, monitoring, and enforcement of fiscal discipline, on the part of both lenders and borrowers. The MFI will benefit from capacities building in climate change understanding, from capitalization of MEC network, and from technical support to design financial product for climate change adaptation. The MEC will benefit from MFI's experience and technical assistance to develop their activities.

***Output 1.4: Capacity-building to identify priority adaptation interventions, to mobilize funds and to manage/monitor projects.***

65. Under this output, the LDCF-financed project will provide trainings to increase the knowledge of communal staff and the local civil society on climate change. This knowledge will inform and support the management of climate change adaptation projects, which is critical for designing feasible, credible and useful adaptation options and support. The project will also support the staff that will be created by the commune or the GIC (for example in Gandon-Gandiole) to define priority adaptation interventions, to mobilize funds and monitor micro-projects. The training held under this output will promote increased additional funding for adaptation measures.

Activity 1.4.1: Train the local civil society and the communal/GIC staff to identify adaptation options and manage micro-projects

Trainings will be organized around the following questions: What challenges need to be addressed? How can civil society access financing (foundation, call for projects, etc.)? How to design a sustainable climate change adaptation project? What are the key success factors?

This activity includes the following actions:

- Conduct sensitization campaigns on climate change impacts;



- Provide trainings to the civil society to identify successful and relevant climate adaptation options and formulate them in a convincing way to access climate financing;
- Mapping the non-governmental existing sources of climate finance: a database will be designed and updated by the PMU with key information that would facilitate the access to climate finance.

Activity 1.4.2: Develop a funding strategy for climate change adaptation and strengthen capacities of the communes/GIC to mobilize climate funds

This activity will support the development of a strategy that will identify the financial instruments for the implementation of local adaptation actions plan, and will allow communes/GIC to have stronger capacities to define priority interventions and to mobilize climate funding.

To achieve this objective, the following methodology will be followed:

- A typology of potential sources of funding will be defined (see activity 1.1.3). It distinguishes internal sources (public state funding as well as direct revenues from value chains – see output 1.2) and external sources of funding.
- Then the financial need for CCA actions plan implementation will be assessed (from the output 1.1), and the internal source of funding evaluated.
- In order to fill the gap with external funding, various sources of information will be reviewed (web, guidebooks of donors, guidelines of calls of proposals) to understand the donor's different calendars for submission, the milestones, the eligibility criteria (geographic scope, eligibility of costs and range of funding, co-financing requirements...).
- The results of the reviewing will be sometimes adjusted by the analysis from the experts own experiences on designing and management of cooperation and development projects (e.g. the scoring on levels of difficulty).
- Based on these findings, a strategy and tools for the development of partnerships to secure external finance will be elaborated.
  - An organizational strategy with the assignment of a team for development of partnership;
  - A “guide book” to help the project team to manage the search of call of proposals and the budget monitoring.

The project will also strengthen capacities of communes/GIC to identify priority climate challenges and relevant adaptation options, to identify sources of climate finance and to supervise the proper adaptation micro-projects implementation. The ARD will organize the trainings session so that communes/GIC would be able to (i) moderate the activities of adaptation option identification among the communes involved in the CNRs and in partnership with other local stakeholders, (ii) identify adequate finance sources, (iii) provide directions on the formulation of a convincing request for climate financing (iv) lead follow-up as well as evaluation of implemented projects.

In particular, in the Senegal River Delta site, the Community Interest Group (GIC) will be strengthen. An intercommunity consultation framework has been created with the support of the NGO Le Partenariat, and the challenge is to implement the Backup and Management Intercommunity Plan for the Mangroves (PISGM - Plan Intercommunal de Sauvegarde et de Gestion de la Mangrove). The GIC will identify and clearly define the adaptation options, (ii) identify and mobilize financing for the PISGM, (iii) monitor the implementation of the PISGM.

Activity 1.4.3: Strengthen capacities of CIVD in terms of climate change adaptation and effective monitoring of implementation of CCA measures

Projects implementation act as catalysts for changes over territories, however the challenge is to maintain this dynamic over time when the project is over. With about 15 years of intervention in these four sites, the government of Senegal – together with the GEF and the UNDP – has set up CVD and CIVD that are the key actors at the local level. This activity will support them to (i) have better capacities in climate change adaptation, (ii) build regional and a national federations of CIVD (NGO), and (iii) be able to manage and monitor CCA activities implementation.

Young people originating from the communes will be involved in this activity through mediation actions and climate change adaptation education. This kind of volunteering will constitute a professional insertion opportunity for young graduates (stepping stone to a first job), as already observed in other GEF funded projects (in Guinea Bissau for example).

The commune volunteer will be in charge of the following activities:

- Acting as a bridge between the populations, the local development associations and the commune/GIC;
- Participating in moderating activities set up by the communes/GIC;
- Implementing awareness-raising CCA actions;
- Contributing to CCA projects identification.

Selection criteria for volunteers:

- Motivated and committed throughout their life paths (ask about their history)
- BAC graduate - Able to read and write (French, Peulh, Mandingue and Wolof)
- Very good expression skills
- Living in the zone

These volunteers will be compensated 50,000 FCFA per month in accordance with the achieved results (meeting attendance sheets + posters I, the villages). The communes will co-fund 50% of their compensation. They will also be trained for leadership.

**Component 2:** Investments and adoption of diversified resilient practices by vulnerable communities

**Outcome 2:** Diversified and climate resilient livelihoods investments and practices adopted by vulnerable households and producers (focusing largely on women groups) as a key risk management strategy.

Co-financing amounts for Outcome 2: US\$ 27,266,694

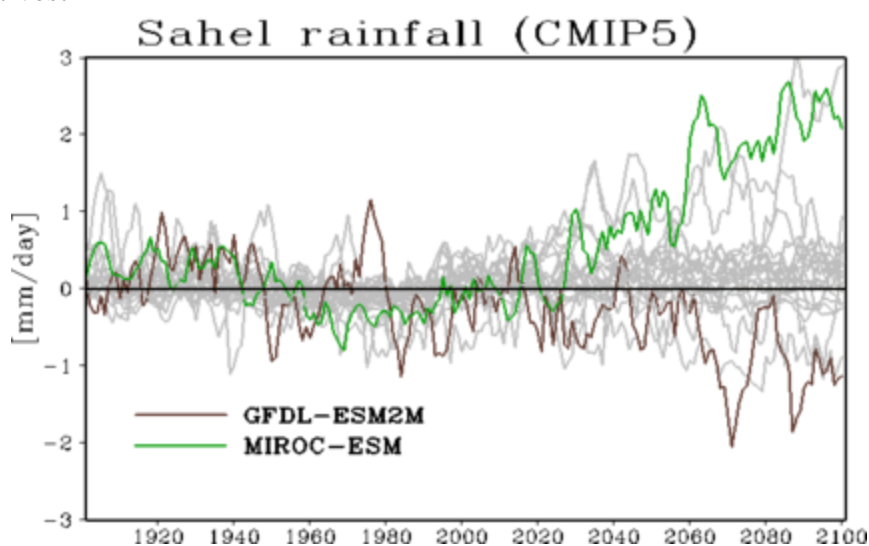
LDCF project grant requested: US\$ 4,200,000

Without LDCF Intervention (baseline):

66. Currently, the climate variability and change have a broader range of impacts on individual households, beyond their impact on agriculture systems (see section on Development Challenge). Climate change is a reality in Senegal: it leads to more uncertainties in climate and sea level rise.

This increased uncertainty – combined with the prevailing low capacity to manage climate risks and the limited number of available coping mechanisms – is likely to create additional obstacles for households, particularly women, to achieving food security.

67. The figure 8 shows the JAS mean Sahel rainfall (10oW-30oE; 10o-20oN) anomalies during the twentieth and twenty-first centuries from CMIP5 models. Brown- and green-solid lines represent the two extreme Sahel rainfall anomalies simulated by GFDL-ESM2M and MIROC-ESM. The rainfall anomalies from other climate models are shown by grey lines. The anomalies are the differences from the historical mean, and all the time series data are smoothed using a five-year running mean. The figure highlights the increased uncertainty in the rainfall, which has immediate impacts in farmers' decision making, including the most appropriate time to sow, bring inputs or harvest



**Figure 8: Future uncertainties in Sahel rainfalls**

68. Climate change also introduces a high degree of uncertainty for the production systems in Senegal, in particular those depending on natural resources. Without intervention, the current climate variability & changes will continue affecting the seasonal cycles and other agro-climatic parameters directly threaten the production of basic food staples and income-generating activities for rural communities and by extension, have potentially serious implications for the already precarious state of food security, migration and ecosystems integrity for the entire Senegalese population. In that framework, the adaptation option should be to diversify economic activities that rely less on climatic variability.

#### With LDCF Intervention (adaptation alternative)

69. With LDCF financing, the conditions for sustainable development will be implemented through the development of skills and technology required to ensure the resilience of the farming production from climate impacts. The commitment of communes, villagers, technical services and of other community partners remains a fundamental component of successful inclusive development. The project, as explained in the previous section (see figure 6), will develop an integrated adaptation approach around the CNR (as a key solution to maintain ecosystem function

and in particular micro-climate regulation). Hence specific climate change impacts highlighted in table 2 will be addressed through specific activities presented below.

70. As salinization and erosion are a crucial problem faced by farmers in coastal areas (see table 2), the LDCF project will support land restoration and diversification of income-generating activities. For example, in the Senegal River area, women groups will be supported to switch from agriculture to aquaculture (enhanced by mangrove restoration) and salt production and commercialization. Indeed, during the PPG surveys in this project site, groups of women have started to produce seafood, as traditional agriculture was not possible anymore. This has been highlighted as an endogenous option to adapt to climate change (uncertainties in rainfall patterns and salinization of lands). This adaptation option will be largely disseminated during the project, as it is a diversified and economically viable solution.

71. In the River Senegal site, in addition to aquaculture, women have started to collect salt and sell it. The production is small but the market is growing thanks to the proximity of the city of Saint Louis. The production is done in an artisanal way with no negative impact on the environment. Enhancement of this climate resilient activity will be also a focus of the Project.

72. Besides, access to water with a changing climate is another difficulty faced by villagers, in particular in the Ferlo area. Farmers of the Ferlo site are many cattle breeders, and are highly dependent to this activity for their incomes. Cattle are suffering from the limited access to water and lack of fodder. The LDCF project will finance ponds restoration/ management to increase access to water and promote enhancement of resilient activities through better management of the CNR. Anti-erosive actions, such as tree plantations in agroforestry systems, will be also implemented. Ecosystems are also sensitive to climate change, and, at the same time, play a key role in micro-climate regulation. Science evidence has recently highlighted the role of forests in micro-climatic dynamic equilibrium because of its interaction with the soil and atmosphere compartments. Hence, forests constitute a major tool for adaptation. The LDCF will finance CNR/UP restoration, including fire breaks maintenance. All these investments will be made with a key focus to diversify income-generating activities for villagers. In the Ferlo site, gum Arabic has been identified as a high potential to bring more and better income for farmers during the dry season, and alternative income when climate change impacts agricultural yield and income. The Acacia Senegal (2 to 10 m high, drought resistant) grows between isohyets 250 and 600 mm, in sand plains. Its gum, obtained after tapping, has been collected for more than 4,000 years, and is the main supply of gum on international markets (AFD, 2013). The gum Arabic therefore offers a key diversification opportunity for vulnerable farmers: the harvest occurs during the dry period, providing incomes for families during the lean period and is less sensitive to climate variability than annual crops (SOS SAHEL, 2012). It is often the only source of cash revenue and these revenues are expected to incentivize populations to stay in rural areas instead of migrating in the cities. Acacia is a multifunctional tree, as a source of: (i) Gum Arabic, sold or consumed, useful in pharmacopoeia; (ii) Fodder (200 trees/ha produce 260 fodder units/ha with leaves, fruits and pods; (iii) Fuelwood (Firewood & charcoal); (iv) Fertilization for the soil (legume fixing in the soil the nitrogen from the atmosphere); (v) Honey production (attracts bees). The world gum market has fluctuated during the last 50 years (60 000 T in the middle of the 60s, 30 000T in the 80s, the 50 000T in the years 2000) and it now grows steadily to reach 137,000T in 2016. The market demand is increasing because of the food industry growth, especially in the US and in Asia.

73. In the Niokolokoba, the uncertainties of the rainfall patterns are the main threat to livelihood. The preferred solution is to restore fertile lowlands around the CNR. These lowlands have been identified during the PPG (See Annex G) and will be restored and managed to be productive areas during the project implementation.

74. One of the others challenges faced by communities, and particularly women groups and small farmers, is simply a lack of access to information that would facilitate climate resilient planning and risk management. The current mix of seeds/crop production is not associated with regular consideration of seasonal forecasts, an important input in the face of increasing temperatures and a greater frequency of variation in rainfall. Ensuring that women groups and small farmers are able to access critical information such as seasonal forecasts will support their efforts to manage their livelihoods in a context of uncertainty. Accurate and easily available seasonal forecasts will enable them to secure stable and optimum levels of yields during both dry and wet years. LDCF resources will help to disseminate a community-based climate services (information and tailored made advises) with users. This will tailor to support the resilience of farming practices within existing projects (e.g. PADAER, PASA Loumakaf) and livelihood initiatives developed with women and around ANACIM stations. Opportunity will be explored to diffuse community radios for wider audiences in disseminating climate information and to exchange instantaneous data collected and transmit local weather forecasts via SMS.

***Output 2.1: Investments and resilient practices are adopted by 5,000 vulnerable households and increased their income under climate change***

75. Under this output, the LDCF funding will promote diversified and climate resilient livelihoods practices for vulnerable households and producers (focused largely on women groups) as key risk management strategy. Resources will be used to help farmers (especially women) to explore new opportunities to generate the income streams required to (i) reinvest in farm production (with the possibility of increasing yields and diversifying production), (ii) strengthen their credit worthiness with lending institutions. The climate adaptation plan (output 1.1) will be build around the CNR, and will include measure to increase water availability, to reduce animal diseases, to increase resilience of agricultural production, to enhanced resilient productive value chains, etc.

76. The specific adaptation actions promoted were assessed during the PPG. The consultants' team have carried out surveys during meeting with villagers (in particular women and youth) to identify climate change impacts in their daily life, endogen solutions that have been developed by villagers (for example, collecting and commercializing Arabic gum as a resilient income-generating activity), and priorities to adapt daily life to climate change. These are summarized and organized by sector (agriculture / soil / cattle), water related actions, forestry) in the table 3 below.

*Table 2: Investments of the LDCF project*

	Intervention sites of the LDCF project				
	Saloum Delta	Senegal river Delta	Ferlo	Niokolo-Koba	Total
	8 CNRs	1 CNR	5 RNC	9 RNC	21 CNRs, 15 communes and 224 villages

<b>Main climate change threat</b>	Sea water intrusion and salinization of soil and groundwater	Desertification and coastal erosion	Increased vulnerability of the vegetation cover and access to water	Increased vulnerability of the vegetation cover	
<b>Agriculture / soil / cattle farming related actions</b>					
<b>Adapted seeds/grains distribution</b>	20 groups	25 groups	25 groups	30 groups	100 farmers groups
<b>Low lands restoration</b>		40 ha		10 ha	50 ha
<b>Water related actions</b>					
<b>Creation of ponds</b>	-	-	3	-	3 ponds
<b>Anti-erosive actions (trees plantation and stony cords)</b>	100 ha	-	400 ha	400 ha	900 ha
<b>Water adduction for IGA</b>	5 ha	5 ha	5 ha	5 ha	25 ha
<b>Salinization / coastal erosion</b>	10 ha	50 ha	-	-	60 ha
<b>Forestry related actions</b>					
<b>PU/CNRs rehabilitation</b>	4,2014 ha	2,000 ha	326,426 ha	236,494 ha	569,124 ha
<b>Firebreaks</b>		50 km	500 km	250 km	800 km
<b>Value chains development</b>	Cashew	Salt, oysters	Gum Arabic	Maad, Honey	6 value chains

77. The following activities will contribute to achieve this output 2.1:

#### Activity 2.1.1: Restoration of PU/CNRs

This activity concerns the four sites, and will support the implementation of the climate adaptation measure around the CNRs. The Village Development Committee (VDC) will be a key stakeholder for implementation. The PMU will take attention to harmonize practices between the on-going projects. For example, the Ferlo site is very dynamic in terms of PU/CNRs creation (PADAER, PASA LouMaKaf, PGIES, AVSF projects) and the LDCF will promote harmonization between practices of these projects (the Environmental Center of Ranerou will be the place for monthly meetings).

The actions to be undertaken include:

- Review the UP/CNR management plans and update them with new local challenges and with resilient productive activities to develop. In particular, as the population has been increasing a lot since the creation of the CNRs (in the commune of Toubacouta, the

population has doubled in 15 years to reach 37,529 inhabitants), the management rules should be adapted, by allowing organic gardening/farming in some areas of the CNRs.

- Open and maintain of at least 800 km of firebreaks
- Train and support equipment for the Development Village Committees to make active and efficient monitoring of the CNRs.
- Plant a least 1 million trees to protect against water flow and erosion.
- Rehabilitate the Environmental Center of Ranerou.

Activity 2.1.2: Development of water availability, including the creation of earth ponds and irrigation for income generating activities

Increasing water accessibility is a strong demand assessed during the PPG in all the four project sites. Women and youth will benefit from at least 60% of these investments. The actions to be undertaken include:

- On existing drilling site (in Ferlo, for example, where the PUDC is massively investing in drilling), the project will establish productive irrigated perimeters (2 to 5 ha each) for the benefit of women (on at least 25 ha). These perimeters include gardening, vegetable production, fruit production, etc. Establishment of these perimeters will include a maintenance mechanism for the adduction system: a share of the benefit used for maintenance (pumping system for the perimeters) as well as water payment. This mechanism is a pre-condition for the investment of project's funds. The Project will finance the equipment for the productive perimeters and will support the establishment of the financial mechanism.
- On existing gardening well (in Saloum Delta and Niokolo-Koba site), the project will rehabilitate these well and support establishment of irrigated productive perimeters. The project will also design and implement a maintenance mechanism: a share of the benefit will be used for maintenance and for water payment.
- In the Ferlo site, as the livelihoods depends on cattle farming, the creation of at least three earth ponds will be financed by the project (more details in annex G). The potential ponds have been mapped by the PASA LouMaKaf project and shared to the Ministry of Environment. LDCF interventions will implement three ponds identified in the existing PU/CNR.
- In the Senegal River Delta site, the LDCF project will contribute to sustain and enhance alternative resilient activities such as mangrove restoration (for oyster production), and salt production and commercialization. Besides, the LDCF project will establish a partnership with PDIDAS project in order to restore lands for the benefice of Gandon & Gandiol population (see activity 2.2.3).

Activity 2.1.3: Restoration of 50 ha of fertile lowlands in zones facing high climate risks

To allow income-generating activities (rice for example), at least 50 ha of lowland areas will be restored benefiting at least 250 households. The criteria for choosing target sites are (i) Accessibility (most of the sites should be accessible), (ii) Ownership: a convention is signed for farming of the lowlands, (iii) Presence of water.

The actions to be undertaken include:

- Awareness campaigns will be organized to foster adhesion of communities and to enable women's participation to ensure that their needs are met and that their constraints are addressed.
- Feasibility studies will be undertaken to determine the intervention sites, investment costs for equipment necessary for the restoration activities, and identify details pertaining to the topographic, hydrological, geotechnical and soil aspects.
- Implementation of hydraulic works and restoration activities.
- Water user management committees (at least 5 members, participation of women ensured) will be established and trained, to supervise protection activities and maintain site after construction.

#### Activity 2.1.4: Production and distribution of certified resilient seed varieties in the intervention zones

The government of Senegal, with the support of several partners, is supporting access to seeds for smallholders' farmers. For example, maize seeds have been subsidized at 62,5% for the 2015-2016 campaigns, fonio at 90% and rice at 100%. Farmers' surveys carried out during the PPG showed that adapted seeds are perceived as the main factor for the yield. Seeds are the principal risks factor perceived by the farmers. The main bottlenecks for access to certified resilient seed varieties are (i) the investment costs (partly covered by the government support) and (ii) the availability on time of the seeds.

The LDCF project will support at least 80 seed producers and 40 women groups for the production and distribution of certified resilient seed varieties. In line with the National Strategy for securing the production and commercialization of seeds and plants (Ministry of Agriculture, 2016), the project will increase the number of seed multipliers accessing to adapted genetic material and will promote the creation of rural seeds business.

The actions to be undertaken include:

- Characterize and certify resilient varieties that have greater yields. This will be implemented in partnership with the Directorate of the Production and Control of seeds, and the National Council on seeds.
- Establish a partnership with the National Fund for Seeds (1 billion of FCFA) in order to support the creation and development of rural business for seeds multiplication and distribution.
- Produce 20 ha of improved seeds and cuttings of sesame, fonio, corn, rice, peanuts, beans by seed multipliers, among them 50% of women. Capacities of seed multipliers will be developed through a series of training, particularly on community life, and seed production, water management and soil fertility techniques, as well as methods of identifying and fighting against principal crop diseases.
- Disseminate improved seeds for sesame, fonio, corn, rice, peanuts, beans to at least 1,600 producers, among them 50% of women.
- Develop partnerships between groups of producers and financial institution to pre-finance agricultural campaigns.

#### Activities 2.1.5: Development/Enhancement of resilient productive activities



In the four project sites, climate risks are exacerbated by a rain-dependent production system. During the PPG, participative identification of climate resilient activities was carried out based on their resilience and potential to generate revenues. Main actions to support through the LDCF funds are summarized in the table 4. Full details are in the Annex G.

*Table 3: Resilient value chains identified*

Resilient value chains / activities	Project sites concerned	Actions to implement by the LDCF project
Gum Arabic	Ferlo	<ul style="list-style-type: none"> <li>• Support the villagers to exploit the 1850 ha of acacia Senegal planted during the PGIES and yet mature to produce gum.</li> <li>• Train villagers with gum collection best practices (drain techniques with appropriate equipment)</li> <li>• Train gum collectors on the quality of gum (should not be mixed with peanut)</li> <li>• Organize groups of villagers for the commercialization of gum</li> <li>• Develop partnerships with private sector buying Arabic gum.</li> </ul>
Fodder / hay production from the firebreaks waste	Ferlo	<ul style="list-style-type: none"> <li>• Support groups of entrepreneurs willing to develop business with hay / fodder (trainings on managerial capacities)</li> <li>• Identify/map the fodder potential (fodder production closed to the watering points.</li> <li>• Identify the potential clients: how to sell? To whom? At which price?</li> <li>• Support artisan to construct bundling machine (for a cost of 200 000 FCFA)</li> <li>• Support entrepreneurs to develop their business (output 2.2)</li> </ul>
Small-scale livestock rearing and husbandry (by women)	All the sites	<ul style="list-style-type: none"> <li>• <u>Goat production</u>: the climatic shock of the 1980's has moved cattle farming toward goat, as small livestock's are more resilient. A rotating system will be established whereby goats will be given to a first group of women, who will then give goats to other groups according to well-defined criteria. The goal is to reach 1,000 beneficiaries by the fourth year of implementation. Beneficiaries will be able to increase their number of animals each year with targeted support: training, establishment of veterinary pharmacies, etc.</li> <li>• <u>Chicken production</u>: The crossbreeding of local chickens with superior quality of roosters that are resistant to diseases, which are emerging under changing climate conditions will be promoted. When the beneficiary brings 5 hens, the project finances a rooster.</li> </ul>
Salt	Senegal river Delta	<ul style="list-style-type: none"> <li>• Support production, process, marketing and commercialization of salt products.</li> </ul>
Aquaculture (oysters)	Senegal river Delta, Saloum Delta	<ul style="list-style-type: none"> <li>• Restore mangrove/ habitat of seafood.</li> <li>• Support process of sea food</li> <li>• Improve the value chains and added values of seafood.</li> </ul>
Honey	Niokolo-Koba, Saloum Delta, Ferlo	<ul style="list-style-type: none"> <li>• Support the establishment of beehives (co-finance 50% of the total cost of 30, 000 FCFA)</li> <li>• Improve quality process of the honey production</li> </ul>

		<ul style="list-style-type: none"> <li>• Support the establishment of contract with private sector and with organization (for example, the <i>Réseau des Apiculteurs du Delta du Saloum</i> - RADES).</li> </ul>
Other fruit value chains such as baobab ( <i>Adansosia digitata</i> ), maad ( <i>Saba senegalensis</i> ) and <i>Sterculia setigera</i>	Niokolo-Koba	<ul style="list-style-type: none"> <li>• Support the construction of a processing platform (in Mako) and train women to manage it</li> <li>• Train women groups on quality for mad and other NWFP collection.</li> <li>• Support women groups in commercialization of products.</li> <li>• Introduce <i>Sterculia setigera</i> in the article 63 of the Forestry code and design an associated fiscal mechanism.</li> <li>• Develop partnerships with SETEXPHARM and SOCOGOM for <i>Sterculia setigera</i> supply.</li> </ul>

In order to support development of income generating activities, at least 20 food-processing units (oil press, scraper, mill, etc.) will be installed for women groups in support for production and as a source of income.

### ***Output 2.2: Resilient small-business development is supported through revolving funds***

Many studies show that economical diversification in Senegal would reduce climate change vulnerability, all the more through reducing agricultural sensitivity to droughts and through general adaptation capacity enhancement<sup>41</sup>. Under this output, the LDCF resources will help small businesses (GIE) to strengthen and to contribute to local adaptation actions funding through the design and implementation of a benefit-sharing mechanism where IGA are supported, based on the successful results of previously implemented benefit-sharing mechanisms. Table 4 above shows the identified resilient activities that the project will support (output 2.1). Here, following 2.1, the objective is to structure the producers/entrepreneurs and to reinforce the GIE/clusters so that they decide together how to design a benefit-sharing mechanism for the value chain. Indeed, experiments carried out in Senegal (PERACOD, PROGEDE, etc.) and in other African countries (PNUD-FEM MRPA project in Madagascar on value chains around Protected Areas for instance) show that the following process should be implemented: (1) create producers groups / entrepreneurs clusters, then (2) group the production to sell it together, and finally (3) through collective work, bring them into discussing together about a benefit-sharing scheme to preserve the resource (e.g. tree planting, better forest management, etc.).

At the moment, in the 4 project sites, there is no existing mechanism that would allow sharing from the NFTP revenue with the communes and/or local populations. Currently, the NFTP are not taken into account within the production and selling patterns of the products coming from the forest management plans. Access is free for every operator. Together with experts, the Project will reinforce the producers/GIE and moderate a consultation to define and set up benefit-sharing mechanisms. Detailed mechanisms are available in Annex E of the project document (Chapter III Value chains revenue sharing). Experts will form a mobile unit that will visit the four project sites and will include a rural entrepreneurship specialist and business advisors.

<sup>41</sup> Understanding patterns of climate-resilient development – the case of Senegal, DFID, April 2016.

The following activities will contribute to achieving output 2.2:

Activity 2.2.1: Create producers groups / entrepreneurs clusters and reinforce their capacities

This is the first necessary step allowing discussion around a sharing mechanism: working together. Activities and value chains identified under PPG (see Table 4) are in different stages of maturity: from simple ideas from isolated entrepreneurs (e.g. salt sellers in Gandiol) to the emergence of informal value chains (e.g. Arabic gum collectors in PGIES acacia plantings). Together with experts (mobile unit including a rural entrepreneurship specialist), this activity will bring adequate support for GIE and entrepreneurs. After the creation and/or the identification of GIE/cluster, the rural entrepreneurship specialist will define the training and resources needs. Therefore, the actions to implement are as follow:

- Identifying and/or creating GIE and cluster
- Identifying the needs and defining the resources to be mobilised
- Working on a common issue (e.g. increasing and/or productivity, or improving marketing)
- Training GIE and clusters members

Activity 2.2.2: Design, through a participatory process, an activity/value chain benefit-sharing mechanism

Annex E of the project documents details the different possible mechanisms. Generally speaking, there are three benefit-sharing arrangements: (1) value chains taxes, (2) product-based fee, and (3) contracts between producer/ the producers GIE and the purchasing company. The rural entrepreneurship specialist will moderate working sessions with GIE/clusters and communes representatives to design and approve a benefit-sharing mechanism together that will be adapted to every territory and activity/value chain. Therefore, the actions to implement are as follow:

- Moderating working sessions/ discussions about benefit-sharing
- Designing the benefit-sharing mechanism and propose it to the competent authority (commune)
- Defining the principles and terms for the use of these funds
- Ensuring the effective implementation of this mechanism

Activity 2.2.3: Structure these funds into revolving funds in order to develop perennial resilient activities

The funds coming from the benefit-sharing mechanisms aim at enhancing the territories resilience through investments in the surrounding CNR. Therefore, organizing the funds into revolving funds aims at creating a broader and more perennial impact. Thus, the project should (together with experts) structure this benefit-sharing mechanism into revolving funds (hosted by the MEC and/or partners micro-finance institutions) and design an allocation and repayment procedure for these funds.

Activity 2.2.4: Monitor, evaluate and share the experience from the test GIE/clusters

In order provide ideas for other GIE and entrepreneurs, these experiences will be monitored, capitalised and shared with the 4 sites villagers. This experience sharing will be made in the form of villagers meetings in which one or more entrepreneurs supported by the project would share their experience (possibility of inviting entrepreneurs from other sites of the project).

***Output 2.3: Climate information is disseminated and capacities of villagers (especially women and youth) are strengthened to secure against climate risks***

78. Under this output, the LDCF resources will support the improvement of existing chain of production and dissemination of agro-meteorological information. ANACIM, the communes and the rural radio stations will be involved in implementing activities. 24 manual and 3 automatic meteorological stations exist throughout Senegal. To improve Senegal's geospatial coverage of the national monitoring network, the existing weather stations need to be (i) completed by additional station, and (ii) upgraded in automatic stations.

79. By installing the meteorological stations within the project intervention sites, the project will increase the quality of the geospatial coverage of the national monitoring network. This equipment will also provide the necessary data to prepare the farmers. ANACIM will be responsible for operating and maintaining the improved hydro-meteorological stations within their ongoing line responsibilities. In addition, ANACIM will ensure the sustainability of the long-term operation and maintenance of the procured equipment during the project's lifespan and after its closure. The following activities are planned:

Activity 2.3.1: complete the existing equipment with 3 automatic meteorological stations to develop the mechanism to collect and process data in these intervention zones. A station is already functioning in Ranerou and the station of Simenti needs to be upgraded. The actions to be undertaken include:

- ANACIM will evaluate the current status of the meteorological network in the 4 target regions (in terms of number, location and type of equipment) that provides relevant weather and climate observations.
- Install or upgrade three equipped automatic meteorological stations in order to collect the pluviometric, temperature, hygrometry and wind data.
- Design a long-term maintenance plan and implement it to prevent the degradation of the stations.
- Involve the commune and train a focal point in the municipal staff to be able to disseminate the agro-climatic information.
- Produce and disseminate agricultural hydro meteorological bulletins based on the needs of end users.

Activity 2.3.2: Dissemination of agricultural meteorological information and advice to producers  
The agro-meteorological information will be disseminated to at least 5,000 households through three complementary means: (1) through community radio broadcasts, (2) municipal focal points and Development Villages Committee, and (3) using SMS. With 11.5 million Senegalese having a cell phone (rate of 83%), the opportunity to share the data collected instantly and broadcast meteorological bulletins through text messages will be explored. Specific actions include the following:

- Establish and sign agreements with rural radios

- Produce agricultural hydro meteorological information (by ANACIM), and dispatching to the broadcasters;
- Dialogue with service providers (Orange, Tigo, Expresso, etc.) to promote the importance of social and cooperative responsibility in order to reach an agreement for the setting up of free SMS;
- Establishment of a platform for exchange by SMS;
- Training of a group of trainers that will train communities / users / producers and projects manager;
- Establishment of a monitoring system at the commune level to support users;
- Evaluation and capitalization on the experiences for scale up.

Activity 2.3.3: Capacity building for communities to become pro-active in climate change risks management. Trainings will be provided at the village level, co-organized by the Development Village Committee, with the objective to provide capacities to understand climate parameters and impacts, and to be able to take the right decision to manage climate risks. For example, when the harmattan arrive in the region, the farmers (that will be alerted a few days before through the meteorological information – output 2.3.2) will be able decide to protect crops with mulching. Besides, the trainings will also insist on leadership and will strengthen entrepreneurship and organizational skills. The PMU will develop a partnership with the NGO Ashoka (worldwide networks of social & environmental entrepreneurs) in order to support capacity buildings for farmers.

Specific actions/trainings include the following:

- Develop a specific trainings plan for communities;
- Train trainers that will strengthen capacities of farmers to understand climate parameters and climate risks;
- Develop a comic for the farmers and disseminate it through the CVD;
- Train farmers for better farming activities and planning in relation of climate variability and weather conditions.

#### ***Output 2.4: Knowledge, key experience and lessons learnt are disseminated***

80. Under this output, community-learning mechanisms are established and experiences are shared through websites, technical publications, videos and other relevant media. Communication products (films, articles, posters, reports, etc.) are developed to inform about the project, share the first lessons learned from innovative finance mechanisms established (for example, benefit-sharing mechanisms or crowdfunding initiative) to seeds of drought-resilient crops dissemination, climate resilient small business development, etc. Information are disseminated through the project website and newspaper, television, exhibitions or national workshops. LDCF resources will focus on improving sharing of Knowledge and lessons learned to local communities to foster greater ownership and enable replication. Specific activities will include:

Activity 2.4.1: the capacity of the PMU will be strengthened to effectively produce and disseminate knowledge and lessons learned from the project. This activity will be carried out before the mid-term evaluation (using the knowledge and lessons learnt from PGIES and other

baseline project). The Project Management Unit (PMU) of the PGIES worked without a real communication strategy and has limited human and material resources for the capitalization and sharing of lessons learned. A communication officer will also be recruited to define the project communication strategy with stakeholders, means and make a day-to-day monitoring of communication aspects. First targets of the communication strategy will be local population and communal staff both in the project targeted areas and surrounding areas.

Activity 2.4.2: Development of communication tools. A film will be made and broadcast in the 15 communes and in at least 150 villages. A partnership will be developed with the local association Nebabay (which has several on-going climate projects in the Saloum Delta sites) in order to benefit from its sensibilization experience toward climate change (film projection during the night in the Saloum villages). Two very practical brochures (manuals) will be developed and disseminated: one for the rural population presenting resilient practices, another for the communes presenting innovating financing mechanisms. The information packet will be translated into the appropriate formats and languages to allow dissemination through the community radios or television channels in the national languages.

Activity 2.4.3: Organize at least 15 study visits between mayor and municipal staff with the objective to share good practices to raise climate funding. For example, the experience of Sokone (organization of a Telethon which collected 60,000 USD) can benefit other communes. Besides, at least 500 villagers (75% of women) will be part of exchange visits with the objective to learn from good practices.

Activity 2.4.4: A website of the project will be created including links with the UNDP/GEF's adaptation website (adaptation-undp.org) and Wikiadapt to ensure that the lessons learned from this project affect a broader audience, including the international agencies, financial backers and GEF Secretariat. At least 5 articles will be published on other sites such as exposure, stories.undp.org, etc.

ii. Stakeholder engagement:

81. The implementation strategy for the LDCF-financed project includes extensive stakeholder participation. Details of the stakeholder participation during the PPG phase are provided in the annexes. Key stakeholders for the project include (i) ministries, local governments and other public institutions implementing the project and/or benefiting from it, (ii) cooperating partners, NGOs, and Civil Society Organizations (CSOs) involved in direct support, and (iii) communities that are living in the targeted rural areas, including the participation of potentially vulnerable groups such as women. Table 5 below proposes a stakeholder involvement plan for the implementation phase. This will be further developed and validated during the project inception workshop.

*Table 4: Stakeholder engagement plan*

Outputs	Stakeholders	Key responsibilities
1.1: Climate change adaptation measures are integrated into local development plans and budgets	Communes and GIC PNDL	Provide information and the documentation. Sign a partnership contract with PNDL at the beginning of the project -

Outputs	Stakeholders	Key responsibilities
and Decentralized Climate Funds (DCF) are established.	ARD  IED Senegal CSO, Local population	Technical support of the communes to integrate CCA and establish the DCF. Bring capitalization on DCF (DFID project). Identification of major threat to CC, key activities, support the implementation of activities, mobilization of communities.
<b>1.2:</b> Innovative financial mechanisms are established and contribute to finance adaptation measures at the local level.	DGF (MEDD)  PNDL Private sector  CNAPPP  Local communities  MIN	Provide assistance to design innovative financial mechanisms Technical support of the communes. Participate to workshops for designing CSR, offsets mechanisms. Train communes for PPP establishment. Participatory design and implementation of financial mechanisms. Collaborate with MEDD for implanting the Mining Fund.
<b>1.3:</b> Credit & saving mutual network is strengthened and increased the farms credits delivered to vulnerable population.	MEC  MFI  DRS (Ministry of Finance)  Women groups	Benefit from capacities building, motivation to become more professional. Develop partnerships with MEC and bring technical assistance to MEC. Provide technical support to MEC, facilitate partnerships with MFI and provide material for trainings to women groups. Benefit from training sessions; submit projects to be financed by MEC and MFI.
<b>1.4:</b> Capacity-building to identify priority adaptation interventions and to manage/monitor projects.	Communes  NGO/CSO	Co-finance and host the fundraiser dedicated to write grant proposals for climate finance. Benefit from training to write propels and manage climate funds.
<b>2.1:</b> Investments and resilient practices are adopted by 5,000 vulnerable households and increased their income under climate change	IREF  CVD/CIVD  PEPAM, PAPIL PADAER Ministry of agriculture, National council on seeds  Farmers, groups of women Private sector	Technical support for CNR restoration, fire breaks opening and maintenance. Management and control the CNR, dissemination information to villagers and mobilize communities. Technical assistance for water access investment. Cofinance and technical support. Technical support and provide seeds. Testing and disseminating resilient seeds, training and supervise communities. Certification of resilient seeds. Production and dissemination of resilient seeds.  Support the resilient value chains. Buy products.
<b>2.2:</b> Resilient small-business development is supported through revolving funds.	GIE/ Entrepreneurs  Other projects	Develop small-scale resilient business; motivation to be engaged in a cluster to boost the resilient business. Select GIE/entrepreneurs for the cluster.
<b>2.3:</b> Climate information is disseminated and capacities of villagers (especially women and	ANACIM Local communities	Install new and rehabilitate existing meteorological and hydrological stations; Monitor and disseminate climate-related information (vulgarisateur,

Outputs	Stakeholders	Key responsibilities
youth) are strengthened to secure against climate risks.	Communes  Ministry of Agriculture Community-based radios CVD/ CIVD	partnerships with radio - URAC, etc.); Develop meteorological services (SMS, advices). Play a key focal role for dissemination of climate information Support to advise farmers.  Dissemination of climate information.  Use and dissemination of climate information
<b>2.4:</b> Knowledge, key experience and lessons learnt are disseminated.	MEDD IREF and technical services Local and national media Mayors of communes	Capitalisation and sharing project results Diffusion of good practices  Support diffusion of project results  Share good practices with others.



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## V. FEASIBILITY

### i. Cost efficiency and effectiveness:

82. In the baseline situation (business-as-usual scenario), many of the CNR/PU will remain largely as paper CNR/PU and will struggle to find adequate financial resources for their consolidation. Same for climate change adaptation actions at local level. Governance and management systems are likely to remain confused and their effectiveness with regard to climate change adaptation will remain in doubt. This may lead to reduced local buy-in and participation in climate activities, including CNR/PU activities. Many CNR/PU will continue face difficulties with respect to support from regional and communal decision-makers and as a result may be conflicted by alternative land-use proposals. That will worsen the climate change impact at the local level.

83. The activities of LDCF-financed project have been designed to balance considerations of cost-effectiveness and efficient use of LDCF resources against the urgent objectives related to adapting towards climate change. Several considerations pertaining to the cost-effectiveness of the project strategy were analyzed during the PPG process. The adaptation options that have been selected in the present project document are the most appropriate and cost effective solutions.

84. First, in line with LDCF principles of additionality, the project will pursue partnerships with ongoing initiatives in the country, to reduce operational costs and minimize the risk of duplication of activities. For example, during the PPG, a robust partnership has been design with PASA Loumakaf and PADAER in the Ferlo sites and in the Niokolo-Koba site. Several activities will be conducted jointly, such as activities under output 1.2, output 2.1 and output 2.2. The project will prioritize these partnerships and collaborative relationships as opportunities to build on lessons learned and best practices established by past projects.

85. The current project is focused on climate change adaptation around the CNR/PU, and aims at establishing sustainable financial mechanisms in the long term. Based on the area targeted specifically by the project, the investment costs are US\$ 109/people or US\$ 9.5/ha. When we include additional CNR/PU that are being established in parallel by project partners, the costs are US\$ 5.7/ha. This is really reasonable and cost effective figure.

86. Moreover, the selection of outputs & activities and their technical design was based on participatory consultations grouping together the grassroots communities, local authorities and government technical services. These consultations helped to identify priority actions in line with the population's needs. The technical design drew on the lessons learnt from previous projects on climate change, forestry, water and agriculture sectors. Two aspects were prioritized:

- The necessity to accompany local stakeholders (vulnerable households, producers, communes, etc.) with relevant skills and technologies to sustainable their activities: it means developing mechanisms and capacities to increase finance dedicated to climate change adaptation at the local level. This is the guarantee to ensure the viability of climate resilient livelihood products and preserve family production and income from climate impacts.

- The need to provide women groups alternative means of support that are resilient to CC and efficient, including breeding, farming, and farm products processing to increase their income and improve their families' nutrition and diversify their income.

87. Besides, the current project is focused on PGIES consolidation. According to a study performed during the PGIES (Kuhn et al., 2011), the management cost of CNR/PU is about 6 USD/ha/year. With the LDCF project, the management cost is below 1 USD/ha/year. As a key component of climate change adaptation, the project takes a precautionary approach by seeking to protect trees cover before ecosystems have become irreversibly degraded. The costs of inaction are high in Senegal; natural ecosystems once degraded are difficult to restore owing to land fragility, and the costs are extremely high even where restoration is an option, with reforestation costs estimated at up to US\$ 350/hectare. That's why focus has been put on CNR/PU management.

88. An additional approach that the project intends to explore is partnerships with extractive industry companies. Similar partnership initiatives elsewhere in the world<sup>42</sup> strongly indicate that the benefits include investment in local education, training and development through CSR programs. It is anticipated that extractive industry-Communes (CNR) partnerships will lead to higher incomes among local communities and contributions to commune recurrent costs.

89. In the long-term, the present project's emphasis on improved climate change adaptation at a landscape level is aimed at increased national or regional investment into the CCA. At national level, good land use planning should attract investment by the government of Senegal and development donors. At the regional level, CCA should encourage local investment: at present there is essentially none emanating from the communes.

90. Finally, at the creation of CNR/PU, it should be noted that CNR/PU have been selected on the basis of their contribution to biodiversity representation and long-term viability. Most of the target sites are large, often a key factor in ensuring viability. Large CNR/PU also have a lower recurrent cost per hectare.

91. As a conclusion, although other options (alternatives) have been also considered during the PPG, only the most appropriate and cost effective options have been selected and are presented in the expert reports available in Annexes.

## ii. Risk Management:

92. As per standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR.

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<sup>42</sup> Smuts, R. (2010). Are partnerships the key to conserving Africa's biodiversity? Four partnership case studies between mining companies and conservation NGOs. Conservation International.

Project risks					
Description	Type	Impact & Probability (1-5)	Mitigation Measures	Owner	Status
Fiduciary risk due to the complex operation on setting up revolving funds, microfinance, and funds for capturing taxes or levies	<i>Operational</i>	Impact: 2 Probability: 3	<p><i>The project will build on the ongoing restructuring process following the recommendations of the 2012 performance and apply UNCDF and UNDP's well-tested fiduciary risk management strategy in the sector of microfinance in Senegal.</i></p> <p><i>The project will assess the success and failures of the Mutuals, will strengthen the Mutuals, and will involve communities in this process. Several partnerships will be developed with IMF.</i></p>	PMU IMF Mutuals	Medium – decreasing.
Lack of collaboration between different sectorial ministries, departments, agencies, central authorities and communities' organizations.	<i>Operational &amp; Strategic.</i>	Impact: 3 Probability: 2	<p><i>The project will be implemented according to management arrangements as described in Section VII of this Project Document. The project management arrangement as currently established promotes coordination of government authorities on the Project Board.</i></p> <p><i>The chair of the Project Board will intervene and implement the remedial actions if limited coordination among government authorities hinder the progress of the LDCF-financed project.</i></p> <p><i>Several partnership agreements will be established at the inception of the project (PNDL, Ministries in charge of local collectivities, etc.)</i></p>	PMU	Low - Decreasing
Limited capacity of local / technical institutions to support vulnerable communities on adaptation	<i>Political &amp; operational</i>	Impact: 3 Probability: 3	<p><i>Local institutions benefit from the PNDL to increase their capacities. Technical services are currently benefiting from the on-going LDCF project awareness activities on climate change and adaptation options.</i></p> <p><i>Complementary capacity building actions are planned in the proposed project.</i></p>	Communes, MEDD	Medium – decreasing.
Lack of involvement of the communes (e.g. co-funding), of private/ public actors.	<i>Political &amp; operational</i>	Impact: 4 Probability: 3	<p><i>During the PPG, all the communes have been visited and committed their engagement to the project. The major were attending the validation workshop of the project.</i></p> <p><i>Moreover the project will provide capacity building, regular meetings, and ensure involvement in each stage of the process.</i></p>	PMU	Medium

Lack of involvement / participation of the villagers.	<i>Organizational</i>	Impact: 4 Probability: 2	<p><i>The LDCF-financed interventions were developed through multiple stakeholder consultations with local communities in 2016.</i></p> <p><i>Extensive engagement of local communities in decision making will be pursued throughout the implementation phase.</i></p> <p><i>Tangible and visible activities that addressed community priorities will be implemented early during the project implementation phase.</i></p> <p><i>The Technical Assistants appointed as part of the Project Management Unit in each site will maintain strong communication link with the project beneficiaries, manage expectations of local communities, and ensure alignment of project results, targets and benefits with communities' needs.</i></p> <p><i>The project will provide capacity building, regular meetings, and ensure involvement in each stage of the process.</i></p>	PMU	<i>Medium – decreasing.</i>
Climate hazards delay the implementation of project interventions. (Drought, flood)	<i>Environmental</i>	Impact: 4 Probability: 3	<p><i>Project activities that are particularly sensitive to climate conditions.</i></p> <p><i>Use of resistant varieties, implementation and dissemination of good practices.</i></p> <p><i>This will include collaboration with ANACIM.</i></p>	PMU ANACIM	<i>Medium</i>
Lack of collaboration with the other projects present on action sites	<i>Organizational</i>	Impact: 3 Probability: 1	<p><i>The project has been designed based on large consultations with other on-going projects. Several partnership letters have already been signed.</i></p> <p><i>The PMU will communicate extensively with the partners and share information all along the project implementation.</i></p>	PMU	<i>Low – decreasing.</i>
Non-participation of stakeholders in the proposed offset partnership with mining industries	<i>Strategic</i>	Impact: 3 Probability: 3	<p><i>The level of financial offset will be established through a participative approach, involving the concerned stakeholders, and will vary between products. This will increase the ownership of the activities by the stakeholders. In addition, consultations were already held during the formulation phase, to ensure that targeted stakeholders adheres to the offsets.</i></p> <p><i>Finally, the monitoring capacity of the MEDD to enforce the Business</i></p>	PMU	<i>Medium</i>

			<i>and Biodiversity Offsets Programme (BBOP) will be strengthened</i>		
Low mobilization of local population for crowdfunding initiatives	<i>Strategic</i>	Impact: 2 Probability: 3	<i>Crowdfunding activities require local populations to be mobilized and adhere to the initiative promoted. In Sokone, where the Telethon was held, the mayor had successful management skills for mobilizing the populations. During the project implementation, the PMU will have to ensure that the benefits of the initiatives are understood and responds to a need of local populations. The PMU will also ensure the funds are transparently managed for the local population to be confident about the adequate use of the funds.</i>	<i>PMU</i>	<i>Low-Medium</i>

iii. Social and environmental safeguards:

93. The UNDP environmental and social safeguards requirements have been followed in the development of this LDCF-financed project. As outlined below, the project is not expected to have any negative environment or social impacts.

94. The project will decrease the vulnerability of the communities to climate variability and climate change impacts through the development of resilient activities and the dissemination of best practices. The most vulnerable sites have been selected for the investment of hard interventions and implementation of revegetation interventions through a participatory process. The members of targeted vulnerable communities will therefore benefit equally from these interventions. As a result, no conflicts within the communities are expected as a result of the project interventions. Furthermore, the hard infrastructures built by the project will be design specifically to protect community lives and assets. Last, improved water management and food production will contribute positively to people's health.

95. The revegetation of degraded lands will protect natural resources and livelihoods from the effects of climate change. Solely positive effects on habitat and biodiversity are expected from the revegetation activities. Ecosystem functioning for example will be promoted by the activities as they will focus on soil stabilisation, improve water infiltration and restore natural vegetation. Revegetated land will be less vulnerable to degradation by intense rains. Indigenous species will also be preferred to maximise the positive effects on the environment. Lastly, the increase in biomass resulting from revegetation will contribute to carbon sequestration.

96. Although the project will benefit local communities, it is not expected that this will lead to localised population increases. Rather, it is expected that the interventions such as increased access to climate information will benefit local communities beyond the LDCF intervention sites. Consequently, no population displacements are expected as a direct or indirect result of the project.

97. Gender equality is a focus area of the LDCF-financed project. The project interventions will promote social equity and equality. All social consequences of the project are expected to be positive. Local communities' approval and support of the interventions will be sought prior to implementation. The LDCF-financed project is expected to have either no effects or positive effects on the environment and community. A full environmental and social review has been carried out and is presented in Annex I. Moreover, environmental and social grievances will be reported to the GEF in the annual PIR.

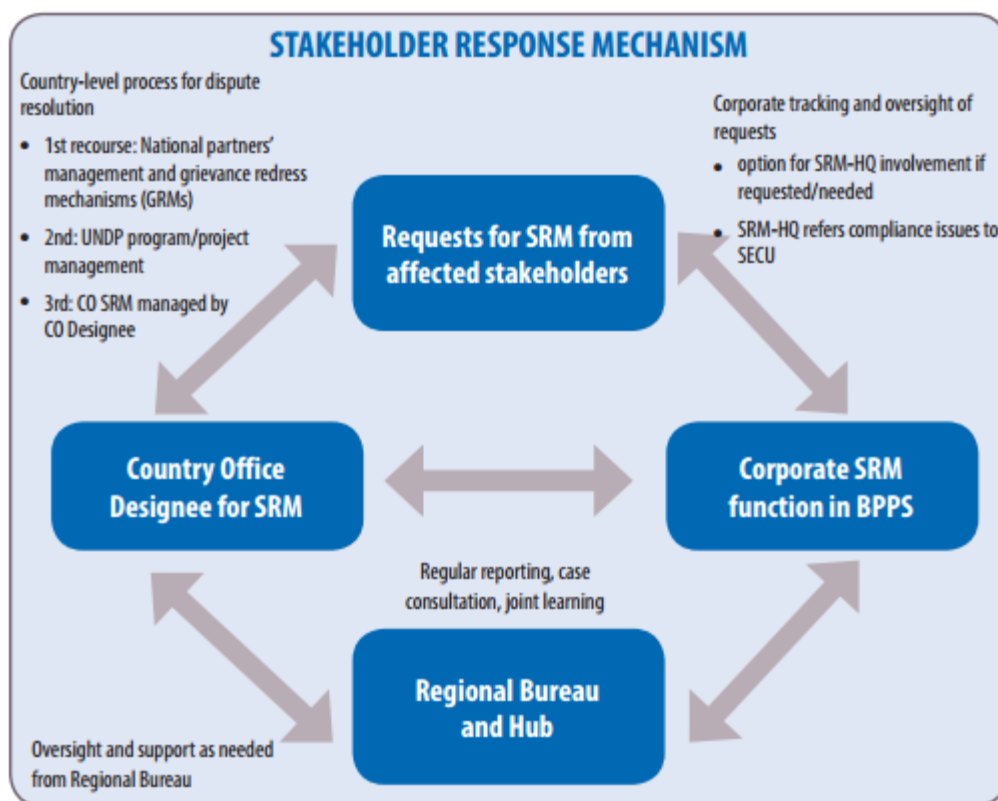
iv. UNDP's Environmental and Social Standards:

98. The Project meets the requirements of UNDPs' Environmental and Social Standards (2014), most particularly the three overarching principles and the 7 project level standards.

***Principle 1. Human rights***

99. The approach is inclusive, non-discriminatory and transparent, and is thus respectful of human rights. The members of targeted vulnerable communities will benefit equally from project activities and project activities will be designed to protect community lives and assets. No conflicts within the communities are expected as a result of the project interventions.

100. The primary mechanism for handling grievances is reaching consensus at the community level. In the absence of consensus, aggrieved parties have access to a formal grievance recourse mechanism as defined in UNDP's "Stakeholder Response Mechanism: overview and guidance" (2014) and illustrated as follows:



101. The process follows 8 steps to be managed by the project (Annex A):
- Receiving and registering requests for grievance resolution
  - Acknowledge, Assess and Assign
  - Develop a response in consultation with Country Office staff, managers, Regional Hub/RBx, and other UNDP stakeholders as appropriate
  - Communicate proposed response to requestor and seek agreement
  - Implement the response to resolve the grievance
  - Review the response if unsuccessful
  - Close out or refer the request
  - Monitoring and Documenting Responses and Result

### ***Principle 2. Gender Equality and Women's Empowerment***

102. The project supports a Gender and Development approach, to ensure equally shared opportunities, resources, benefits and climate change adaptation strategies between social groups in the target areas. In order to meet that objective, various tools and strategies have been developed. Gender-sensitive indicators and targets have already been developed and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to encourage the implementation of gender-sensitive initiatives beyond the project's lifespan.

### ***Principle 3. Environmental Sustainability***

103. Three of the seven standards require attention:
1. Biodiversity Conservation and Natural Resource Management
  3. Community Health, Safety and Working Conditions
  7. Pollution Prevention and Resource Efficiency
104. Standard 1 is triggered because the project:
- involves the use and commercialization of specific natural resources, including resources taken at the periphery or within formally protected areas; *the risk is explicitly managed by: (i) acting in a manner consistent with existing management plans; (ii) directly involving local communities in the preparation and implementation of management plans that prioritize sustainable use.*
  - supports planting gum arabic and other native species to fill areas where trees died during the droughts of the 1970s-1980s, as well as planting of mangrove trees to replace areas that were cut; *there is no risk because planting of replacement native trees improves biodiversity.*

- promotes the use of living natural resources, such as the collection of mangrove oysters or of non-timber forest products, such as gum arabic; *the risk is addressed by only funding collection methods that are sustainable and do not damage the resource base.*
- encourage the local transformation of cashew nuts and mangoes in the Saloum; *the risk is mitigated by excluding from project funded activities any nuts originating from natural habitats that have been illegally deforested.*
- rehabilitate firebreaks; *there is no risk because the firebreaks already exist and their maintenance will not damage natural habitats, while facilitating access to market for remote communities.*
- redevelop seasonal ponds for recession agriculture and for livestock; *the project will mitigate risks by not supporting the removal of natural vegetation from any natural depression and instead by promoting their conservation.*

105. Standard 3 is triggered because the project:

- includes the development and management of small retention ponds that could breach; *the risk is mitigated by including safety measures in the planning and management of these ponds.*
- includes development and management of small retention ponds that could foster water borne diseases such as malaria; *the risk is mitigated by taking preventive measures and by monitoring basic health indicators around such ponds.*

106. Standard 7 is triggered because the project:

- supports the local transformation of cashew nuts and mangoes that could use chemical pesticides; *the risk is mitigated by excluding nuts from fields that do not use integrated pest management approaches or heavily use synthetic chemical pesticides.*
- supports the local transformation of cashew nuts and mangoes that could create waste; *the risk is managed by ensuring the proper disposal or reuse of agricultural waste.*
- promotes the seasonal production of salt from salt pans next to Gandon that could be stored next to agricultural land; *the risk is mitigated by moving salt piles away from agricultural land and putting in place measures to avoid leaching into the ground.*

### ***Mitigation measures***

107. The project will develop and implement procedures and employ sufficient qualified staff to ensure that all of the above described commitments are met. In particular, the project will put in place a mechanism to screen all activities or sub-projects for potential environmental and social impacts.

108. Screening would cover the following issues:

1. Child labor
  - child labor that is coercive, detrimental to a child's health or education opportunities
2. Planting of non-native species
  - replacement of areas of native vegetation by areas of non-native vegetation, such as mangoes or cashew nuts



3. Development and management of water retention structures
  - loss of natural vegetation
  - significant impacts on biodiversity
  - increase in water borne diseases, such as malaria or bilharzia
  - equitable access to water
  - downstream safety in the case of an accidental breach
4. Transformation and commercialization of commercial crops
  - crops that originate from deforested areas
  - crops that originate from areas where pest and/or vector management activities is not based on integrated pest management approaches and that heavily rely on synthetic chemical pesticides.
  - explicit environment, health and safety measures for any transformation unit involving more than 10 full time people
  - production of waste
5. Grievance redress mechanism
  - maintenance of a grievance registry
  - resolution of registered grievances

109. The project would only fund activities or sub-projects that include measures to avoid or mitigate these issues. The project will also regularly monitor and document these issues during implementation and provide the resources and qualified staff required to monitor and document these issues.

v. Sustainability and Scaling Up:

110. The broader aim of this project is to pioneer a new paradigm for sustainable development in rural areas based on innovative financial mechanisms and resilient activities development in ecologically vulnerable landscapes. Innovation is a central aim of the project with the focus on combining and sequencing instruments and approaches. Whereas all traditional projects in Senegal faces sustainability challenges (because of lack of funding after the implementation period), the LDCF-Project will pioneer an approach where financial mechanisms sustain adaptation activities implementation. For example, in the case of revolving funds, it was observed that the Government-approved and -supported MECs experienced a significant growth rate over the last 20 years due to their successful operations. Therefore, the credit-lines set-up under the PFNAC will be entered in these MECs, that proved to be able to ensure the reimbursement of the loans allocated. These lines of credit will be discussed by the heads of CIVDs, who will be shareholders and members of the MEC boards of directors. They will ensure that micro-projects are able to reimburse the loans and additional projects financed with the returned funds well beyond the lifetime of the PFNAC. In addition, by providing trainings to the CIVDs members, the PFNAC PMU will ensure that the selection committees target successful and sustainable adaptation projects and provide increased resilience and change for beneficiaries.

111. The overall question addressed through this project is how livelihoods can be better sustained through the integrated approach, drawing synergies from other programs, projects, processes and communities. The project can potentially share:

- Measurable, quantifiable and qualitative results and how to adhere to high-quality and fair practices/processes (resilient value chains development and sustainable lands / forestry uses);
- Process for linking with community-managed institutions, benefits and ownerships;
- Participation, decision-making, local and indigenous expertise, partnerships, networking, sharing of costs, equity and enhanced gender relations.
- How to meet local demands, links markets, partners with private sector and sustains actions on scale and areas.
- Adaptive management, informal and responsive arrangements and systems created, especially for income generation activities, marketing arrangements etc.
- Linkages with institutions/banks for access of resources, loans, repayments etc.
- Technology learnt, adopted, disseminated by the partners with other partners and institutions.

112. The project scaling up efforts will not only focus on increasing the number of beneficiaries or geographical area, but it will also address additional barriers, forge more partnerships and generate more co-financing. Sustainable finance models combined with adaptation best practices have tremendous potential for scale-up since once established and proven it's a ready-made performance-based financial mechanism that can be capitalized by further donor or government investments and either used to catalyze additional roll-out of such an approach.

113. Documenting adaptation practices and technologies will constitute a precondition and point of departure for the process of scaling up and out (quantitative scaling up). The participatory processes and other collaborative planning approaches will be developed and will enable multiple stakeholders to share knowledge, develop awareness, and improve learning and foster replication in other sites.

## VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s):					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document:					
<p>This project will be linked to the following output of the UNDP Strategic Plan:</p> <p>Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.</p> <p>Indicator 1.3.1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or subnational level.</p> <p>Indicator 1.3.2: a) Number of additional people benefitting from strengthened livelihoods through solutions for management of natural resources, ecosystems services, chemicals and waste b) Number of new jobs created through solutions for management of natural resources, ecosystem services, chemicals and waste.</p>					
	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
<b>Project Objective:</b>  <b>To Promote innovative finance and community-based adaptation in the communes surrounding the CNR</b>	<b>Indicator 1:</b> Amount of communal budget dedicated to climate change adaptation and amount of fund from IMF granted to vulnerable populations.	Through PGIES Programme, 35 RNC and UP were created around the National Parks boarders in Senegal. They bring 203 villages from 21 communes together in these lands management. The 2012 evaluation shows significant improvements in biodiversity conservation and climate change mitigation, but it also highlights the major difficulties the villagers face in their agricultural activities because of delayed rains and of water and lands salinization. Moreover, the communes don't have enough financial resources to invest in CCA measures at local level.	At least 2 innovative financing mechanisms are designed and implemented and bring (even a small amount of) additional financing.	At least 3 innovative financing mechanisms are designed and implemented and bring additional financing for at least 15 communes..	<u>Hypothesis</u> <ul style="list-style-type: none"> <li>- Existence of national expertise able to support the communes and households in their adaptation efforts.</li> <li>- Mayors and target communities participation and involvement</li> </ul>
	<b>Indicator 2:</b> Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).		At least 2,000 households (approximately 10%) have adopted resilient means of subsistence.	At least 5,000 households (approximately 25%) have adopted resilient means of subsistence, such as diversification activities, climate information and adapted seeds in order to ease development opportunities particularly for women, and offer them more opportunities to adapt to the current and future impacts of climate change.	<u>Risks</u> <ul style="list-style-type: none"> <li>- Local stakeholders (IMF, private sector, communes, etc.) don't collaborate with the project.</li> <li>- Financial resources too limited for local communities and institutions to implement resilient activities.</li> </ul>
					<u>Means of verification</u> Interview reporting, communal budget monitoring and evaluation.  -Frequency: yearly (communal budget + target households)  -Resp.: PMU.

<b>Component/Outcome 1</b>  Innovative mechanisms fund climate change adaptation actions at local level.	<b>Indicator 3:</b> Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.	The 21 target communes all have an approved communal development plan or in process of approval. However, none of them include CCA actions. Moreover, only four (4) communes include the PU/CNR presence and management, while the law 96/07 of 22 <sup>nd</sup> March 1996 gave them management mandate. In addition, only two (2) communes mention a dedicated budget for environment in their yearly budget.	The 21 communes include climate change adaptation actions in their management and investment documents (PDC and budget). Budgets of the communes clearly state the co-funding corresponding to the actions carried on their territories by other stakeholders. The 35 PU/CNR management plan include climate change adaptation.	The 21 communes include climate change adaptation actions in their management and investment documents (PDC and budget). Budgets of the communes clearly state the co-funding corresponding to the actions carried on their territories by other stakeholders. The 35 PU/CNR management plan include climate change adaptation.	<b>Hypothesis</b> <ul style="list-style-type: none"> <li>- Mayors and communal staff are deeply committed</li> <li>- Efficient partnership with PNDL</li> <li>- Efficient partnership with UCAD</li> <li>- Existence of national expertise able to support the communes</li> <li>- Local populations have confidence in the Saloum Delta MEC</li> <li>- The IMF wish to develop actions in the project intervention zone</li> </ul> <b>Risks</b> <ul style="list-style-type: none"> <li>- Limited capacities of town councils</li> <li>- Municipal elections that ought to be held in 2019 interfere with the project</li> <li>- The IMF don't collaborate with the project</li> </ul> <b>Means of verification</b> PDC and communes budget; UP/CNR management plans. Communal budget and Monitoring & Evaluation Mutual accounting books and IMF, MEC financial reports. Grant application forms and partnership agreements with backers. Creation and strategic CIC document.
	<b>Indicator 4:</b> % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.	The Ministry of Finance admits that the resources emerging from endowment funds cover only 20% of local communities needs. Environment is the poor relative for communal budget allocation. The annual budget of the 21 target communes varies from 45 to 200 millions FCFA, but the share dedicated to environment rarely exceeds 1%. From this share, no funding is dedicated to CCA.	At least 5 communes have implemented an innovative financial mechanism (PPP, RSE, Eco tax, etc.) that allows them to generate additional financial resources dedicated to CCA.	Each of the 21 communes has implemented an innovative financial mechanism (PPP, RSE, Eco tax, etc.) that allows them to generate additional financial resources dedicated to climate change adaptation and that is at least equivalent to 5% of the annual budget	- Frequency: yearly  - Resp.: PMU.
	<b>Indicator 5:</b> Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.	Among the 9 savings and credit mutual (MEC) implemented by the PGIES in the 4 zones of the project, only the Saloum Delta mutual is still working	The deed analysis of the MEC network has been carried out and showed clear actions plan for the future.  The technical assistance has carried out at least	The Saloum Delta mutual has been reinforced, covers all project zones and reaches a volume of granted loans at least equivalent to 300 million FCFA. Partnerships have	

		and has a volume of loans granted equivalent to 24 million FCFA for 2015. The URMECS is present in the Koar zone but doesn't collaborate with the MEC. Other mutual wish to open in the project zones.	10 trainings and the Saloum Delta mutual is now professional: computability is updated and conformed to official exigencies, governance procedure has been reviewed.	been established with at least one (1) additional mutual that grants 300 million FCFA in each zone.	
	<b>Indicator 6:</b> Number of non-governmental financings obtained thanks to communes and local associations capacity enforcement (additional funding obtained and managed)	Among the 21 target communes, only Sokone commune has the capacity to identify and obtain non-governmental funding for CCA, but it still needs to enhance its capacities for financing management. The other communes don't have this capacity. Gandon and Gandioul communes adopted a GIC approach together with Saint-Louis commune to deal with environment issues. Additional communes wish to create GIC in order to join their forces for environmental and CC issues.	At least 8 project proposals have been written and submitted by communes and/or CSO.  At least 2 GIC are under creation.	Each commune, CIC or local associations partner of the city council concerned by the project has obtained a non-governmental funding for CCA. At least four (4) GIC have been created in order to join forces for CCA. Number of perennial jobs created to obtain and manage those additional funds.	
<b>Component/ Outcome 2</b>  Vulnerable households adopt investments, diversified and resilient subsistence practices (aimed at women groups) as key strategies for climate risks management.	<b>Indicator 7:</b> Investments and resilient practices (sustainable water management, sustainable agro-sylvo-pastoral production, early-warning system, CNR/PU restoration, resilient agro-forestry value chains, etc.) shaped to increase agricultural income under current and future climate change (AMAT 1.2.1.5.)	Notably with PUDC, the villages of the four (4) project sites are being equipped with drilling device. However, irrigated perimeters have not been created yet, they could help generate more income.	Hydraulic systems: - At least 10 ha of irrigations perimeters are realized from water drilling - At least 20 ha of lowlands development - At least 20 ha of lands restoration - At least 2 ponds creation	Hydraulic systems: - At least 25 ha of irrigations perimeters are realized from water drilling - At least 50 ha of lowlands development - At least 50 ha of lands restoration - At least 3 ponds creation  Agro-sylvo-pastoral systems:	<u>Hypothesis</u> - Existence of national expertise to support the households in their adaptation efforts - Efficient partnership with ANACIM - Participation and involvement of target communities - Private sector is actively involved in the project.

		<p>Some projects have distributed adapted genetic material for agriculture, based upon ISRA research. But access to genetic material is limited for women groups and farmers living in the 15 project target communes.</p> <p>In addition, the crops (gum trees, cashew trees, mangrove trees) planted over the PGIES past 10 years are gradually maturing and constitute a good solution for income sources diversification. However, the income raised is really low in comparison with the Amount of work necessary to produce, because producers are not trained on basic techniques (e.g. gum tree groove) and transformation.</p>	<p>Agro-sylvo-pastoral systems:</p> <ul style="list-style-type: none"> <li>- At least 2000 households, among which 50% of women, benefit from resistant seeds producing higher yields</li> <li>- At least 300 km of firewalls are created and the hay harvested provides additional income</li> <li>- At least 20% sales revenue increase for gum, cashew and fish products value chains thanks to the implementation of alternative and profitable means of subsistence implying agro-forestry systems and the installation of processing units.</li> </ul>	<ul style="list-style-type: none"> <li>- At least 5000 households, among which 50% of women, benefit from resistant seeds producing higher yields</li> <li>- At least 800 km of firewalls are created and the hay harvested provides additional income</li> <li>- At least 50% sales revenue increase for gum, cashew and fish products value chains thanks to the implementation of alternative and profitable means of subsistence implying agro-forestry systems and the installation of processing units.</li> </ul>	<p><u>Risks</u></p> <ul style="list-style-type: none"> <li>- Lack of participation of the target group due to poor understanding of climate change issues</li> <li>- Market fluctuations resulting from low sales</li> <li>- High cost of the energy used for the functioning of the processing units</li> <li>- Inappropriate organisation of farmers and women groups.</li> </ul> <p><u>Means of verification</u> Activities monitoring &amp; evaluation. Reports and interviews.</p> <p>-Frequency: yearly</p> <p>-Resp.: PMU.</p>
	<p><b>Indicator 8:</b> Number of revolving credits granted enabling the rural micro-enterprises financing as well as climate change resilient and profitable value chains financing.</p>	<p>Under PGIES, profitable activities have emerged at local level. Although they have a strong multiplication potential, these activities remain small-scale.</p>	<p>At least 20 GIE/Entrepreneurs are trained with the cluster approach.</p>	<p>At least 20 revolving funds have been set up for profitable value chains. At least 40 micro-enterprises have been created and/or developed their activities by 50%.</p>	
	<p><b>Indicator 9:</b> % of the target population understanding the negative impacts of climate change</p>	<p>Less than 10%. Because of the on-going projects in the four (4) project zones, some members of the</p>	<p>At least 3 meteo stations are functional. At least 25% of the target populations and</p>	<p>At least 75% of the target populations and farmers become aware of potential negative impacts of climate change and implement</p>	

	and the appropriate solutions (indicator AMAT 2.3.1.)	staff for agricultural extension services, rural associations and farmers benefiting from CC training, but with no mention of adaptation. No easy-to-read manual is available. Less than 10% of the farmers and city representatives get access to weather information. One of the great challenges for communities, particularly for women and smallholders, is the lack of access to information that would ease planning and risk management.	farmers become aware of potential negative impacts of climate change and implement appropriate adaptation measures.  At least 2000 households get access to information broadcast by the 21 communes to secure production against climate risks.	appropriate adaptation measures.  At least 5000 households get access to information broadcast by the 21 communes to secure production against climate risks.	
	<b>Indicator 10:</b> Effective communication systems (institutional, educational and social communication) and learning mechanisms establishment for community and national/regional levels.	The PGIES is the project on which this intervention is based, it has been running for ten (10) years but there is a lack of communications on its outcomes (evaluation report, 2011). In addition, communes and farmers don't have access to good practices manuals for CCA.	<ul style="list-style-type: none"> <li>- A website is functional.</li> <li>- At least 5 exchange meetings between mayors.</li> <li>- 500 villagers (among which 75% of women) participate in exchange meetings for good practices.</li> <li>- Writing of two (2) articles (about exposure, adaptation-undp.) to be published on the website</li> </ul>	<ul style="list-style-type: none"> <li>- A movie is made (French and Wolof/ local language) on better practices for CCA and is distributed among the 21 communes and among at least 150 villages (evening screenings).</li> <li>- A CCA manual is written and distributed to 5000 households.</li> <li>- At least 15 exchange meetings between mayors. <ul style="list-style-type: none"> <li>- 500 villagers (among which 75% of women) participate in exchange meetings for good practices.</li> </ul> </li> <li>- Project website shared the project outcomes.</li> <li>- Writing of five (5) articles (exposure, adaptation-undp.) to be published on the website</li> </ul>	

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## VII. MONITORING AND EVALUATION (M&E) PLAN

114. The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

115. Project-level monitoring and evaluation will be undertaken in compliance with standard UNDP requirements as outlined in the [UNDP POPP and UNDP Evaluation Policy](#). Though these UNDP requirements are not detailed in this section of the project document, the UNDP Country Office will ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. The additional and mandatory GEF-specific M&E requirements as outlined in this section will be undertaken in accordance with the [GEF M&E policy](#) and GEF guidance materials. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management, and the exact role of project target groups and other stakeholders in project M&E activities, will be finalised during the Inception Workshop and will be detailed in the Inception Report.

### **Oversight and monitoring responsibilities:**

116. The primary responsibility for daily project implementation and regular monitoring rests with the Project Coordinator. The Project Coordinator will develop annual work plans based on the multi-year work plan included in Annex A, including annual targets at the output level to ensure the efficient implementation of the project. The Project Coordinator will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for reporting (i.e. GEF PIR), and reporting to the Project Steering Committee (PSC) at least twice a year on project progress. The Project Coordinator will inform the PSC and the UNDP Country Office of any delays or difficulties as they arise during implementation, including the implementation of the M&E plan, so that the appropriate support and corrective measures can be adopted. The Project Coordinator will also ensure that all project staff maintain a high level of transparency, responsibility and accountability in monitoring and reporting project results.

117. Project Steering Committee (PSC): The PSC will take corrective action as needed to ensure the project achieves the desired results. The PSC will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the PSC will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

118. Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes,



and is aligned with national systems so that the data used by and generated by the project supports national systems.

119. The UNDP Country Office will support the Project Coordinator as needed, including through annual supervision missions. The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; and, updating the UNDP gender marker on an annual basis based on progress reported in the GEF PIR and UNDP ROAR reporting. Any quality concerns flagged by the process must be addressed by project management. Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Unit as needed. The project target groups and stakeholders including the GEF Operational Focal Point will be involved as much as possible in project-level M&E.

120. **Audit Clause:** The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies.

#### **Additional GEF monitoring and reporting requirements:**

121. Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

- a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
- b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
- d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
- e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;
- f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
- g) Plan and schedule PSC meetings and finalize the first year annual work plan.

The Project Coordinator will prepare the inception report no later than two weeks after the inception workshop. The final inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the PSC.

122. GEF Project Implementation Report (PIR): The Project Coordinator, the UNDP Country Office, and the UNDP-GEF Regional Technical Adviser will provide objective input to the annual

GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Coordinator will ensure that the indicators included in the project results framework are monitored annually well in advance of the PIR submission deadline and are reported on accordingly in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR that is submitted to the GEF each year must also be submitted in English and shared with the PSC. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR. The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the PSC during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

123. Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

124. GEF Focal Area Tracking Tools: In line with its objective and the corresponding GEF Focal Areas/ Programs, this project will prepare the following GEF Tracking Tool(s): 1, 2, 5, 7, 10, 13, *as agreed with the UNDP-GEF RTA*. The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted in Appendix D – will be updated by the Project Coordinator /Team and shared with *the mid-term review consultants* and terminal evaluation consultants before the required *review/evaluation* missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed *Mid-term Review report* and Terminal Evaluation report.

125. Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3<sup>rd</sup> PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the mid-term evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the PSC.

126. **Terminal Evaluation (TE):** An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Coordinator will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the [UNDP Evaluation Resource Center](#). As noted in this guidance, the evaluation will be ‘independent, impartial and rigorous’. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the PSC. The TE report will be publically available in English on the UNDP ERC. The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

127. **Final Report:** The project’s terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the PSC during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

### **Mandatory GEF M&E Requirements and M&E Budget:**

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>43</sup> (US\$)		Time frame
		GEF grant	Co-financing	
<b>Inception Workshop</b>	UNDP Country Office	USD 11,000		Within two months of project document signature
<b>Inception Report</b>	Project Manager	None	None	Within two weeks of inception workshop
<b>Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP</b>	UNDP Country Office	None	None	Quarterly, annually

<sup>43</sup> Excluding project team staff time and UNDP staff time and travel expenses.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget <sup>43</sup> (US\$)		Time frame
		GEF grant	Co-financing	
Monitoring of indicators in project results framework	Project Manager	Per year: USD 4,000	UNDP	Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	Per year: USD 3,000	UNDP	Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager	Include in output 2.4	UNDP	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	None	UNDP	On-going
PSC/ Project Board meetings	Project Board UNDP Country Office Project Manager	None	Government of Senegal	At minimum annually
Mid-term GEF Tracking Tool to be updated by project M&E specialist	Project Manager	USD 10,000	UNDP	Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 30,000	UNDP	Between 2 <sup>nd</sup> and 3 <sup>rd</sup> PIR.
Terminal GEF Tracking Tool to be updated by project M&E specialist	Project Manager	USD 10,000	UNDP	Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 40,000	UNDP	At least three months before operational closure
Translation of MTR and TE reports into English	UNDP Country Office	USD 5,000	UNDP	As required. GEF will only accept reports in English.
<b>TOTAL indicative COST</b> Excluding project team staff time, and UNDP staff and travel expenses		USD 134,000		

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## VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

128. Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Senegal, and the Country Programme. The project will be implemented over a period of four years (48 months).

129. The **Implementing Partner** for this project is the Ministry of Environment and Sustainable development (MEDD). The Ministry of Environment will be responsible for the planning, coordination and implementation of the LDCF-financed project. As the Implementing Partner, it will also be responsible for reporting to the UNDP Country Office in Senegal. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The Ministry of Environment will establish a Project Management Unit in Dakar which will comprise a Project Coordinator, Project Finance and Administration Officer, Monitoring and Evaluation Officer. Four Technical Assistants will be based in the sites of the project.

130. The Implementing Partner will take overall responsibility for the project implementation, and the timely and verifiable attainment of project objectives and outcomes. It will provide support to, and inputs for, the implementation of all project activities. The highest authority of the Implementing Partner will serve as the National Project Director (NPD) for the project implementation. The NPD will chair the Project Steering Committee (PSC), and be responsible for providing government oversight and guidance to the project implementation. The NPD will not be paid from the project funds, but will represent a government in kind contribution to the Project.

131. The **Project Steering Committee (PSC)** is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, PSC decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the PSC, final decision shall rest with the UNDP Programme Manager. The terms of reference for the PSC are contained in Annex E. The PSC is comprised of the following individuals:

132. Composition and organisation: The PSC contains three roles, including:

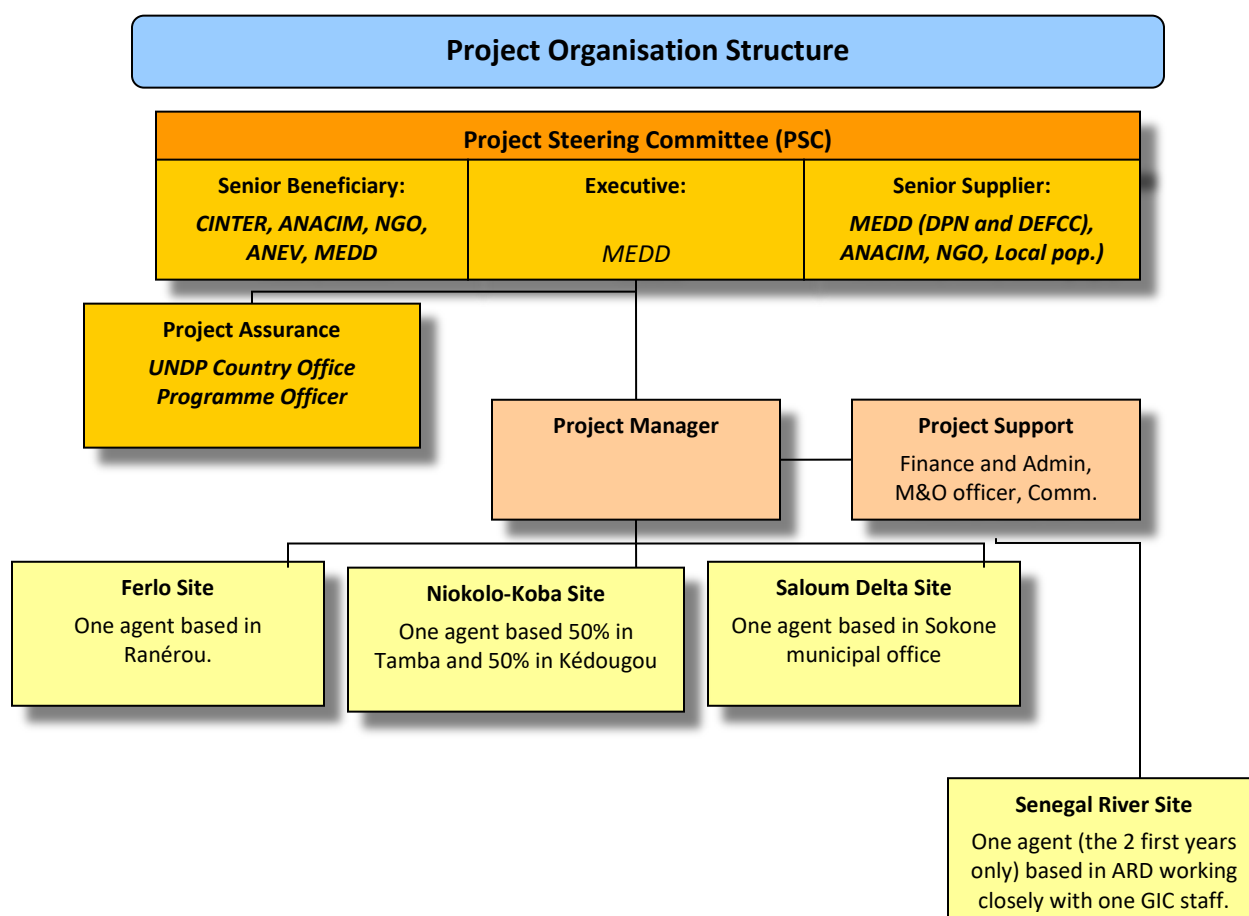
- An **Executive**: individual representing the project ownership to chair the group. The Executive is the MEDD who will report to the PSC twice a year on the progress of the project and the emerging results.
- **Senior Supplier**: individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project. The Senior Supplier's primary function within the PSC is to provide guidance regarding the technical feasibility of the project. The Senior Suppliers include representatives from Ministry of Environment

(DPN and DEFCC), ANACIM, and NGOs, CSOs, municipal and village authorities, and local communities.

- **Senior Beneficiary:** individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the PSC is to ensure the realization of project results from the perspective of project beneficiaries. The Senior Beneficiary group includes representatives of communes, the CINTER and local population, MEDD/ANEV, ANACIM, municipal and village authorities, NGOs, and CSOs.

133. Based on the approved Annual Work Plan (AWP), the PSC may review and approve project quarterly plans when required and authorises any major deviation from these agreed quarterly plans. It is the authority that signs off the completion of each quarterly plan as well as authorizes the start of the next quarterly plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems between the project and external bodies. In addition, it approves the appointment and responsibilities of the Project Coordinator and any delegation of its Project Assurance responsibilities.

134. The project organisation structure is as follows:



*Figure 7: Organogram of management arrangements for the LDCF-financed project.*

135. Potential members of the PSC are reviewed and recommended for approval during the meeting. For example, the Executive role can be held by a representative from the Government Cooperating Agency or UNDP, the Senior Supplier role is held by a representative of the MEDD and/or UNDP, and the Senior Beneficiary role is held by a representative of the government or civil society. Representative of other stakeholders can be included in the PSC as appropriate.

136. The specific responsibilities of the PSC are as follows:

<b>Table 5: Responsibilities of the PSC</b>
<i>Defining a project</i>
<ul style="list-style-type: none"> <li>• Review and approve the Initiation Plan (if such plan was required and submitted to the PAC).</li> </ul>
<i>Initiating a project</i>
<ul style="list-style-type: none"> <li>• Agree on Project Coordinator's responsibilities, as well as the responsibilities of the other members of the Project Coordinating Unit (PCU).</li> <li>• Delegate any Project Assurance function as appropriate.</li> <li>• Review the Progress Report for the Initiation Stage (if an Initiation Plan was required).</li> <li>• Review and appraise detailed Project Plan and AWP, including Atlas reports covering activity definition, quality criteria, issue log, updated risk log and the monitoring and communication plan.</li> </ul>
<i>Running a project</i>
<ul style="list-style-type: none"> <li>• Provide overall guidance and direction to the project, ensuring it remains within any specified constraints.</li> <li>• Address project issues as raised by the Project Coordinator.</li> <li>• Provide guidance and agree on possible countermeasures/management actions to address specific risks.</li> <li>• Agree on Project Coordinator's tolerances in the AWP and quarterly plans when required.</li> <li>• Conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans.</li> <li>• Review Combined Delivery Reports prior to certification by the Implementing Partner.</li> <li>• Appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the Outcome Board about the results of the review.</li> <li>• Review and approve end project report, make recommendations for follow-on actions.</li> <li>• Provide <i>ad-hoc</i> direction and advice for exception situations when project Coordinator's tolerances are exceeded.</li> <li>• Assess and decide on project changes through revisions.</li> </ul>
<i>Closing a project</i>
<ul style="list-style-type: none"> <li>• Assure that all Project deliverables have been produced satisfactorily.</li> <li>• Review and approve the Final Project Review Report, including lessons-learned.</li> <li>• Make recommendations for follow-on actions to be submitted to the Outcome Board.</li> <li>• Commission project evaluation (only when required by partnership agreement)</li> <li>• Notify operational completion of the project to the Outcome Board.</li> </ul>

137. The Executive – MEDD – is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of beneficiary and supplier. The specific responsibilities (as part of the above responsibilities for the PSC) are:

- Ensure that there is a coherent project organisation structure and logical set of plans
- Set tolerances in the AWP and other plans as required for the Project Coordinator.

- Monitor and control the progress of the project at a strategic level.
- Ensure that risks are being tracked and mitigated as effectively as possible.
- Brief Outcome Board/PSC and relevant stakeholders about project progress.
- Organise and chair PSC meetings.

138. The Executive is responsible for overall assurance of the project as described under the section entitled “Project assurance”. If the project warrants it, the Executive may delegate some responsibility for the project assurance functions.

### **The Senior Beneficiary**

139. **The Senior Beneficiary** is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The role represents the interests of all those who will benefit from the project, or those for whom the deliverables resulting from activities will achieve specific output targets. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness the role should not be split between too many people. The specific responsibilities of the Senior Beneficiary are (as part of the above responsibilities for the PSC):

- Ensure the expected output(s) and related activities of the project are well defined.
- Make sure that progress towards the outputs required by the beneficiaries remains consistent from the beneficiary perspective.
- Promote and maintain focus on the expected project output(s).
- Prioritise and contribute beneficiaries’ opinions on NSC decisions on whether to implement recommendations on proposed changes.
- Resolve priority conflicts.

140. The assurance responsibilities of the Senior Beneficiary are to check that:

- Specification of the Beneficiary’s needs is accurate, complete and unambiguous.
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary’s needs and are progressing towards that target.
- Impact of potential changes is evaluated from the beneficiary point of view.
- Risks to the beneficiaries are frequently monitored.

141. Where the project’s size, complexity or importance warrants it, the Senior Beneficiary may delegate the responsibility and authority for some of the assurance responsibilities (see the section entitled “Project assurance”).

### **The Senior Supplier**

142. **The Senior Supplier** represents the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier’s primary function within the PSC is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The specific responsibilities of the Senior Supplier are (as part of the above responsibilities for the PSC):



- Make sure that progress towards the outputs remains consistent from the supplier perspective.
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management.
- Ensure that the supplier resources required for the project are made available.
- Contribute supplier opinions on NSC decisions on whether to implement recommendations on proposed changes.
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

143. The Senior Supplier assurance role responsibilities are to:

- Advise on the selection of strategy, design and methods to carry out project activities.
- Ensure that any standards defined for the project are met and used to good effect.
- Monitor potential changes and their impact on the quality of deliverables from a supplier perspective.
- Monitor any risks in the implementation aspects of the project.

144. If warranted, some of this assurance responsibility may be delegated (see the section entitled “Project assurance”).

### **Project Coordinator:**

145. **Overall responsibilities:** The Project Coordinator has the authority to run the project on a daily basis on behalf of the PSC within the constraints laid down by the committee. The Project Coordinator is responsible for daily management and decision-making for the project. The Project Coordinator’s prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

146. The Implementing Partner, the MEDD, appoints the Project Manager, who should be different from the Implementing Partner’s representative in the Outcome Board. Prior to the approval of the project, the Project Developer role is the UNDP staff member responsible for project management functions during formulation until the Project Coordinator from the Implementing Partner is in place. The **specific responsibilities** would include:

<b>Table 6: Responsibilities of the Project Coordinator</b>
<i>Overall project management:</i>
<ul style="list-style-type: none"> <li>• Manage the realization of project outputs through activities.</li> <li>• Provide direction and guidance to project team(s)/ responsible party/ies.</li> <li>• Liaise with the PSC or its appointed Project Assurance roles to assure the overall direction and integrity of the project.</li> <li>• Identify and obtain any support and advice required for the management, planning and control of the project.</li> <li>• Responsible for project administration.</li> <li>• Liaise with any suppliers.</li> <li>• May also perform Team Manager and Project Support roles.</li> </ul>
<i>Running a project</i>
<ul style="list-style-type: none"> <li>• Plan the activities of the project and monitor progress against the initial quality criteria.</li> </ul>

- Mobilize goods and services to initiative activities, including drafting TORs and work specifications.
- Monitor events as determined in the Monitoring & Communication Plan, and update the plan as required.
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures).
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports.
- Manage and monitor the project risks as initially identified in the Project Brief appraised by the PAC, submit new risks to the NSC for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log.
- Be responsible for managing issues and requests for change by maintaining an Issues Log.
- Prepare the Project Quarterly Progress Report (progress against planned activities and indicators, update on Risks and Issues, expenditures) and submit the report to the NSC and Project Assurance.
- Prepare the Annual review Report, and submit the report to the NSC and the Outcome Board.
- Based on the review, prepare the AWP for the following year, as well as Quarterly Plans if required.

#### *Closing a Project*

- Prepare Final Project Review Reports to be submitted to the NSC and the Outcome Board.
- Identify follow-on actions and submit them for consideration to the NSC.
- Manage the transfer of project deliverables, documents, files, equipment and materials to national beneficiaries.
- Prepare final CDR/FACE for signature by UNDP and the Implementing Partner.

147. The Project Coordinator's function will end when the final project TE report, and other documentation required by the GEF and UNDP, have been completed and submitted to UNDP (including operational closure of the project).

### **Project Assurance**

148. Overall responsibility: Project Assurance is the responsibility of each PSC member, however the role can be delegated. The Project Assurance role supports the PSC by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed.

149. Project Assurance has to be independent of the Project Coordinator; therefore the PSC cannot delegate any of its assurance responsibilities to the Project Coordinator. A UNDP Programme Officer typically holds the Project Assurance role.

150. The implementation of the assurance responsibilities needs to answer the question "What is to be assured?". The following list includes the key suggested aspects that need to be checked by the Project Assurance throughout the project as part of ensuring that it remains relevant, follows the approved plans and continues to meet the planned targets with quality.

- Maintenance of thorough liaison throughout the project between the members of the PSC.
- Beneficiary needs and expectations are being met or managed.
- Risks are being controlled.
- Adherence to the Project Justification (Business Case).
- Projects fit with the overall Country Programme.
- The right people are being involved.
- An acceptable solution is being developed.
- The project remains viable.

- The scope of the project is not “creeping upwards” unnoticed.
- Internal and external communications are working.
- Applicable UNDP rules and regulations are being observed.
- Any legislative constraints are being observed.
- Adherence to RMG monitoring and reporting requirements and standards.
- Quality management procedures are properly followed.
- PSC’s decisions are followed and revisions are managed in line with the required procedures.

151. The **specific responsibilities** would include:

<b>Table 7: Responsibilities of the Project Assurance</b>
<i>Initiating a project</i>
<ul style="list-style-type: none"> <li>• Ensure that project outputs definitions and activity definition including description and quality criteria have been properly recorded in the Atlas Project Management module to facilitate monitoring and reporting.</li> <li>• Ensure that people concerned are fully informed about the project.</li> <li>• Ensure that all preparatory activities, including training for project staff, logistic supports are timely carried out.</li> </ul>
<i>Running a project</i>
<ul style="list-style-type: none"> <li>• Ensure that funds are made available to the project.</li> <li>• Ensure that risks and issues are properly managed, and that the logs in Atlas are regularly updated.</li> <li>• Ensure that critical project information is monitored and updated in Atlas, using the Activity Quality log in particular.</li> <li>• Ensure that Project Quarterly Progress Reports are prepared and submitted on time, and according to standards in terms of format and content quality.</li> <li>• Ensure that CDRs and FACE are prepared and submitted to the NSC and Outcome Board.</li> <li>• Perform oversight activities, such as periodic monitoring visits and “spot checks”.</li> <li>• Ensure that the Project Data Quality Dashboard remains “green”.</li> </ul>
<i>Closing a Project</i>
<ul style="list-style-type: none"> <li>• Ensure that the project is operationally closed in Atlas.</li> <li>• Ensure that all financial transactions are in Atlas based on final accounting of expenditures.</li> <li>• Ensure that project accounts are closed and status set in Atlas accordingly.</li> </ul>

## **Project support**

152. Overall responsibilities: The Project Support role provides project administration, management and technical support to the Project Coordinator as required by the needs of the individual project or Project Coordinator. The provision of any Project Support on a formal basis is optional. It is necessary to keep Project Support and Project Assurance roles separate in order to maintain the independence of Project Assurance.

153. Specific responsibilities: Some specific tasks of the Project Support would include:

### *Provision of administrative services:*

- Set up and maintain project files.
- Collect project related information data.
- Update plans.

- Administer the quality review process.
- Administer NSC meetings.

*Project documentation management:*

- Administer project revision control.
- Establish document control procedures.
- Compile, copy and distribute all project reports.

*Financial Management, Monitoring and reporting:*

- Assist in the financial management tasks under the responsibility of the Project Manager.
- Provide support in the use of Atlas for monitoring and reporting.

*Provision of technical support services:*

- Provide technical advices.
- Review technical reports.
- Monitor technical activities carried out by responsible parties.

154. Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information: In order to accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy and the GEF policy on public involvement.

155. Project management: the PMU will be located in the office of MEDD. As regards the local agent, they will be based:

- Saloum Delta site: the project staff will be based in the Sokone town hall, as the mayor committed to offer an office as co-financing.
- River Senegal delta site: the project staff will be based in the ARD, as the director of ARD of Saint Louis committed to partner and to offer an office as co-financing.
- Ferlo site: the project staff will be based in the Nature Center in Ranerou, as the Ministry of Environment committed to offer an office as co-financing.
- Niokolo-Koba: the project staff will be based in Tambacounda and Kédougou, seeking for synergies with the ANEV/MEDD staff already operating in the area.

## IX. FINANCIAL PLANNING AND MANAGEMENT

156. The total cost of the project is *USD 39,301,169*. This is financed through a *LDCF* grant of *USD 5,460,000*, *USD 500,000* in cash co-financing to be administered by UNDP and *USD 33,341,169* in parallel co-financing. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

157. Parallel co-financing: The actual realization of project co-financing will be monitored during the *mid-term review* and terminal evaluation process and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Co-financing source	Co-financing type	Co-financing amount	Planned Activities/Outputs	Risks	Risk Mitigation Measures
Government	In kind	10,400,000	Salaries of staff, Office space, infrastructure development etc...)	Low	Commitment of the MEDD
UNDP	In kind	6,000,000	Promote local initiatives developed by women and young for the development of their land and the creation of jobs	Low	Maintain dialogue with the PUDC management team
ANACIM	In kind	2,500,000	Construction / rehabilitation and maintenance of meteorological stations; Trainings of farmers and communal staff; diffusion of climatic information.	Low	Partnerships established between UNDP and ANACIM
PADAER	In kind	2,741,894	Rehabilitation of 18 PUs; Creation of 10 PUs; Creation of 20 km of firebreaks; Capacities building of villagers.	Low	Partnerships established between MEDD and PADAER.
PASA Loumakaf	In kind	10,879,741	Ponds, water access, equipments, breakfires, capacities building, adaptation of animals breeding.	Low	Partnerships established between MEDD and PASA Loumakaf.
Communes concerned by the Project	In kind	819,534	Staff, offices, infrastructures and lands.	Low	All the communes are strongly engaged to the Project.

158. Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the PSC/ Project Board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF and major amendments are subject to re-submission to the GEF: a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more; b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.

159. Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

160. Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

161. Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review PSC meeting. The Implementing Partner through a PSC decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

162. Financial completion: The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

163. The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

## X. TOTAL BUDGET AND WORK PLAN

Table 8: Total budget and work plan

<b>Atlas Award ID:</b>	00103749	<b>Business Unit:</b>	SEN10
<b>Project ID:</b>	00105641	<b>Project Title:</b>	Promoting innovative finance and community based adaptation in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Senegal River Bas Delta & Saloum Delta)
<b>UNDP-GEF PIMS No:</b>	PIMS 5401	<b>Implementing Partner</b>	Ministry of Environment and Sustainable Development - MEDD

GEF Outcome/Atlas Activity	Resp. Party/ Impl Agent	Fund ID	Donor Name	ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Year 1	Year 2	Year 3	Year 4	Budg Notes
1. Innovative local financing for climate adaptation activities	MEDD	62160	LDCF	71400	Contractual Services - Individ	209,980	80,120	60,620	41,120	28,120	a
	MEDD	62160	LDCF	71200	International Consultants	165,000	95,000	60,000	10,000		b
	MEDD	62160	LDCF	71300	Local Consultants	223,000	110,000	90,000	23,000		c
	MEDD	62160	LDCF	71600	Travel	48,020	21,000	19,500	6,520	1,000	d
	MEDD	62160	LDCF	72100	Contractual Services - Companies	280,000	150,000	70,000	55,000	5,000	e
	MEDD	62160	LDCF	72200	Equipment and Furniture	34,000	22,000	12,000			f
	MEDD	62160	LDCF	75700	Training, Workshops and Conf.	40,000	15,500	14,000	10,500		g
GEF Subtotal Atlas Outcome 1						1,000,000	493,620	326,120	146,140	34,120	
TOTAL OUTCOME 1						1,000,000	493,620	326,120	146,140	34,120	
2. Investments and adoption of diversified resilient practices by vulnerable communities	MEDD	62160	LDCF	71400	Contractual Services - Individ	420,000	110,000	110,000	110,000	90,000	h
	MEDD	62160	LDCF	71200	International Consultants	150,000	110,000	40,000			i
	MEDD	62160	LDCF	71300	Local Consultants	270,000	115,000	65,000	55,000	35,000	j
	MEDD	62160	LDCF	71600	Travel	88,000	25,000	24,000	23,000	16,000	k
	MEDD	62160	LDCF	72100	Contractual Services-Companies	330,000	140,000	110,000	40,000	40,000	l
	MEDD	62160	LDCF	72200	Equipment and Furniture	2,753,000	567,000	1,012,000	857,000	317,000	m
	MEDD	62160	LDCF	75700	Training, Workshops and Conf.	189,000	43,000	47,000	53,000	46,000	n
	GEF Subtotal Atlas Outcome 2					4,200,000	1,110,000	1,408,000	1,138,000	544,000	
	MEDD	04000	UNDP TRAC - 00012	71200	International Consultants	40,000		20,000		20,000	o
	MEDD	04000	UNDP TRAC	71300	Local Consultants	10,000		5,000		5,000	p
	MEDD	04000	UNDP TRAC	71400	Contractual Services - Individ	90,000	22,500	22,500	22,500	22,500	q
	MEDD	04000	UNDP TRAC	71600	Travel	20,000	5,000	5,000	5,000	5,000	r
	MEDD	04000	UNDP TRAC	72100	Contractual Services-Companies	40,000	20,000	20,000			s
	MEDD	04000	UNDP TRAC	72200	Equipment and Furniture	20,000	20,000				t

GEF Outcome/Atlas Activity	Resp. Party/ Impl Agent	Fund ID	Donor Name	ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Year 1	Year 2	Year 3	Year 4	Budg Notes
	MEDD	04000	UNDP TRAC	74500	Miscellaneous Expenses	20,000	5,000	5,000	5,000	5,000	u
	TRAC Subtotal Atlas Outcome 2					240,000	72,500	77,500	32,500	57,500	
TOTAL OUTCOME 2						4,440,000	1,182,500	1,485,500	1,170,500	601,500	
Project Management	MEDD	62160	LDCF	71400	Contractual Services - Individ	209,000	52,250	52,250	52,250	52,250	v
	MEDD	62160	LDCF	74100	Professional Services (Audit)	16,000	4,000	4,000	4,000	4,000	w
	MEDD	62160	LDCF	74596	Direct Project Cost	35,000	8,750	8,750	8,750	8,750	x
	GEF Subtotal Atlas Project Management					260,000	65,000	65,000	65,000	65,000	
	MEDD	04000	UNDP TRAC	71400	Contractual Services - Individ	260,000	65,000	65,000	65,000	65,000	y
	TRAC Subtotal Atlas Project Management					260,000	65,000	65,000	65,000	65,000	
TOTAL Project Management						520,000	130,000	130,000	130,000	130,000	
TOTAL GEF						5,460,000	1,668,620	1,799,120	1,349,140	643,120	
TOTAL UNDP TRAC						500,000	137,500	142,500	97,500	122,500	
GRAND TOTAL						5,960,000	1,806,120	1,941,620	1,446,640	765,620	

Budget Notes	
a	5 Fundraisers to attract climate finance at the local level (GIC Sokone, GIC Gandon-Gandiole, Ranérou, Tambacounda and Kédougou) co-financed by the communes. The GEF will cover 100% year 1, 70% year 2, 40% year 3, and 20% year 4. 21 volunteers (one in each commune) co-financed by the GEF (compensate at 100 USD per month)
b	Short-term International Consultants on retainer basis throughout the duration of the project: support the design of the Decentralized Climate Funds; and support the design of the innovative financial mechanisms (PPP, benefit-sharing mechanism, offsets and CSR)
c	Short-term National Consultants on retainer basis throughout the duration of the project: design a clear climate adaptation actions plans and a convincing budget; support the design and implementation of the DCF; support the design and implementation of the innovative financial mechanisms (PPP, benefit-sharing mechanism, offsets and CSR).
d	International missions and site visits by central level team: 10 flights at 2000 \$ / flight = 20,000 \$ Perdiem Dakar (247\$ x 40 days) + perdiem project sites (114 \$ x 90 days) + petrol for visits (7,860\$).
e	Technical assistance for capacities building of Credit and Saving Mutuals, and training of women to access to credits (output 1.3) and training of the communal staff.
f	Equipment for the Mutual of the Saloum Delta. IT equipment for communes (GIC) and local associations: Acquisition of Laptops, software licenses and printer and other peripherals for building the capacity of local CBOs
g	Project workshops and meeting costs:



Budget Notes	
	Workshops at the local level for trainings (80 days at 500\$ per days), including printing of training material.
<i>h</i>	Part-time climate resilient value chains specialist; Part-time climate information disseminator/ vulgarisateur (co-financed by ANACIM); a communication specialist (PMU staff); 2 local agents of the Project team.
<i>i</i>	Short-term International Consultants on retainer basis: climate resilient value chains development / enhancement; and Resilient small-business development through revolving fund.
<i>j</i>	Short-term National Consultants on retainer basis throughout the duration of the project: a forestry specialist (restoration of CNR/PU), a climate resilient seeds specialist and cereal banks specialist; a trainer for climate information.
<i>k</i>	Travel to project sites for monitoring of the activities, including travels for trainings and travels for equipment installation (e.g. for meteo station installation, 3 missions are needed: prospection, installation, monitoring).
<i>l</i>	Technical studies before investments and quality control of the investment (forestry, water installation, etc.) Moviemaker for good practices dissemination.
<i>m</i>	Investments in climate resilient forestry, water adduction, agriculture and value chains (output 2.1) and Machinery for processing value chains: 50 ha of lands restored, 3 ponds rehabilitated, 900 ha of anti-erosion action (trees plantation), 25 ha of water adduction for IGA, 60 ha of coastal protection and fight against salinization, 570,000 ha of better managed CNR/PU, 800 km of fire-breaks opened and maintained, 6 resilient value chains developed (small machinery invested).
<i>n</i>	Trainings for capacities building and resilient practices adoption.
<i>o</i>	Short-term International Consultants: Evaluator (Mid-term + Final).
<i>p</i>	Short-term National Consultants: Evaluator (Mid-term + Final).
<i>q</i>	Two local agents of the project Team (the agent of the Senegal river site will be cover the 2 first years only, as the Gandon and Gandiole communes are better capacited than the other and the ARD works closely to them).
<i>r</i>	Travels for the local agents team. Travel in connection with the Project Inception and Launching Workshops: At the national level and four at the level of sites.
<i>s</i>	Acquisition of (1) <a href="#">Communication</a> equipment; (2) All terrain vehicles; IT Laptops for PMU and sites, software licenses and printer and other peripherals
<i>t</i>	Acquisition of additional / substitution: (1) All terrain vehicles; and (2) small motorboats for coastal sites– according to needs.
<i>u</i>	Insurance, bank charges (including admin fees) and other sundries for the project coordinating unit.
<i>v</i>	National PMU staff: National Project Coordinator National PMU staff: Driver
<i>w</i>	Services for annual financial audit of the Project
<i>x</i>	UNDP support services (payment processing, purchases, recruitments, contracts, etc.)
<i>y</i>	Project Personnel: National PMU staff - Monitoring and Evaluation Officer, Administrative and Finance Officer

Table 9: Summary of financing and co-financing

Project Components (Outcomes)	GEF (\$)	UNDP (\$)	TOTAL funding from the TBW (\$)
1) Innovative local financing for climate adaptation activities	1,000,000	0	1,000,000
2) Investments and adoption of diversified resilient practices by vulnerable communities	4,200,000	240,000	4,440,000
Project Management	260,000	260,000	520,000
<b>Total</b>	<b>5,460,000</b>	<b>500,000</b>	<b>5,960,000</b>

Summary of Funds:

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total
<b>GEF</b>	1,668,620\$	1,799,120\$	1,349,140\$	643,120\$	5,460,000\$
<b>UNDP</b>	137,500\$	142,500\$	97,500\$	122,500\$	500,000\$
<b>TOTAL</b>	1,806,120\$	1,941,620\$	1,446,640\$	765,620\$	5,960,000\$

Note: See Annex F for more details on activities.

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## **XI. LEGAL CONTEXT**

164. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA [or other appropriate governing agreement] and all CPAP provisions apply to this document.

164. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

165. The implementing partner shall:

- Put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; and
- Assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

166. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

167. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

168. Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

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## **XII. MANDATORY ANNEXES**

- A. Multi year Workplan (see template below)
- B. Monitoring Plan (see template below)
- C. Evaluation Plan (see template below)
- D. GEF Tracking Tool (s) at baseline
- E. Terms of References for key project staff
- F. Key assessment report for component 1 “Innovative finance mechanisms” (in French)
- G. Key assessment report for component 2 “Investments and climate resilient practices adopted by local communities” (in French)
- H. Key assessment report of the Gender consultant (in French)
- I. Social and Environmental Screening Template
- J. Co-financing Letters

## ANNEX [A]. MULTI-YEAR WORK PLAN

Task	Responsible Party	Year 1				Year 2				Year 3				Year 4			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1.1. Design a clear adaptation actions plan (+ budget)	PMU (with local consultants)																
1.1.2. Establish a DCF	PMU (with local consultants)																
1.1.3. Map the existing sources of climate funding	PMU																
1.2.1. Develop PPP	PMU (with consultants)																
1.2.2. Develop benefit-sharing mechanisms for revenue from value chains	PMU (with consultants)																
1.2.3. Develop offsets and CSR	PMU (with consultants)																
1.3.1. Carry out a thorough evaluation of the successes and failures of the Mutuels	PMU (with consultants)																
1.3.2. Strengthen the network of Mutual	PMU (with consultants)																
1.3.3. Organize trainings for women groups	PMU																
1.3.4. Develop partnerships with other IMF	PMU																
1.4.1. Training on adaptation options and micro-projects management	PMU																

1.4.2. Support GIC in defining priority interventions for climate adaptation	PMU																
1.4.3. Raise awareness among young people	PMU																
2.1.1. Restoration of PU/CNR	PMU (with PADAER)																
2.1.2. Creation of ponds and water adduction	PMU (with PASA Loumakaf)																
2.1.3. Restoration of 50 ha of lowlands	PMU (with PASA Loumakaf)																
2.1.4. Certified resilient seeds	PMU (with PADAER)																
2.1.5. Enhancement of resilient productive activities	PMU (with PADAER and PASA Loumakaf)																
2.2.1. Create producers clusters	PMU (with PADAER and PASA Loumakaf)																
2.2.2. Design a benefit sharing mechanism	PMU																
2.2.3. Structure revolving funds	PMU																
2.2.4. Monitor experience	PMU																
2.3.1. Invest 3 meteorological stations	PMU and ANACIM																
2.3.2. Dissemination of climate information	PMU																
2.3.3. Capacity building of farmers	PMU																
2.4.1. Capacity building of the PMU	PMU																
2.4.2. Communication tools	PMU																
2.4.3. Study visits	PMU																

2.4.4. Website	PMU																
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## **ANNEX [B]. MONITORING PLAN**



Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
Project Outcome 2: Vulnerable	<i>Indicator 7: Investments and resilient practices (sustainable water management, sustainable</i>	<i>Activities monitoring &amp; evaluation. Reports and interviews.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem.</i>

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
households adopt investments, diversified and	<i>agro-sylvo-pastoral production, early-warning system, CNR/PU restoration, resilient agro-forestry</i>					

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
resilient subsistence practices (aimed at	<i>value chains, etc.) shaped to increase agricultural income</i>					

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
women groups) as key strategies for	<i>under current and future climate change (AMAT 1.2.1.5.)</i>					

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
climate risks management.	<i>Indicator 8: Number of revolving credits granted enabling the rural micro-enterprises financing as</i>	<i>Activities monitoring &amp; evaluation. Reports and interviews.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem.</i>

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>well as climate change resilient and profitable value chains financing.</i>					

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 9: % of the target population understanding the negative impacts of climate</i>	<i>Activities monitoring &amp; evaluation. Reports and interviews.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem.</i>

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>change and the appropriate solutions (indicator AMAT 2.3.1.)</i>					



Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
<i>Mid-term GEF Tracking Tool (if FSP project only)</i>	N/A	Baseline GEF Tracking Tool included in Annex D.	After 2 <sup>nd</sup> PIR	PMU - consultants	Completed GEF Tracking Tool	<i>Idem</i>

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
			submitted to GEF			

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
Terminal GEF Tracking Tool	N/A	Baseline GEF Tracking Tool included in Annex D.	After final PIR	PMU - consultants	Completed GEF Tracking Tool	<i>Idem</i>

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
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	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
			submitted to GEF			

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
<b>Mid-term Review</b>	N/A	To be outlined in MTR inception report	Submitted to GEF	Independent evaluator	Completed MTR	

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
			same year as 3 <sup>rd</sup> PIR			

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
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	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
Environmental and Social risks and	N/A	Updated SESP and management plans	Annually	Project Manager UNDP CO	Updated SESP	

Monitoring	Indicators	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective: To Promote innovative finance and community-based adaptation in the communes surrounding the CNR	<i>Indicator 1: Additional communal budget dedicated to climate change adaptation and additional funding from IMF granted to vulnerable populations.</i>	<i>The data from budget of the communes will be yearly collected by the PMU</i>	Annually	PMU	<i>Budget of the communes.</i>	<i>Cooperation of local collectivities and other Ministries of the Government.</i>
	<i>Indicator 2: Number of target households adopting resilient means of subsistence to face the current and future impacts of climate change (indicator AMAT 1.3.1.1).</i>	<i>The data will be collected by the local staff of the project through periodical reports and Interview reporting.</i>	Bi-Annually	PMU	<i>M&amp;E reports.</i>	<i>Participation of the local population.</i>
Project Outcome 1: Innovative mechanisms fund climate change adaptation actions at local level.	<i>Indicator 3: Number of communes including climate change adaptation in their development plans, communal budgets and PU/CNR land use and management plans.</i>	<i>PDC and communes budget; UP/CNR management plans.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 4: % of additional financial resources dedicated to climate change adaptation and generated by innovative financial mechanisms (PPP, RSE, Eco tax, etc.) available for communes.</i>	<i>Communal budget and Monitoring &amp; Evaluation</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 5: Increase in the volume of loans granted to vulnerable populations by the credit and micro-finance institutions.</i>	<i>Mutual accounting books and IMF, MEC financial reports.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
	<i>Indicator 6: Number of non-governmental financing obtained</i>	<i>Grant application forms and partnership agreements. Creation of CIC document.</i>	Annually	PMU	<i>M&amp;E reports.</i>	<i>Idem</i>
management plans, as relevant.						



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## ANNEX [C]. EVALUATION PLAN

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants	Other budget (i.e. travel, site visits etc...)	Budget for translation
Mid-term Evaluation	<i>2 years after the inception of the project June 2019</i>	<i>To be submitted to GEF before September 2019</i>	Yes	<i>USD 30,000</i>	<i>USD 5,000</i>	<i>USD 5,000</i>
Terminal Evaluation	<i>3 months before operation closure March 2021</i>	<i>To be submitted to GEF within three months of operational closure</i>	Yes <i>Mandatory</i>	<i>USD 40,000</i>	<i>USD 5,000</i>	<i>USD 5,000</i>
Total evaluation budget				USD 90,000		

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## ANNEX [D]. GEF TRACKING TOOL AT BASELINE

See attached excel file.

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## **ANNEX [E]. TERMS OF REFERENCE FOR KEY PROJECT STAFF**

### **National Project Coordinator (Project Manager)**

#### Background

The Project Coordinator will be a regionally recruited and selected based on an open competitive process. The Coordinator will have overall responsibility for the delivery of outputs on time, on scope and on budget. He/she will ensure that all UNDP administrative and financial procedures are adhered to. He/She links the interventions of the technical support team and the specialist to realize concrete action on site, based on the objectives and deliverables of the project. He/She ensures consistency and intervention principles of each sites.

#### Duties and Responsibilities

- Coordinate the production of project outputs, as per the project document;
- Coordinate the work of all project staff, consultants and sub-contractors;
- Coordinate the recruitment and selection of project personnel;
- Ensure the supervision of project personnel, once they are under contract to serve the project, by carrying due performance appraisal and linking this to possible contract renewal;
- Prepare and revise project work and financial plans, as required by MEDD and UNDP;
- Liaise with UNDP, MEDD, relevant government agencies, and all project partners (PADAER, etc.), including donor organizations and NGO partners for effective coordination of all project activities;
- Facilitate training activities supported by the Project;
- Prepare and revise the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, Quarterly Operational Reports (QOR) to the GEF, quarterly financial reports, and other reports as may be required by UNDP, GEF, MEDD, the PSC and other oversight agencies;
- Disseminate project reports and respond to queries from concerned stakeholders;
- Ensure the timely and effective implementation of all components of the project;
- Assist community groups, regional and local governments, inter-communal bodies, local NGOs and CBOs, staff, students and others with development of essential skills through training workshops and on the job training thereby upgrading their institutional capabilities;
- Coordinate and assists scientific institutions with the initiation and implementation of all field studies and monitoring components of the project
- Assist and advise the teams responsible for documentaries, TV spots, guidebooks and awareness campaign, field studies, etc; and
- Carry regular, announced and unannounced inspections of all sites and the activities of the project site management units.

#### Qualifications

- A university degree (preferably advanced) in rural development, environmental/natural or climate change sciences or social sciences (e.g. economics) with consistent specialization in issues of climate change adaptation;
- At least 10 years of experience in the field of climate change adaptation management;
- At least 5 years of project/program management experience;
- Working experiences with ministries, national institutions and NGOs is a plus, but not a requirement;
- Ability to effectively coordinate a large, multi-stakeholder project;
- Ability to administrate budgets, train and work effectively with counterpart staff at all levels and with all groups involved in the project;

- Strong drafting, presentation and reporting skills;
- Strong computer skills, in particular mastery of all applications of the MS Office package and internet search;
- Strong knowledge about political and socio-economic context, in particular at the national and local levels;
- Excellent writing communication skills in French
- A good working knowledge of English is a requirement.

## **Project Administrative and Finance Officer**

### Background

The Accountant will report to the NPC and be primarily responsible for all tasks related to book keeping, assistance in workplan and budget preparation, budget revisions and financial monitoring. He/she will provide general administrative and finance services and cater for the day-to-day finances and accounting needs of the Project. The post holder will be responsible for liaising as appropriate with the remainder of the project team and partners with respect to financial management.

### Duties and Responsibilities

- Budget and finance
- Reviews and analyses data with respect to the finalization of cost estimates and budget proposals, in terms of staff and non-staff requirements.
- Provides support to managers with respect to the elaboration of resource requirements for budget submissions/revisions.
- Reviews, analyses and provides input into finalization of the project's consolidated Annual Workplan and Budget for clearance by the NPC and submission to the Project Steering Committee.
- Monitors budget implementation and determines/recommends reallocation of funds when and where necessary.
- Monitors expenditures to ensure that they remain within authorized levels.
- Prepares relevant documentation with respect to budget performance submissions.
- Advises senior management and project coordinators on all aspects of accounts maintenance, budget control, incomes and other financial issues regarding projects implementation, i.e. obligations and future programme/projects budgetary implications.
- Acts as Approving Officer for the project's budgets, ensuring the payment is made against a recorded commitment and requested for goods and services which have been delivered and not paid before, availability of funds against budget lines. Maintains list of authorized personnel to make payments and informs UNDP on any changes to the list.
- Supervises the closing of the monthly accounts, assists in ensuring timely submission of Management Expenditures data to the NPC and the requested financial reports to UNDP; reconciliation and replenishment of bank accounts.
- Ensures strategic financial resource management: Advises senior management staff on co-financing modalities & arrangements, suggests measures for adequate optional utilization of projects funds, and recommends cost savings and redeployments as appropriate.
- Acts as key interface for internal audits and accounts examinations.
- Establish and maintain a set of sound policies, procedures, standards and tools which are consistent with UNDP's policy and practice in order to ensure proper accounting, financial management and control.
- Human resource management: Assist the NPC with the management of HR
- Maintains an overview of all project-financed human resources and the development of HR cost against approved project budgets.
- Advises the NPC on amendments and changes in HR cost and entitlements and resulting amendment requirements of project budgets.

### Qualifications

- A university degree in business administration, finance, accounting or a relevant combination of academic qualification;
- At least 5 years of financial management experience;
- Demonstrable ability to administer project budgets, and track financial expenditure;
- Demonstrable ability to maintain effective communications with different stakeholders;
- Excellent computer skills, in particular mastery of all applications of the MS Office package and specific finance application;
- Knowledge of UNDP's Atlas system is a plus;
- Excellent writing communication skills in French; and
- A good working knowledge of English is a plus.

## **Monitoring And Evaluation Officer**

### Background

He/She is responsible for guiding the overall M&E strategy and implementation of related activities within the project and via partners, plus providing timely and relevant information to project stakeholders. This entails close communication with all involved in M&E design and coordination: core project and partner M&E staff, representatives from the steering committee or similar unit, representatives from primary stakeholder groups, and the national project coordinator.

Critical tasks for the M&E responsible are setting up the M&E system and ensuring it is implemented effectively by the key stakeholders, namely the primary stakeholders and implementing partners. This is undertaken through the joint development of a shared M&E system that is based on existing formal and informal mechanisms and systems among key stakeholders. This needs to be supported by facilitating stakeholders to value, have appropriate capacities for and undertake their own M&E activities, and to link these into an overall assessment of project progress and needed actions.

### Duties and responsibilities

- Develop the overall framework for project M&E, for example, annual project reviews, participatory impact assessments, process monitoring, operations monitoring and lessons learned workshops,
- Guide the process for identifying and designing the key indicators for each component, to record and report physical progress. Also steer the process for designing the format of such progress reports.
- Guide the process for identifying the key performance questions and parameters for monitoring project performance and comparing it to targets. Design the format for such performance reports.
- Clarify the core information needs of central project management, the steering committee (or similar body), funding agencies and the cooperating institution.
- With stakeholders, set out the framework and procedures for the evaluation of project activities
- Review the quality of existing social and economic data in the project area, the methods of collecting it and the degree to which it will provide good baseline statistics for impact evaluation.
- With the implementing partners, review their existing approaches and management information systems and agree on any required changes, support and resources
- Develop a plan for project-related capacity-building on M&E and for any computer-based support that may be required.
- Organize and undertake training with stakeholders, including primary stakeholders, in M&E skills, including participatory aspects.
- Guide staff and implementing partners in preparing their progress reports. Together, analyze these

reports in terms of problems and actions needed. Prepare consolidated progress reports for project management to submit to the relevant bodies, in accordance with approved reporting formats and timing.

- Review monitoring reports; analyze them for impact evaluation and to identify the causes of potential bottlenecks in project implementation.
- Collaborate with staff and implementing partners on qualitative monitoring to provide relevant information for ongoing evaluation of project activities, effects and impacts.
- Foster participatory planning and monitoring by training and involving primary stakeholder groups in the M&E of activities.
- Prepare reports on M&E findings, as required, working closely with financial controller, technical staff and implementing partners.
- Guide the regular sharing of the outputs of M&E findings with project staff, implementing partners and primary stakeholders.
- Make regular reports to the project board/ decision-making structure, highlighting areas of concern and preparing the documentation for review at meetings

#### Qualifications

- A university degree (MS or PhD) in Social Sciences or in Statistics

*At least several years of proven experience with:*

- The logical framework approach and other strategic planning approaches
- M&E methods and approaches (including quantitative, qualitative and participatory)
- Training in M&E development and implementation
- Facilitating learning-oriented analysis sessions of M&E data with multiple stakeholders
- Information analysis and report writing
- M&E system design
- Data processing and with computers

*She/He must also have:*

- A solid understanding of rural development, with a focus on participatory processes and joint management issues
- Familiarity with and a supportive attitude towards processes of strengthening local organizations and building local capacities for self-management
- Willing to undertake regular field visits and interact with different stakeholders, especially primary stakeholders
- Computer skills

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**ANNEX [F]. KEY ASSESSMENT REPORT FOR COMPONENT 1 “INNOVATIVE FINANCE MECHANISMS” (IN FRENCH)**

**Rapport technique n°1 du PPG : compilation des travaux des experts de l'équipe de formulation sur les mécanismes de financements innovants**

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**Septembre 2016**

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## Introduction

La thématique des financements innovants émerge dans les années 1990, associée à la thématique du **financement des biens publics mondiaux** (à la production desquels entendent contribuer les accords multilatéraux sur l'**environnement**) sur fonds de crise de la dette publique au Sud puis au Nord, ainsi qu'à la thématique du **financement du développement** (Objectifs du Millénaire pour le Développement (OMD) puis Objectifs du Développement Durable (ODD)). Ce concept intervient dans un contexte de « fatigue » de l'aide publique au développement dont l'efficacité est questionnée.

Destinés au financement du développement ou de l'environnement (lutte contre les changements climatiques, l'érosion de la biodiversité, ou la désertification), les financements innovants doivent contribuer à réduire l'écart croissant **entre des besoins nationaux en expansion** pour la fourniture de biens publics à différentes échelles et une **capacité de financement public contrainte** par les politiques de désendettement et d'austérité au Nord comme au Sud.

Illustrée par le passage des OMD aux ODD ou l'inclusion de critères sociaux et environnementaux dans les politiques publiques et les investissements privés, la tendance est à l'**intégration des externalités environnementales, des droits humains et du développement** au travers de la reconnaissance des bénéfices que l'homme retire de ses interactions avec la nature (services écosystémiques) et de ceux que les usagers des ressources peuvent apporter à d'autres en contribuant intentionnellement au maintien, à la restauration ou au renforcement des fonctions écologiques des écosystèmes (services environnementaux).

Il existe, depuis 2006, un [Groupe pilote sur les financements innovants du développement](#) qui regroupe aujourd'hui 66 pays, de nombreuses organisations internationales et non gouvernementales. Le Sénégal en a assuré la présidence de septembre 2007 à avril 2008 et a organisé la quatrième réunion plénière du Groupe pilote les 22 et 23 avril 2008. L'objectif est de promouvoir de tels financements (il propose un menu d'options), de favoriser la mobilisation internationale autour de ces enjeux et d'encourager la mise en place de projets pilote. Il a publié une [bibliographie indicative](#) et six [rapports d'expertise](#).

Hors des circuits traditionnels de l'affectation budgétaire du produit de la fiscalité générale et de la philanthropie privée, qui sont les deux leviers traditionnels du financement des biens publics, les financements qualifiés d'innovants désignent de manière non exclusive de nouvelles **sources de revenus** d'origine publique ou privée, une **manière d'utiliser des financements publics avec un effet de levier** sur l'investissement d'autres acteurs publics ou privés, ou l'**intégration d'externalités dans les investissements publics ou privés**.

Dans le cadre du Projet de Promotion de Finance Novatrice et d'Adaptation Communautaire des communes autour des Réserves Naturelles Communautaires (ProFNAC), le besoin en financement innovant étant lié au soucis de pérennisation des RNC : **comment générer des ressources suffisantes pour entretenir l'aménagement et la gestion des RNC ?**

Ainsi ce rapport vise à donner des éléments de réponse à la question suivante : **Quels mécanismes de financement innovant expérimenter dans le cadre du ProFNAC ?**

L'objectif de sauvegarde de la biodiversité dans les aires protégées (AP) n'est qu'un des leviers mis en avant par les Parties à la Convention pour la Diversité Biologique (CDB) dans le « Plan stratégique pour la diversité biologique 2011-2020 » (Objectifs d'Aichi) aux côtés de la réduction des pressions directes sur les habitats et les ressources et de la restauration des milieux. Dans l'exercice d'évaluation des besoins financiers au fondement de la Stratégie de mobilisation de ressources (Objectif 20) ceux des AP relèvent de la couverture des coûts d'investissement (important en amont de sa création ou de son extension), ils décroissent ensuite rapidement) et des coûts de fonctionnement (ressources humaines et matériel pour assurer la gestion : surveillance, actualisation des inventaires, programmes de recherche, accueil de visiteurs, éducation à l'environnement, relations avec populations locales).

Si le salaire des personnels nationaux de droit public est généralement la seule dépense couverte par le budget national dans les pays en développement, l'aide projet (bailleurs bi et multilatéraux, fondations) se concentre sur les dépenses d'investissement en amont mais n'est pas adaptée pour couvrir

des coûts récurrents à long terme nécessaires pour que l'AP réalise ses missions. Aussi l'aide projet s'est orientée massivement ces dernières décennies vers l'appui à la création et la dotation de **fonds fiduciaires pour la conservation** (plus de 50 établis dans le monde, une quinzaine en Afrique) répondant à des standards internationaux de gestion fiduciaire et dotées d'un conseil d'administration multipartite ayant pour mission première de contribuer à couvrir les coûts de fonctionnement de l'AP mais aussi de mutualiser une diversité de sources de financement publics et privées pouvant être utilisées sur des guichets différents adaptés aux besoins de financement des AP, de financement de leurs missions et de leur extension.

Ils sont principalement soutenus et capitalisés par des subventions de grands bailleurs de fonds internationaux au rang desquels le FEM, l'USAID, le BMZ (KfW/GIZ), et le FFEM/AFD, d'ONG internationales comme le WWF et Conservation International et des fondations privées. En dehors de ces donations « directes », d'autres instruments financiers alimentent les fonds fiduciaires, comme la conversion de dettes (échanges dette/nature), les marchés de compensation du carbone et les paiements des services écosystémiques, etc. Si l'on ajoute les dons individuels et d'entreprises, plus de 810 millions de dollars US seraient actuellement gérés par des FFC.

De par les garanties qu'ils offrent en matière d'indépendance, les fonds fiduciaires pour la conservation occupent une **place centrale dans l'opérationnalisation de nombre de sources ou mécanismes de financement identifiés comme innovants** pour la biodiversité en générale et pour les aires protégées en particulier.

En Afrique, les FFC créés avant 2002 se situent dans des pays anglophones (à l'exception de Tany Meva à Madagascar). Aujourd'hui, on dénombre une quinzaine de FFC effectivement établis sur le continent (et 5 à 6 en cours de création), réunis au sein du réseau CAFE (Consortium Africain des Fonds Environnementaux), créé en septembre 2011 pour renforcer leur efficacité par l'échange d'expériences et de bonnes pratiques.

Une part importante des mécanismes de financement innovants pour l'environnement tient à leur nature d'instrument incitatif. Il s'agit en effet de mécanismes économiques permettant de gérer les externalités environnementales en leur donnant une valeur au travers d'un signal prix, que celui-ci soit direct ou indirect (sur les quantités). Celui-ci doit inciter les acteurs privés à investir dans la conservation. Ces mécanismes sont supposés plus efficaces que les régulations publiques classiques se fondant sur le contrôle du respect des normes.

La raison d'être des instruments économiques de gestion de l'environnement est d'influer sur les comportements au travers d'un signal prix conféré au maintien, à la restauration ou au renforcement d'un service écosystémique, c'est-à-dire de faire apparaître dans les calculs d'acteurs (internaliser) le coût subi ou les bénéfices retirés de l'existence d'une externalité négative ou positive. Sa vocation n'est donc pas de générer des flux de financement vers un secteur environnemental donné. Lorsqu'il repose sur un système d'incitations négatives comme dans le cas de l'application du pollueur-payeur, le rendement financier attendu de cet instrument est décroissant au fur et à mesure que l'incitation fait son effet. Une limite importante de ce principe demeure néanmoins que certains ont les moyens de payer, c'est pour cela qu'il est disqualifié par certains comme un droit à détruire la biodiversité donnant plus un prix à la destruction de la biodiversité qu'il n'incite à éviter celle-ci en rendant son coût dissuasif.



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## I. LES MECANISMES INTERNES (FISCALITE, PPP ET CONTRATS TRIPARTITES)

Ce chapitre a été rédigé par l'expert national Babacar Cissé.

### I.1. Mécanismes applicables aux collectivités locales (CL) et aux communes en particulier

#### Contexte :

##### *- Missions des CL dans le domaine de l'environnement et de la gestion des ressources naturelles*

**Le département reçoit les compétences suivantes :** la création et la gestion des forêts, zones protégées et sites naturels d'intérêt départemental; la délivrance d'autorisation d'amodiation de chasse, après avis du conseil municipal ; la gestion des eaux continentales à l'exclusion des cours d'eau à statut national ou international ; l'élaboration et mise en œuvre de plans départementaux d'actions de l'environnement, d'intervention d'urgence et de prévention des risques ; la réalisation de pare-feux et la mise à feu précoce, dans le cadre de la lutte contre les feux de brousse ; l'élaboration et mise en œuvre des plans d'action locale pour l'environnement ; la protection des eaux souterraines et de surface ; la répartition des quotas d'exploitation forestière entre les communes ; la lutte contre les incendies et protection de la nature ; l'autorisation de défricher après avis du conseil municipal concerné ; la délivrance de permis de coupe et d'abattage.

**La commune reçoit les compétences suivantes :** la délivrance et l'autorisation préalable de toute coupe à l'intérieur du périmètre communal; les opérations de reboisement et la création de bois communaux; la perception de la quote-part d'amendes prévues par le code forestier, la gestion des déchets, la lutte contre l'insalubrité, les pollutions et les nuisances, la protection des ressources en eaux souterraines et superficielles; l'élaboration de plans communaux d'action pour l'environnement.

**En résumé :** La commune répond à l'impératif d'une gestion de proximité des problèmes des populations et d'une participation des acteurs locaux à l'impulsion et à la mise en œuvre des stratégies de développement territorial. Quant au département il assure le maillage territorial nécessaire à la construction de la communalisation intégrale. Au regard de ces considérations la commune reste le partenaire indiqué du ProFNAC.

##### *- Insuffisance des ressources pour faire face aux besoins des CL*

Depuis l'entrée en vigueur de l'Acte 3 de la décentralisation, les Collectivités locales sont confrontées à un déficit de moyens pour prendre en charge les compétences transférées dont l'environnement. C'est ce qui explique le faible niveau de prise en charge de la dimension environnement dans leurs budgets (moins de 1% sur l'ensemble des 15 communes concernées par le ProFNAC).

#### Typologie et faisabilité de quelques mécanismes applicables aux CL :

##### *- Partenariat entre le secteur Public et privé*

En mobilisant le secteur privé intérieur pour l'amener à participer activement au financement des stratégies d'atténuation aux changements climatiques, les collectivités locales pourraient se procurer de nouvelles ressources. Pour ce faire, ils pourraient arrêter des mesures d'incitation fiscale récompensant la contribution à ce type de causes et des stratégies industrielles pour la prise en compte de considérations environnementales.

Un complément d'analyse s'impose, si l'on veut mieux saisir les rôles que le secteur privé pourrait éventuellement jouer, soit sous la forme de partenariats privé-public, soit sous la forme d'initiatives qui leur seraient propres. D'où la nécessité d'instaurer une politique qui facilite la participation du secteur privé, y compris les autres investisseurs.

Pour promouvoir des mécanismes de financement, aussi bien au niveau central que pour les collectivités locales, le Sénégal a fait adopter différentes réglementations depuis 2004. Il s'agit de la loi n°2004-13 du 1er mars relative aux contrats de Construction-Exploitation Transfert d'infrastructures, dite loi CET. Elle a été ensuite modifiée par les lois n° 2009-21 du 4 mai 2009 et n° 2011-11 du 28 avril 2011.

En février 2014, une nouvelle loi(2014-09) relative au contrat de partenariat a été adoptée. A la faveur de ces innovations, elle vise à faciliter l'implication du secteur privé national dans la réalisation d'une nouvelle génération de projets d'infrastructures, tout en restant attractif au secteur privé international.

La loi met un accent particulier sur l'accompagnement et l'encadrement technique des collectivités publiques avec la création d'un Comité national d'Appui aux Partenariats Public-Privé chargé, entre autres, de :

- valider les rapports d'opportunité des projets préparés par les autorités contractantes ;
- fournir un appui aux entités du secteur public dans la préparation, la négociation et le suivi des contrats de partenariat ;
- vulgariser les partenariats public-privé et en assurer la promotion.

Au niveau collectivité locale, le cadre législatif et organisationnel<sup>44</sup> laisse apparaître diverses formes de collaboration, notamment :

- la prise de participation des collectivités locales au capital des sociétés privées exploitant un service public prévue par l'article 241 du code des Collectivités Locales et qui fixe la participation maximale de celles-ci à hauteur de 33% des actions.
- la gestion privée directe des infrastructures réalisées sous forme de concession et d'affermage ;
- le financement par levée de fonds au niveau du système bancaire et par émission d'obligations.

Cette disposition législative ouvre des opportunités de partenariat public et privés dans la plupart des collectivités locales polarisées par le Projet. Ainsi donc par le biais de contrat d'affermage, de mise en concession, de prise de participation et d'amodiation, les collectivités locales peuvent générer des ressources pour une meilleure gestion de l'environnement et des nouveaux qu'il engendre.

Le développement de ces types de partenariat dans le secteur de l'environnement requiert un secteur privé fort mais surtout conscientisé sur les enjeux et opportunités que regorge le secteur, mais surtout des collectivités locales outillées au plan des ressources humaines, pour conduire ce processus de contractualisation qui reste malgré tout complexe

Ce partenariat est applicable notamment dans les domaines de :

- la collecte, le tri et le recyclage des déchets ;
- l'aménagement et l'exploitation de sites de production ;
- l'exploitation des ressources forestières, l'aquaculture
- l'écotourisme, etc..

Il reviendra au ProFNAC d'identifier dans chaque zone d'intervention le mécanisme de partenariat public privé le plus approprié comme mode de financement en tenant de l'impératif de préservation de l'environnement et d'adaptation aux changements climatiques.

Différentes pistes pourraient être explorées par les collectivités locales en partenariat avec le secteur privé, de préférence local, à savoir :

- la professionnalisation de l'exploitation du sel dans le Gandon-Gandiole ;
- la valorisation des produits horticoles (mangue) et forestiers non ligneux (anacarde) dans le Sokone ;
- l'organisation et la structuration de l'activité de chasse dans la zone de Tambacounda et Kédougou

### **- Responsabilité sociétale d'Entreprise (RSE)**

Les Collectivités locales ayant en charge la gestion des compétences transférées (aménagement du territoire, planification, gestion de l'environnement et des ressources naturelles, santé et action sociale, éducation, alphabétisation, promotion des langues nationales et formation professionnelle, culture, urbanisme et habitat, jeunesse et sport), le dialogue avec tous les acteurs du territoire reste un élément inhérent à la réussite de leurs missions. La présence d'entreprises sur son territoire est une réelle opportunité de développement économique et social.

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<sup>44</sup> Code des collectivités locales 2013

Créatrices de richesses et consommatrices de ressources, certaines entreprises ont une capacité d'intervention qui peut se révéler particulièrement efficace en faveur du développement durable :

- elles participent directement au développement économique par leurs investissements ;
- à travers les conditions de travail qu'elles proposent à leurs salariés, elles participent à réduire des inégalités sociales ;

A côté, d'autres entreprises sont considérées comme consommatrices de ressources naturelles, productrices de déchets et génératrices de pollutions. Leurs activités modifient plus ou moins profondément l'environnement. Ce qui engage leurs responsabilités dans la dégradation de l'environnement.

La responsabilité sociétale des entreprises désigne la prise en charge par les entreprises des préoccupations sociales, environnementales, et de développement durable en général dans leurs activités.

De manière générale, ce type d'unité industrielle se retrouve dans la zone de Tambacounda -Salemata avec une forte concentration d'activités minière hautement polluantes. On peut citer parmi elle la SODEFITEX dans le coton, OROMIN, IAM Gold à Sadio et Teranga Gold opération à Sabadola

Les entreprises concernées investissent sur le plan social et économique par la création d'infrastructure de base au profit des populations et s'adonnent à l'occasion à des activités humanitaires. Il faut signaler que cette RSE se fait sur la base du volontariat et constitue par conséquent un mode de financement peu maîtrisé.

Pour tirer un maximum de profit de cette RSE, il y'a lieu de renforcer les capacités des élus locaux pour une meilleure perception des véritables enjeux, de l'impact des activités industrielles sur l'environnement et de mieux articuler un plaidoyer dans le sens de l'amélioration du cadre de vie et des conditions d'existence des populations.

Dans le cadre du partenariat, la Collectivité locale pourrait mener quelques actions au profit de l'entreprise, à savoir :

- résoudre les problèmes et conflits (avec paysans, ouvriers) ;
- définir des actions prioritaires de développement ;
- exonérer de taxes municipales ;
- mettre à disposition une main d'œuvre locale

Quant aux entreprises engagées dans une politique RSE, elles pourraient participer à :

- désenclavement et au développement de la localité ;
- l'assainissement et à la gestion des déchets
- développement d'infrastructures (routes, téléphones, eau, électricité) ;
- Accès à des services essentiels (infrastructures de santé, éducation...)
- Appui aux activités socioéducatives ;
- Promotion de la main d'œuvre locale.

Par conséquent l'intervention du ProFNAC devrait dans un premier temps être orientée au renforcement des capacités des élus à porter le plaidoyer pour une RSE efficiente et efficace par des actions de formation, des visites d'échange.

Ensuite le ProFNAC devrait aider à l'installation d'un cadre d'échange permettant aux entreprises de se retrouver avec la collectivité locale pour développer des projets communs.

### ***- Le Programme social minier***

Le Programme social Minier (PSM) est un exercice de Responsabilité Sociale d'Entreprise (RSE), il résulte d'engagements spécifiques d'investissements sociaux au profit des populations des collectivités locales abritant les opérations minières, qui ont été négociés dans le cadre des conventions minières entre l'Etat et les sociétés minières. Il est directement exécuté par lesdites sociétés en partant des préoccupations exprimées par les populations elles-mêmes, sous la supervision du Ministère en charge des mines. C'est ainsi que d'importants travaux d'infrastructures socio-éducatives ont été réalisés ou sont en cours d'achèvement (extension du lycée de Kédougou, construction d'écoles, construction et équipement du collège de Khossanto, modernisation et équipement du collège de Saraya, réalisation de forages et de châteaux d'eau, de bornes fontaines et d'abreuvoirs, électrification par voie solaire, construction et équipement de postes et cases de santé, construction et réhabilitation de routes, piste et ponts, allégement des travaux de la femme, etc.). A ces infrastructures et équipements, s'ajoute un important volet de bourses et de subventions pour les étudiants ressortissants de Kédougou.

## I.2 Mécanismes privés qui peuvent être promus par le ProFNAC

### **- Warrantage**

**Le warrantage** est un système où le prêt est garanti par le produit agricole dont la valeur augmente sur une période donnée.

Il s'agit d'un mécanisme de financement innovant qui facilite l'accès au crédit pour les agriculteurs les plus pauvres ne pouvant présenter les garanties nécessaires. Le crédit obtenu peut être utilisé pour plusieurs dépenses. Ce système permet l'accès au financement d'intrants agricoles, réduit les coûts de transactions pour les acheteurs, réduit l'insécurité alimentaire et la vulnérabilité face à des changements de prix sur les marchés, réduit les risques de crédit pour l'IMF et finalement contribue à augmenter le pouvoir de négociation des producteurs agricoles.

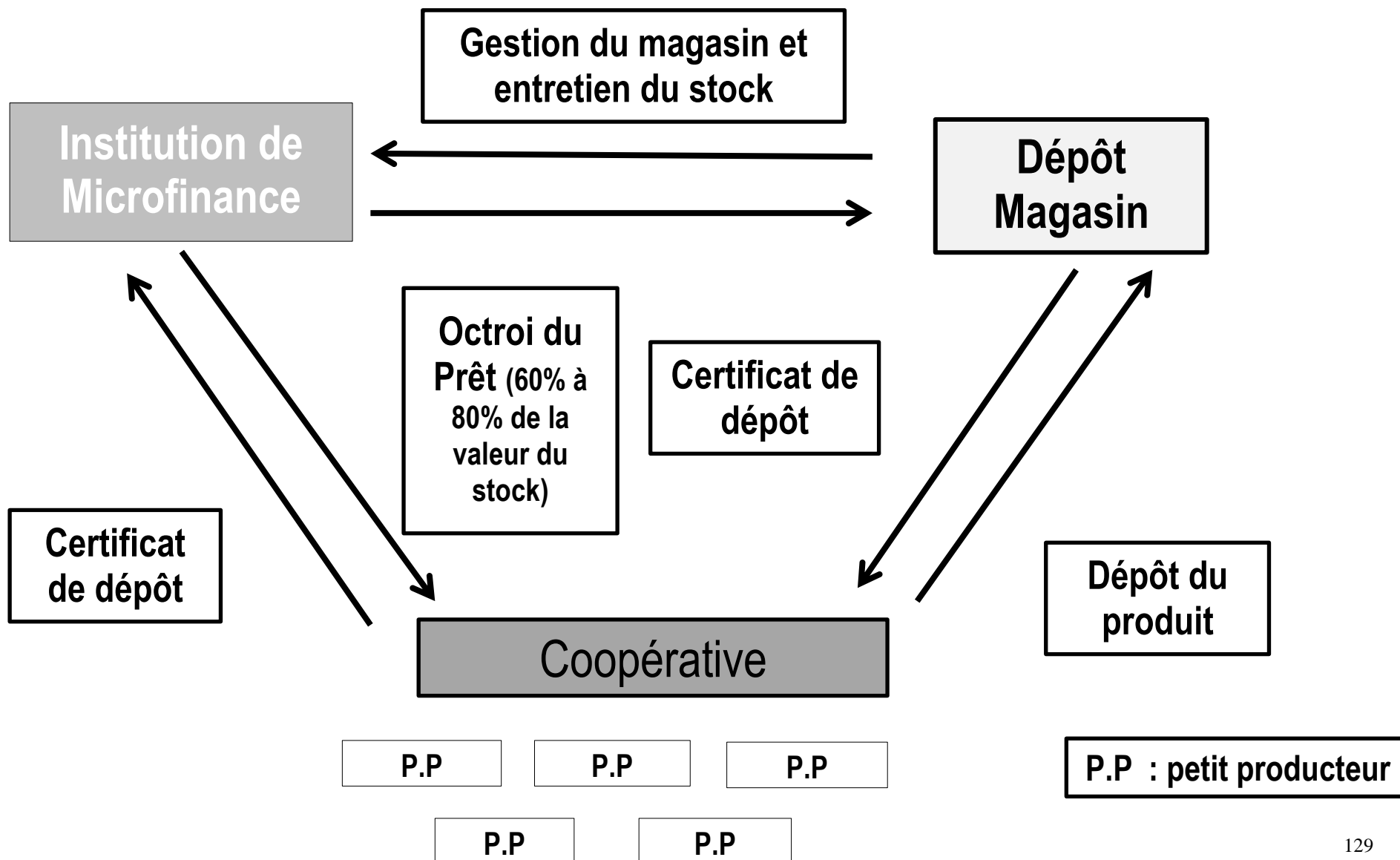
La première chose à faire est de connaître le marché, afin de déterminer les produits éligibles dans le cadre du warrantage. Aussi, il faut mettre en place des partenariats avec différents acteurs. En particulier, les relations avec les organisations paysannes doivent être solides et transparentes.

Du côté des défis posés par le warrantage, on peut noter le manque d'infrastructures, de compétences et de connaissances, qui ne permet pas de mettre en place un bon produit et d'assurer sa durabilité.

Le warrantage est un investissement conjoint, qui fonctionnent avec 3 acteurs principaux:

- Coopérative** des agriculteurs bien organisée
- Institution financière** locale intéressée;
- Magasin** sécurisé pour le stockage des produits mis en dépôt

Mécanismes du warrantage (voir descriptif du mécanisme ci-dessous)



### ***Avantages du warrantage***

- Moyen de sécuriser les prêts octroyés.
- Sécurité alimentaire.
- Vente des récoltes différée pour un plus grand profit.
- Institutionnalisation et amélioration du crédit en milieu rural.
- Participation des producteurs à la fixation des prix.
- Sécurité des stocks.
- Préparation de la campagne à venir.
- Diversification des activités durant la période de soudure.

Un tel système requiert la mise en place de magasin de stockage pour sécuriser le produit en dépôt. Ce mécanisme de financement est approprié pour l'agriculture notamment les céréales ; l'anacarde et certaines spéculations qui ont cours dans la zone d'intervention :

- Delta du Saloum sur le mil, le maïs et l'anacarde ;
- Ferlo avec la gomme arabique ;
- Tambacounda avec le mil, le maïs et le fonio.

Pour opérationnaliser le warrantage dans ce contexte, le ProFNAC mettra à profit l'intervention des mutuelles partenaires comme bras financier.

Ainsi le ProFNAC pourra s'appuyer dans le Delta du Saloum sur la MEC/PNDS, dans le Ferlo sur la MEC UIMCEC et dans le Tambacounda sur la MEC URMECS ou Caurie Microfinance

En outre, il devrait aider à organiser et à structurer les coopératives existantes. Le dispositif sera accompagné par des investissements structurants par la création et l'équipement de magasins de stockage ainsi que la mise œuvre d'un programme de renforcement de capacités des acteurs.

### ***Rôles et places du ProFNAC dans la mise en place du mécanisme***

- Etudier la faisabilité du mécanisme de warrantage dans la zone d'intervention
- Elaborer et mettre en œuvre un bon programme d'information et de formation des différentes parties.
- Renforcer les capacités des producteurs pour une production de qualité.
- Disposer d'un bon système d'information sur les marchés (Demande/Prix).
- Disposer de magasins répondant aux normes techniques de stockage.
- Renforcer le personnel des institutions de microfinance pour une meilleure connaissance des chaînes de valeur agricoles.
- Mettre en place un système de certification qualité.

### **- L'assurance agricole**

La Banque mondiale donne la définition suivante de l'assurance agricole : « Généralement l'assurance est une forme de gestion de risques utilisée pour se protéger contre une perte éventuelle. La définition conventionnelle est le transfert équitable d'un risque de perte d'une entité à l'autre, en échange d'une prime, ou d'une petite perte déterminée et quantifiable, pour empêcher une grande perte éventuellement dévastatrice. L'assurance agricole n'est pas limitée à l'assurance des récoltes, elle inclut également le bétail, les animaux de race, la sylviculture, l'aquaculture, et les serres. »

On peut considérer qu'elle a pour objectif de protéger les agriculteurs en les indemnisant en cas de dégâts, et donc de pertes de revenu, découlant de certains problèmes y compris éventuellement de pertes liées aux marchés. L'assureur fournit donc un service qui est défini dans le cadre d'un contrat avec un (ou des) assuré(s), et qui a un coût.

Au Sénégal le système d'assurance agricole poursuit spécifiquement les objectifs suivants :

- Réduction de la vulnérabilité des agriculteurs aux aléas
- Augmentation des productions agricoles et de la sécurité alimentaire
- Stabilisation et croissance des revenus des agriculteurs

L'une des initiatives la plus dynamique est la CNAAS créée en 2008 sous forme SA et qui est le fruit d'un Partenariat Public Privé.

En termes de prestations, pour couvrir 1 ha d'arachide, la prime moyenne s'élève à F.Cfa 3.370 dont la moitié seulement est payée par l'agriculteur, le reste étant subventionné par l'Etat pour l'inciter à souscrire une police d'assurance.

Concernant l'élevage, la prime moyenne unitaire est de 5% de la valeur de l'animal soit 2,5% à payer par l'éleveur.

Les risques garantis pour la pêche portent sur les dommages subis par l'embarcation et le matériel de pêche à bord, la responsabilité civile du propriétaire de l'embarcation et les dommages corporels subis par le personnel d'équipage transporté en fonction de la capacité de l'unité.

Ce dispositif de financement est approprié pour l'agriculture l'élevage et la pêche dans les zones d'intervention du ProFNAC.

Les institutions de micro finance pourraient jouer un rôle dans la promotion de ce mécanisme en ce qu'il leur permet de garantir la bonne fin du crédit accordé.

#### ***Quelques barrières à prendre en compte pour la mise en place de l'assurance agricole***

- Les conditions économiques et méfiance des acteurs par rapport à ce mécanisme qui reste malgré tout une nouveauté au Sénégal, donc peu connu ;
- Le besoin de renforcer la confiance entre assureurs et assurés : les assurés doivent connaître les impératifs techniques à respecter et les valeurs des prime. Pour ce faire, il faut un travail d'explication pour que les agriculteurs appréhendent le fonctionnement du système ;
- Les coûts de gestion du service des assurances au regard de la dispersion et de la dissémination des petites exploitations, d'où la nécessité que les paysans soient organisés en coopérative ou groupement pour minimiser les frais ;
- La nécessité de coupler l'assurance agricole au crédit et que les deux soient gérés par un même organisme (cas du partenariat entre le crédit Mutuel et la CNAAS à Sokone) ;

#### ***Rôle du Projet dans ce mécanisme***

- Information et sensibilisation des acteurs sur l'opportunité de souscrire une assurance ;
- Facilitation pour la signature de contrat collectif d'assurance avec les groupements avec des avantages en termes d'abattement sur la prime ;
- Mise en place de mécanisme de subvention de la prime (10 à 20%) ;
- Appuyer sous forme de subvention, les souscripteurs pour davantage les inciter à utiliser le service des assurances (exemple le ProFNAC pourrait prendre en charge 10 à 20% de la prime pour la première année de contrat) ;
- Suivi régulier avec les IMF et la CNAAS de la mise en œuvre du mécanisme et du taux de sinistralité.

#### **- Les Contrats tripartites (Producteur, Structure de financement et Transformateur ou Exportateur)**

Ce modèle qui appelle trois acteurs à savoir le producteur, la structure de financement et le client qui peut être un transformateur ou exportateur, vise à asseoir une dynamique chaîne de valeur ; à renforcer

la capacité productive des coopératives de producteurs, à leur offrir plus de débouchés, à sécuriser le financement accordé par les institutions financières et à garantir aux transformateurs plus de qualité et de traçabilité des produits.

En vertu de l'accord de financement obtenu par le producteur, le client qui a passé la commande s'engage à payer le prix à l'organisme de financement. Le préalable c'est la constitution des producteurs en groupement pour déclencher l'accompagnement du Projet.

Ce mécanisme peut s'appliquer pour les secteurs de l'anacarde, des céréales, des cultures vivrières entre autres.

Cependant les limites de ce mécanisme porte sur l'exigence de garantie supplémentaire par l'organisme de financement. Auquel cas il faudrait recourir à la tierce détention, à l'assurance agricole, au warrantage, etc..

### ***Rôle du ProFNAC***

La mise en place de contrats tripartites suppose au préalable une bonne organisation des filières, l'identification de groupement de producteur capable de répondre aux spécifications

- Information et sensibilisation des acteurs sur la portée du mécanisme ;
- Facilitation de la mise en place des conventions, la coordination avec les structures concernées ;
- L'encadrement et l'assistance des parties prenantes à la convention tripartite
- Le suivi du mécanisme

## **I.3 Quelques initiatives endogènes**

### **Mise à l'essai et vulgarisation de semences**

L'une des initiatives prévues concerne la distribution et la mise à l'essai de variétés de cultures traditionnelles (par exemple mil, sorgho et maïs) présentant une meilleure résistance à la sécheresse. Les obstacles à l'utilisation généralisée de ces variétés végétales sont à la fois techniques et financiers. Les semences doivent être achetées, et les agriculteurs pauvres ne sont pas en mesure d'assurer cette dépense.

Le ProFNAC jouera donc un rôle essentiel en créant des mécanismes facilitant la vulgarisation de l'accès durable aux variétés culturales adaptées à la sécheresse.

### **Sécurité alimentaire**

L'encouragement à la mise en place de banques alimentaires contribuera à assurer la sécurité alimentaire des populations locales en cas de perturbations climatiques.

Les communautés rurales connaissent fréquemment des pénuries alimentaires, pendant de courtes périodes en fin de saison sèche (période de soudure), un phénomène qui augmentera probablement sous l'effet des changements climatiques. Les banques alimentaires sont un bon moyen de fournir des vivres dans ces périodes critiques. Il s'agit d'une activité durable dans la mesure où ces banques s'auto entretiennent une fois établies : le premier stock d'aliments est acheté à faible coût par le ProFNAC, entreposés et mis à disposition aux moments propices à des prix préférentiels. Pour pérenniser le dispositif, il s'agira, pour le ProFNAC, d'organiser et de former les bénéficiaires pour servir de relais à l'expérience.



## II ACCES AU FINANCEMENT POUR LES PRODUCTEURS: MUTUELLES, MICROFINANCE

### Constat :

Il ne reste plus qu'une Mutuelle (MEC Delta du Saloum). Les autres MEC ne fonctionnent plus depuis 3 ans. Et au regard des contraintes réglementaires en terme de présentation des rapports annuels et d'activités trimestrielles sur le fonctionnement, les mutuelles ne figurent plus sur la plateforme éditée par la Direction de la réglementation et de la supervision, et peuvent être considérées comme ayant perdu leur agrément.

	Agrément obtenu et valide	Montant épargne	Encours de crédit	Crédits en souffrance	Résultat financier 2015
Mutuelle Delta du Saloum	Oui	34 218 000	24 475 000	1 133 085	-2 339 297
Mutuelle 2 Gandon	Non	1963 050		46 421 375	

Compte tenu de ce constat, quelles sont les alternatives ?

**Alternative 1 : Renforcer la MEC Delta du Saloum toujours fonctionnelle et transformer les six (6) autres mutuelles en guichets. Les étapes de cette alternative sont les suivantes:**

L'opérationnalisation d'une telle alternative se fera par:

#### Du côté de la mutuelle du Delta du Saloum

- Organiser une assemblée générale extraordinaire statuant sur cette nouvelle situation à savoir modification du lien commun et de la dénomination.
- Soumettre un dossier à la Direction de la réglementation et de la supervision, du Ministère de l'Economie et des Finances, pour autorisation portant sur le changement de dénomination, l'extension du lien commun ( : ex Mutuelle Verte) et de la zone de couverture de la Mutuelle.

**NB :** la Mutuelle ne pourrait adopter ces nouvelles dispositions de l'AGE qu'après notification expresse par la DRS de l'autorisation.

Après obtention de cette autorisation, il revient de restructurer la mutuelle du PNDS au plans technique, infrastructurel, organisationnel et des ressources humaines, afin qu'elle puisse jouer son nouveau rôle de faitière.

#### Du côté des six (6) autres mutuelles

- Redéfinir les sites d'implantation des guichets. Il nous semble plus pertinent que l'implantation des nouveaux guichets se fasse sur la base des potentialités de la zone en termes de nombre de membre, d'activités économiques, d'épargne et de crédit et leur rentabilité.

Par conséquent trois guichets pourraient être ouverts (ces 3 guichets vont partir de l'existant, mais avec des possibilités de regroupement par axe, par souci d'efficacité de leur intervention et de rentabilité du guichet :

- Un guichet polarisant l'axe Gandon-Gandiole. Il peut être implanté à Gandon sur la Nationale pour faciliter l'accès et offrir plus de possibilité de développement du sociétariat et de son activité ;
- Un guichet pour desservir le Ferlo. Il pourrait être implanté à Ranerou, avec possibilité par un système mobile de desservir les zones polarisées par les anciennes mutuelles de Malandou et de Ioumpol Samba Abdoul (possibilité d'exploiter leurs locaux)
- Un guichet dans l'axe Koar-Linkelling-Mansadala pour les populations des départements de Tambacounda et Salémata.

#### Du côté du ProFNAC

- Au regard de la situation peu reluisante des MEC, décrite dans le diagnostic, pour optimiser ses chances de succès, le projet doit mobiliser les ressources nécessaires pour faire face aux besoins liés à cette nouvelle configuration. Les activités et travaux à initier par le Projet auront trait à :
  - appuyer la construction et l'équipement du siège de la MEC de PNDS sur le terrain attribué par la Mairie de Toubacouta sur la voie principale. Ceci contribuerait à améliorer l'image et la notoriété de la MEC et renforcerait son positionnement dans un environnement de plus en plus concurrentiel.
  - renforcer la MEC/PNDS en personnel qualifié pour lui permettre de jouer pleinement son rôle de faitière. Il faut au moins un agent de crédit pour ses activités et un autre agent chargé de la supervision des activités des autres guichets. (le projet appuiera la prise en charge de ce personnel au moins pour une année - si oui à intégrer dans le budget appui institutionnel)
  - s'attacher les services d'un cabinet spécialisé dont la mission sera d'accompagner la Mutuelle dans cette mutation institutionnelle, de proposer les textes structurant et organisant ce nouveau dispositif, d'appuyer le recrutement pour les postes retenus, d'élaborer les manuels de procédures et autres outils de gestion, de coacher aussi bien la MEC/PNDS que les Guichets, etc.
  - doter chaque guichet d'un local sécurisé et équipé, d'un personnel motivé et apte à conduire les activités.
  - de mettre en place un programme d'éducation financière au profit des bénéficiaires de crédit pour davantage renforcer leurs capacités et donner plus de chance de dénouement du crédit. Activité qui pourrait être menée en partenariat avec la Direction de la Microfinance dans le cadre de sa nouvelle lettre de politique sectorielle.
  - de renforcer les capacités des Mec et guichets pour leur faire jouer pleinement leur rôle, à travers un programme de formation centré sur les questions de Gouvernance et la gestion d'une institution, la gestion du crédit, la gestion comptable et financière et le développement de produits adaptés aux réalités locales.

Dans le contexte d'intervention des Mutuelles, le suivi et l'interprétation des données climatiques constituent une source importante d'informations pour les IMF partenaires du ProFNAC, puisque cela permet d'évaluer et potentiellement de gérer le risque climatique. La connaissance des comportements climatiques offre aussi des possibilités de diversifier l'offre de produits financiers, par exemple les assurances qui couvrent les risques liés au climat. La quantité et la qualité des données sur le climat (ANACIM) sont aujourd'hui disponibles, ce qui permet aux IMF et autres compagnies d'assurance de développer des produits financiers adaptés aux différents contextes. Il est donc possible pour le ProFNAC d'exploiter les données techniques nécessaires pour informer les populations rurales, mais aussi les institutions financières partenaires pour la prise de décision.

#### Synthèse des activités à financer par le Projet dans cette hypothèse

Nature de l'activité	Intervenants	Bénéficiaires	Coût de l'Action
<b>Investissement</b>			
1-Construction et équipement en mobilier du siège de MEC/PNDS	ProFNAC	MEC/PNDS	<b>20 000 0000</b>
			<b>51 000 000</b>

2-Construction et équipement des trois(3) guichets (Ranéro, Gandon, Mansadala)		Ferlo, Gandon ,NiokoloKoba	(3x17 000 000)
3-Equipement en motos (siège et 3 guichets)		MEC/PNDS, Ferlo, Gandon ,NiokoloKoba	<b>4 000 000</b> (5x800000)
<b>Sous total invest</b>			<b>74 000 000</b>
<b>Appui institutionnel</b>	ProFNAC	MEC/PNDS, Ferlo, Gandon ,NiokoloKoba	<b>6 000 000</b> (250 000*24)
-Prise en charge de l'agent de crédit recruté			<b>6 000 000</b> (250 000*24)
-			<b>36 000 000</b> (500 000*3*24)
-Prise en charge d'agent chargé du suivi des guichets			
- Appui en fonctionnement Mec PNDS et Guichets(3)			
<b>Sous total appui inst</b>			<b>48 000 000</b>
<b>Formation</b>	ProFNAC, Mutuelles, Prestataires externes	Mutuelles	<b>10 000 000</b> (2 500 000 x 4)
-Gouvernance et Gestion organisationnelle d'une mutuelle			<b>10 000 000</b> (2 500 000 x 4)
-Gestion du crédit			<b>10 000 000</b> (2 500 000 x 4)
-Gestion comptable et financière d'une mutuelle			<b>10 000 000</b> (2 500 000 x 4)
-Développement de produits financiers adaptés			<b>20 000 000</b> (2 500 000 x 8)
-Education financière (protection des clients, budget, épargne gestion des dettes, etc.)			
<b>Sous total Formation</b>			<b>60 000 000</b>
<b>Etude et Accompagnement</b>			
• Réaliser une étude sur le développement de produits financiers adaptés	ProFNAC	MECs et populations bénéficiaires	12 000 000
• Processus mutation institutionnel et réorganisation	ProFNAC, Mutuelles, Prestataires externes		15 000 000
• Recrutements (gérants et agents de crédit)		MEC/PNDS Ferlo, Gandon ,NiokoloKoba	10 000 000
• Manuels de procédures			12 000 000
• Plans stratégiques		MEC/PNDS Ferlo, Gandon ,NiokoloKoba	15 000 000
• Coaching technique et financier			30 000 000
• Mise en place des outils et Assistance comptable			20 000 000

• Mise à disposition d'une ligne de crédit revolving	ProFNAC Mutuelles	MEC/PNDS Ferlo, Gandon ,NiokoloKoba	400 000 000 (100 000 000 x4)
<b>Sous total Etude et accompagnement</b>			<b>514 000 000</b>
<b>TOTAL GENERAL</b>			<b>696 000 000</b>

NB : l'exécution de ce programme pourrait être fait avec l'appui de la Direction de tutelle (Microfinance) dans le cadre du plan d'action de la politique sectorielle, mais aussi en mettant à contribution le Fonds de Financement de la Formation Professionnelle et technique (3FPT)

#### **Etat des forces et faiblesses de l'Alternative1**

<b>Faiblesses de cette alternative</b>	<b>Force de cette alternative</b>
<p><b>Par rapport à la MEC du PNDS comme tête de file</b></p> <p>La MEC PNDS a aujourd'hui un problème de viabilité au regard de ses performances des trois dernières années (déficit et faiblesse de l'activité), de l'image qu'elle dégage aux yeux des populations qui se tournent de plus en plus vers la concurrence.</p> <p>Les ressources humaines disponibles au niveau de la MEC auront des difficultés à assumer leurs nouvelles responsabilités de management d'un réseau s'ils ne sont pas fortement capacités</p>	<p>Possibilité d'opérationnaliser l'idée d'un réseau fort couvrant l'ensemble des zones d'intervention du Projet et qui a toujours été la préoccupation des responsables du PGIES</p>
<p><b>Par rapport aux autres mutuelles</b></p> <p>-La plupart des Mutuelles créées sont en faillite et doivent de l'argent aux populations (capital social et épargne), avec le risque qu'elles se présentent en cas de réouverture pour réclamer les sommes dues (c'est une bombe à retardement) =&gt; risques importants.</p> <p>-Certaines zones d'implantation de mutuelles n'offrent pas le potentiel sociétariat ou le niveau d'activité devant garantir la viabilité de l'activité</p>	<p>-Possibilité d'asseoir une politique commune et harmonisée en matière d'épargne et de crédit, contrairement au cas où le Projet travaillerait avec plusieurs autres institutions de micro finance</p> <p>-Les ressources affectées ou recouvrées par certaines mutuelles aujourd'hui en difficulté (Malando, Ioumpol Samba Abdoul) sont bloquées dans des comptes à la CNCAS. Ces ressources pourraient renforcer les fonds de crédit en cas de reprise des activités</p>
<p><b>Par rapport au ProFNAC</b></p> <p>Cette option semble la plus coûteuse du fait de la quasi disparition du schéma financier initialement promu par le Pgies dans les différentes zones. Et qu'il s'avère important de reconstituer et de professionnaliser.</p>	<p>Les principes d'un financement pourraient davantage être promus, ce qui pourrait constituer un levier pour le plaidoyer et la mobilisation de ressources dédiées.</p>

**Alternative 2 : le Projet renforce la MEC PNDS qui a encore son agrément et signe des conventions de partenariat avec des mutuelles présentes dans la localité ou acceptant de la desservir.**

L'opérationnalisation d'une telle alternative se fera par:

#### Du côté de la mutuelle du PNDS

- La revue des textes qui organisent la mutuelle en essayant d'identifier tous les facteurs limitant le développement et le déploiement de la mutuelle (le lien commun, la dénomination, convention signées avec les comités de gestion, etc.).
- La soumission d'un dossier à la Direction de la réglementation et de la supervision, du Ministère de l'Economie et des Finances, pour autorisation portant sur le changement de dénomination, l'extension du lien commun.
- La sensibilisation, la remobilisation des membres, la professionnalisation et l'ambition d'assurer une couverture plus large, seront les seuls gages de la pérennité de l'institution.

#### Du côté des mutuelles partenaires

- La soumission et l'acceptation d'accompagner le Projet dans la satisfaction des besoins en services financiers des populations des zones couvertes par le ProFNAC
- La proposition d'un projet et schéma d'implantation conformément à la convention
- L'information (feedback) au ProFNAC selon une périodicité retenue par la convention, sur les performances réalisées, les contraintes et difficultés rencontrées.

#### Du côté du ProFNAC

- L'identification des mutuelles présentes dans ces zones ou désirant s'y installer
- L'organisation de rencontres d'information avec les institutions identifiées avec comme objectif d'informer l'ensemble des Systèmes Financiers Décentralisés identifiés sur le ProFNAC, ses objectifs, sa stratégie et ses modalités d'intervention, mais aussi d'échanger sur les possibilités de partenariat.
- La préparation d'un dossier de manifestation d'intérêt à soumettre aux institutions intéressées par le Projet.

Ce formulaire de soumission pré établi par le ProFNAC permettra de recueillir les informations sur les SFD, leurs performances technique, managériale et leurs capacités à apporter des réponses aux préoccupations des populations cibles du Projet.

- La mise en place d'un comité de sélection pour apprécier individuellement les dossiers de candidature sur la base des critères prédéfinis et qui leur étaient préalablement notifiés. Il mettra l'accent sur le dynamisme des SFD et leurs capacités à accompagner le programme et à donner des résultats, mais surtout de l'efficacité de leurs dispositifs de suivi et recouvrement des prêts pour assurer une bonne qualité de portefeuille.
- La proposition de conventions aux SFD sélectionnés précisant les modalités pratiques du partenariat (zone d'implantation, public cible, conditions d'intervention, taux applicables, les modalités techniques et financière d'accompagnement du ProFNAC).
- L'appui à la construction et à l'équipement du siège de la MEC de PNDS sur le terrain attribué par la Mairie de Toubacouta sur la voie principale. Ceci contribuerait à améliorer l'image et la notoriété de la MEC et renforcerait son positionnement dans un environnement de plus en plus concurrentiel.
- Le renforcement de la MEC/PNDS en personnel qualifié pour lui permettre de rayonner dans la zone de Delta du Saloum. Il faut au moins un agent de crédit pour les activités de la MEC
- La sollicitation des services d'un cabinet spécialisé dont la mission est de servir de conseil sur les questions de financement et d'accompagner le ProFNAC dans l'optimisation de cette nouvelle configuration.
- L'élaboration et l'exécution d'un programme d'éducation financière et d'appui non financier aux bénéficiaires de crédit pour davantage renforcer leurs capacités et donner plus de chance de dénouement du crédit. Activité qui pourrait être menée en partenariat avec la Direction de la Microfinance dans le cadre de sa nouvelle lettre de politique sectorielle.
- La mise à disposition de lignes de refinancement pour le PNDS et les autres mutuelles partenaires pour renforcer leurs capacités d'intervention

- La mise en place d'un mécanisme régulier de suivi évaluation de l'application des conventions de partenariats avec les SFD.

Pour la mise en œuvre de cette alternative trois partenaires financiers organisés en réseau sont identifiés, il s'agit de :

- **L'U-IMCEC** (Union des Institutions Mutualistes Communautaires d'Epargne et de Crédit)  
Elle découle des premières mutuelles d'épargne et de crédit mises en place en 2000 par l'ONG Christian ChildrenFund (actuel Child Fund Agency) et l'USAID et est issue d'un programme de parrainage d'enfants. Le programme avait démarré par une phase pilote sur 12 sites à Dakar et Thiès avant d'être élargi à d'autres localités. A la fin du programme en 2003, les MEC de l'U IMCEC étaient déjà devenues matures et en décembre 2005 l'union a été constituée avec quatre (04) IMCEC(Dakar, Thiès, Mbour, et Casamance).  
Aujourd'hui, l'Union des Institutions Mutualistes Communautaires d'Epargne et de Crédit du Sénégal (U-IMCEC Sénégal) fait partie des cinq réseaux leaders du marché de la microfinance au Sénégal avec plus de 40 guichets répartis dans 12 régions du pays. Elle offre une large gamme de produits et services financiers.  
Par rapport aux zones d'intervention du ProFNAC, U-IMCEC est déjà présente à Matam, Tambacounda et Kédougou.  
Le Directeur de U-IMCEC rencontré, a montré son intérêt pour le Projet qui constitue un challenge, tout en insistant sur le fait que les facteurs justificatifs d'une future installation dans ces localités tiendraient plus compte des opportunités qu'elles présentent (développement de portefeuille, dynamisme économique, volume et nature des activités à financer).

- **L'URMECS** (Union Rurale des Mutuelles d'Epargne et de Crédit du Sénégal)  
Des 29 GEC appuyés par l'ONG italienne ACRA entre 1997 et 2003, huit (8) ont évolué en Mutuelles d'Epargne et de Crédit agréées.

Parmi ces huit mutuelles, sept (7) se sont mis en réseau en 2004 : MEC de Baba Garage, MEC de Keur Madiabel, MEC de Khombole, MEC de Fimela, MEC de Koar et MECs de Albadar et MEC de Coubanao. L'URMECS sera agréée par le Ministère de l'Economie et des Finances le 20 février 2006 sous le numéro TH 2-06-008 U.

Actuellement l'URMECS compte quinze points de services répartis dans sept régions du pays que sont Dakar (1), Diourbel (1), Fatick (1), Kaolack (1), Tambacounda (1), Thiès (1) et Ziguinchor (7). En dehors des organes statutaires, l'URMECS dispose d'une direction générale basée à Nguékhokh avec des services comme l'administration et les finances, l'audit et l'informatique.

Dans les régions de Tambacounda et de Kédougou, la MEC XEEWAL de Koar avec ses deux antennes situées à Koar Projet et à Gouloumbou joue un rôle important pour les producteurs de Bananes des villages environnants. Elle est en phase d'ouvrir la caisse de Wassadou pour être plus proche des populations. Des négociations sont aussi envisagées avec les femmes de Kédougou qui avaient mis en place le GEC ALBARKA avec l'appui d'ACRA. Avec l'appui du PROMER, la MEC a construit un guichet fonctionnel à Gouloumbou qui ouvre deux jours dans la semaine.

Lors de l'implantation de la mutuelle de Koar, les responsables de l'Urmecs avait déjà attiré l'attention du Pgies sur l'inopportunité d'avoir deux mutuelles dans la localité, suggérant d'en faire une seule. Idée qui reste plus que d'actualité.

- **CAURIE6-Microfinance**

La société coopérative dénommée « Coopérative Autonome pour le Renforcement des Initiatives Économiques par la Micro finance » est le fruit de la capitalisation d'une vingtaine d'années de partenariat dynamique et fécond entre le Catholic Relief Services (CRS) - Sénégal à travers son Programme de Micro Finance « les Banques Villageoises » et son partenaire stratégique, l'Eglise du Sénégal par le truchement de la Caritas.

Constitution en janvier 2009 d'une société coopérative d'épargne et de crédit dénommée « Coopérative Autonome pour le Renforcement des Initiatives Économiques par la Micro finance » portant le sigle « CAURIE-MF ». La mise en œuvre opérationnelle de l'offre des produits et services financiers est menée par l'intervention des trois (03) agences traditionnelles (Thiès, Kolda et Ziguinchor), des trois (03)

agences (Louga, Diourbel et Tambacounda) mises en place en juillet 2009 et de la nouvelle agence de Kaolack qui a démarré en fin juillet 2012.

Les opérations couvrent, onze (11) régions administratives du Sénégal, à savoir : Thiès, Diourbel, Kolda, Sédhiou, Ziguinchor, Dakar (Département de Rufisque), Louga, Tambacounda, Kaolack, Kaffrine et Fatick. La Direction Générale, basée à Thiès, assure la supervision et la coordination générale des activités. Elle dispose des directions et services rattachés (administration et ressources humaines, finance et comptabilité, opérations, partenariat, études et développement, contrôle, système d'information).

#### **Etat des forces et faiblesses de l'Alternative2**

<b>Faiblesses de cette alternative</b>	<b>Forces de cette alternative</b>
<p>-Les mutuelles partenaires n'accepteraient de s'implanter ou de desservir ces zones qu'à partir du moment où elles sont certaines de l'existence d'un potentiel d'activités</p> <p>- La situation actuelle de la plupart des zones d'intervention du projet (sociétariat, niveau d'activités, revenu, etc.) ne peuvent pas garantir une rentabilité dans le court terme de ces institutions. Par conséquent une telle alternative ne pourrait prospérer que si le ProFNAC met en place un dispositif d'incitation (appui logistique, fonds de crédit, accompagnement, etc...)</p>	<ul style="list-style-type: none"> <li>• Contrairement au système mis en place par le PGies, l'activité sera cette fois assurée par des professionnels confirmés.</li> <li>• L'expérience des uns et des autres en matière de finance rurale et de connaissance de la zone constitue un atout pour le Projet.</li> <li>• L'opérationnalisation d'un tel dispositif peut se faire dans des délais très courts parce que les partenaires ne faisant qu'adapter et déployer leurs propres outils</li> <li>• Les conventions signées avec ces partenaires financiers vont davantage intégrer les préoccupations du ProFNAC en terme de développement adaptés notamment en matière de financement vert.</li> </ul>

#### **Synthèse des activités à financer par le Projet**

<b>Nature de l'activité</b>	<b>Intervenants</b>	<b>Bénéficiaires</b>	<b>Coût de l'Action</b>
<b>Investissement</b>			
1-Construction et équipement en mobilier du siège de MEC/PNDS 2-Appuyer l'implantation des mutuelles partenaires dans les zones du Projet (construction et équipement)	ProFNAC	MEC/PNDS  Ferlo, Gandon ,NiokoloKoba	<b>25 000 0000</b>  <b>30 000 000</b> (3x10 000 000)
<b>Sous total investissement</b>			<b>55 000 000</b>
<b>Appui institutionnel</b> -Prise en charge de l'agent de crédit recruté - Appui en fonctionnement Mec PNDS	ProFNAC	MEC/PNDS, Ferlo, Gandon ,NiokoloKoba	<b>6 000 000</b> (250 000*24)  <b>18 000 000</b> (500 000*36)
<b>Sous total appui institutionnel</b>			<b>24 000 000</b>
<b>Formation</b>			
<b>-Programme d'éducation financière</b> (protection des clients, budget, épargne gestion des dettes, etc.) au profit des populations bénéficiaires du projet		Mutuelle et les Clients des mutuelles et	<b>40 000 000</b> (2 500 000 x 16)

<b>Formation MEC Partenaires</b>  - Programme de formation au profit des nouveaux dirigeants locaux de ces institutions sur les thèmes : *Gouvernance et Gestion organisationnelle d'une mutuelle *Gestion du crédit  <b>Formation MEC/PNDS</b>  -Gouvernance et Gestion organisationnelle d'une mutuelle  -Gestion du crédit  -Gestion comptable et financière d'une mutuelle  -Développement de produits financiers adaptés	ProFNAC, Mutuelles, Prestataires externes	bénéficiaires du programme	
		Mutuelles Partenaires	<b>7 500 000</b> (2 500 000 x 3) <b>7 500 000</b> (2 500 000 x 3)
		Mutuelle PNDS	<b>5 000 000</b> (2 500 000 x 2) <b>5 000 000</b> (2 500 000 x 2) <b>5 000 000</b> (2 500 000 x 2) <b>5 000 000</b> (2 500 000 x 2)
			<b>75 000 000</b>
<b>Sous total formation</b>			
<b>Accompagnement</b>			
<b>Accompagnement MEC/PNDS</b> <ul style="list-style-type: none"> <li>• Processus mutation institutionnel et réorganisationnelle</li> <li>• Recrutements agents de crédit</li> <li>• Manuels de procédures</li> <li>• Plans stratégiques</li> <li>• Coaching technique et financier</li> <li>• Mise en place des outils et Assistance comptable</li> <li>• Mise à disposition d'une ligne de crédit revolving</li> </ul> <b>Accompagnement autres MEC partenaires</b> -Appui au dispositif d'information, sensibilisation et de suivi du crédit	ProFNAC, MEC/PNDS Prestataires de services	MEC/PNDS	5 000 000 2 000 000 3 000 000 3 000 000 10 000 000 8 000 000 50 000 000 30 000 000 (10 000 000 x3)
		MEC partenaires des zones du Ferlo,	



-Mise à disposition d'une ligne de crédit revolving		de Gandon et de Niokolo Koba	300 000 000 (3x100 000 000)
<b>Sous total accompagnement</b>			<b>411 000 000</b>
<b>TOTAL GENERAL</b>			<b>565 000 000</b>

Comment les IMF opérant en milieu rural peuvent améliorer leurs performances et atteindre leurs objectifs sociaux tout en se renforçant et en se garantissant une autonomie financière ? C'est aujourd'hui la problématique qui se pose pour les différentes institutions partenaires du projet.

Divers obstacles sont mis en avant par les institutions à savoir le coûts de transactions plus élevés en milieu rural, risques liés aux activités rurales, manque de compétences et de ressources et manque d'infrastructures, la faiblesse des stratégies de renforcement des capacités sont toutefois diverses.

Il est également mis en évidence le fait que lorsqu'on opère en milieu rural, l'offre de services financiers seule ne suffit pas. Il est important de combiner celle-ci avec l'offre de services non financiers.

Le Projet doit davantage collaborer avec des MEC qui intègrent l'importance de construire des institutions durables mais sans perdre de vue la mission sociale. Ce double objectif peut impliquer des transformations au sein de l'Institution au niveau des compétences requises. Les transformations institutionnelles exigent souvent des partenariats forts et de l'appui externe. Aujourd'hui la plupart des institutions connaissent des difficultés pour s'adresser aux populations les plus pauvres et contribuer à une amélioration de leurs niveaux de vie. Pour atteindre les objectifs et construire des institutions durables, il est nécessaire d'être proches des clients, d'avoir le contrôle sur les activités, du personnel engagé, des produits qui répondent aux besoins des clients et une analyse du degré de satisfaction des clients.

L'ensemble de ces facteurs et considérations doivent être intégrés par le ProFNAC dans le choix de l'une des options. C'est certainement un mixte des 2 alternatives qui devra être retenu.

### III PARTAGE DES REVENUS DES FILIERES

#### III.1. Mécanismes existants de génération de revenus aux différents acteurs

##### a) Produits forestiers ligneux dans les forêts aménagées

L'exploitation du bois d'énergie se fait exclusivement dans les forêts dites aménagées. C'est le cas au PERACOD et au PROGEDE. Le tableau suivant fait une analyse comparative de la répartition des recettes engendrées par la production et la commercialisation du charbon de bois des coûts afférents dans les deux projets.

PROGEDE	PERACOD
<ul style="list-style-type: none"><li>- Le producteur de charbon au niveau local paie 350 FCFA par sac à l'Etat</li><li>- Le producteur paie en plus 200 FCFA par sac qui sont répartis ainsi qu'il suit :<ul style="list-style-type: none"><li>▪ 50% pour le fonds d'aménagement</li><li>▪ 50% pour la Commune</li></ul></li><li>- Le producteur est libre de vendre partout sur le territoire et à qui il veut</li><li>- Le sac (1 quintal) est vendu bord champs à 3 500 FCFA. Il peut être revendu jusqu'à 8 000 FCFA à Dakar ou autres grands centres urbains selon la loi du marché.</li></ul>	<ul style="list-style-type: none"><li>- Le prix de vente bord champ est de 3 500 FCFA</li><li>- Le producteur paie 350 par sac à l'Etat</li><li>- Les 3 150 FCFA qui restent sont répartis ainsi qu'il suit :<ul style="list-style-type: none"><li>▪ 65% au producteur (qui a fait la coupe et la carbonisation)</li><li>▪ 20% pour le fonds d'aménagement</li><li>▪ 7% pour la Commune</li><li>▪ 8% pour le fonds social du village</li></ul></li><li>- Le producteur ne peut pas vendre ailleurs son produit</li><li>- Le produit est vendu aux femmes en exclusivité qui peuvent revendre le sac jusqu'à 5 000 FCFA.</li></ul>

##### b) Produits forestiers non ligneux (PFNL)

La circulation de PFNL nécessite un permis délivré par le Service des Eaux et Forêts. L'opérateur-acheteur du produit a le choix entre payer les frais y afférents avant ou après l'achat. Il est seulement tenu de le faire avant de circuler le produit du lieu d'achat à la destination. Le coût est à l'unité (kilogramme, quintal, sac, etc.). Les 100% du coût du permis sont payés directement au Trésor public. Ils sont considérés comme des recettes domaniales qui reviennent à l'Etat. Les communes ne perçoivent aucune part.

Lorsque qu'une infraction survient pendant la circulation du produit, un constat est établi et l'acheteur fait l'objet d'une verbalisation. Le montant de l'amende qui lui est fixé rentre dans le cadre des recettes contentieuses. Il est réparti comme suit : 70% revient à la Commune, 20% à l'indicateur de l'infraction et 10% à l'agent verbalisateur.

### III.2. Mécanisme à mettre en place par le ProFNAC pour les PFNL

Dans la situation actuelle, il n'existe pas de mécanisme qui assure aux communes des revenus issus des PFNL. Les PFNL ne sont pas encore pris en compte dans le cadre de la production et de la commercialisation des produits issus des plans d'aménagement des forêts. L'accès est libre à tout opérateur. Pour pallier ce manquement, le projet veillera à mettre en place un processus participatif pour susciter des nouvelles sources de revenus pour les Communes dans le cadre de l'exploitation et la commercialisation des PFNL. Les nouvelles sources de revenus devront faire l'objet d'une étude de faisabilité incluant une concertation et une harmonisation entre les différents acteurs impliqués.

Les revenus alloués à la Commune lui permettront d'avoir des moyens pour réinvestir dans les facteurs de production qui sont du ressort de la Commune (infrastructures, magasins à usages multiples, marchés, travaux d'intérêt communautaire, équipements de protection et la restauration de la forêt, etc.) et qui facilitent le développement des filières.

#### a) Taxes sur les PFNL

Le projet pourrait aider à la mise en place d'une taxe au poids ou au sac. Cette taxe serait dédiée aux Communes pour leur permettre tirer des revenus de l'exploitation des ressources forestières dans leurs territoires respectifs.

Le processus pourra être accompagné par une étude de faisabilité qui répondra à un certain nombre de question du genre :

- A combien pourrait s'élever le montant de la taxe ?
- Quelles sont les contraintes d'ordre institutionnel et juridique qu'il faudra prendre en compte ?
- Comment lever ces contraintes ?
- A quels types d'activités devra être destinée cette taxe dans le budget des Communes ?
- Qui prélève la taxe? A quel niveau de la filière sera-t-elle prélevée (vente bord champ ou vente dans les grands centres urbains)?
- Quel ordre de grandeur (% de prix de vente? montant forfaitaire par poids?)
- qui contrôle? avec quels moyens?
- Comment pourrait-on prévenir les risques de fraude ?

Les secteurs d'investissement tournent essentiellement autour des domaines suivants :

- Réactualisation du plan d'aménagement des RNC et UP
- Construction de Centre de Protection de la Nature
- Développement de filières.

Si les deux premiers domaines ne sont pas des pourvoyeurs directs de revenus. Ils permettent de garantir la pérennisation de l'approvisionnement en divers produits. Ils constituent un préalable qui permet d'attirer les acteurs et de sécuriser leurs investissements dans les différents segments des filières des produits. C'est le développement des filières qui constitue une source directe de revenus. Trois principaux acteurs sont concernés par la répartition des recettes issues de la commercialisation des produits. L'Etat tire sa « part » au moment de la délivrance des permis à l'acheteur. Le CIV (ou le groupement) tire ses revenus de la vente et des taxes qui sont appliquées par unité de mesure (kilogramme, tonne, quintal, ou autres). Ces revenus vont directement dans sa caisse. Ce sont les taxes qui font l'objet de répartition entre le CIV (ou le groupement) et la Commune. Dans la mesure où le CIV (ou le groupement) applique toujours une marge bénéficiaire lors de la vente, la répartition des recettes de taxes devrait plus aller en faveur de la Commune. A titre d'exemple, le Projet Wula Nafa avait préconisé une taxe de 15 FCFA par Kg de fruit de Baobab vendu. Il proposé que les 50% aillent au fonds d'aménagement et 50% à la Commune. Cependant, dans le cadre du ProFNAC, la clé de répartition suivante pourrait être appliquée sur les 15 FCFA :

- 30% au CIV ou au groupement pour alimenter le fonds d'aménagement ou de restauration des forêts
- 70 % pour la Commune

D'autres taxes pourront être appliquées sur les produits transformés. Cette taxe devra faire l'objet d'une concertation entre les différents acteurs concernés.

#### **b) Redevances liées au prélèvement d'espèces et de produits**

L'Article premier du décret n° 96-572 du 09 juillet 1996 fixant les taxes et redevances en matière d'exploitation forestières, modifié par le décret n°2001-217 du 13 mars 2001 stipule que :

« L'exploitation à caractère commercial des produits forestiers provenant des forêts classées, des périmètres de reboisement en régie ou de forêts naturelles non classées du Domaine national, est soumise à l'acquittement des taxes et redevances forestières ».

Cependant, les redevances sont entièrement versées dans les caisses de l'Etat. Le ProFNAC pourrait travailler dans le sens d'une révision de montants fixés à la hausse. Cela permettrait de prendre en compte les différentes valeurs des produits, y compris les valeurs d'usages indirects. Ainsi, une partie de cette redevance pourrait revenir à la Commune concernée par le prélèvement.

## IV COMPENSATION DES DOMMAGES A LA BIODIVERSITE (ZONE MINIERE DU NIOKOLO-KOBA)

Ce mécanisme n'a pas encore été appliqué au Sénégal, sa présentation ci-dessous répond à une vocation pédagogique. Une piste à explorer serait de mettre en place une zone test pour ce mécanisme dans le nord-est du pays, dans la zone minière de Niokobo-Koba.

Présenté comme un moyen de concilier développement et conservation de la biodiversité, le principe de compensation des dommages à la biodiversité figure dans les législations environnementales qui se généralisent dans les pays industrialisés au cours des années 1970. Il faudra cependant attendre les années 1990 pour que son application s'étende à partir des Etats-Unis. Les initiatives de compensation volontaire se multiplient dans les pays en développement depuis le milieu des années 2000, promues en particulier par certaines ONG de conservation qui cherchent à la fois à réduire les impacts négatifs des projets d'infrastructures en faisant évoluer la législation et à mobiliser des ressources du secteur privé pour le financement des réseaux nationaux d'aires protégées dont elles sont gestionnaires. Elle est identifiée comme une source de financement potentielle importante par les fonds fiduciaires pour la conservation qui se sont multipliés ces vingt dernières années.

### IV.1. Le principe des offsets de biodiversité

#### *Rationalité du mécanisme*

En application du principe du **pollueur-payeur**, le maître d'ouvrage public ou privé d'un projet d'aménagement compense ses **impacts résiduels** sur la biodiversité par des opérations de restauration d'écosystèmes **équivalents en nature** (i.e. en espèces, habitats, ou fonctionnalités écologiques) à ceux qui ont été détruits ou qui le seront.

Pour ne pas s'apparenter à un « droit à détruire » (*licence to trash*), elle ne doit intervenir qu'en dernier recours dans une « **hiérarchie d'atténuation** » pour les impacts que l'aménageur ne peut ni éviter ni réduire. Elle doit par ailleurs viser une « **absence de perte nette** » de biodiversité ou mieux un « gain net » de biodiversité (équivalence a minima des gains et des pertes).

Figure X La séquence Eviter – Réduire – Compenser (UICN-France 2011, BBOP 2009)

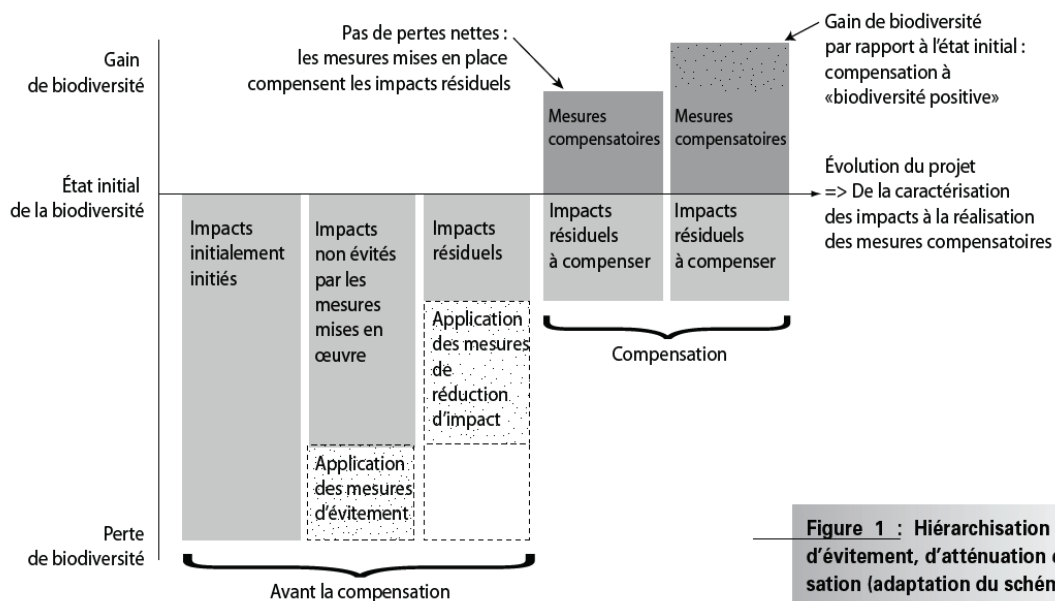


Figure 1 : Hiérarchisation des mesures d'évitement, d'atténuation et de compensation (adaptation du schéma du BBOP)

Selon la réglementation en vigueur, les capacités institutionnelles, et les possibilités offertes par le milieu, le maître d'ouvrage peut :

- i. Mettre en œuvre lui-même les mesures compensatoires, en les sous-traitant au besoin à un prestataire spécialisé (compensation sur mesure, au cas par cas) ;
- ii. Acheter des crédits de compensation sur un marché régulé par l'Etat à un opérateur ayant déjà réalisé des mesures compensatoires, certifiées équivalentes en nature aux impacts à compenser (offre de compensation de banques d'actifs naturels) ;
- iii. Alimenter un fonds de compensation pour s'acquitter de sa dette écologique (compensation financière).

Dans les deux derniers cas, la responsabilité de la pérennité des mesures compensatoires est transférée du maître d'ouvrage à la banque ou au fonds de compensation.

Le système des **banques de compensation** vise à faciliter la mise en œuvre des mesures compensatoires (logique de l'offre) et à en **maximiser le rapport coût-efficacité** : anticipation des besoins de compensation des aménageurs (compensation préalable aux impacts), mutualisation des activités de compensations (projets écologiquement plus cohérents à l'échelle d'un territoire que des actions isolées), inscription dans une logique d'aménagement du territoire, économies d'échelles, contrôle facilité et garanties plus importantes de pérennité des mesures compensatoires.

### *Ce que n'est pas le mécanisme*

Le principe de la compensation des dommages à la biodiversité est une **déclinaison du principe du pollueur-payeur** qui impose au maître d'ouvrage d'un projet d'aménagement ou d'infrastructure d'assumer la responsabilité des pertes « significatives » de biodiversité engendrées par son projet à l'échelle d'espèces (protégées notamment) ou de milieux (zones humides, forêts, etc.) considérés pour leurs fonctionnalités écologiques.

La compensation écologique est une modalité parmi d'autres d'exercice de la responsabilité du maître d'ouvrage dans l'atténuation des impacts environnementaux de son projet. Elle ne relève pas cependant du régime des pénalités environnementales pour non-respect de la réglementation (dont le montant n'est pas lié à la nature ou l'intensité des impacts mais à la qualification juridique de l'infraction) ou pour le préjudice subi par des particuliers ou la collectivité (même si parfois une obligation de réparation en nature des dommages accompagne l'indemnisation). Elle ne relève pas plus régime assurantiel (provisionnement volontaire, ou imposé par la réglementation, des entreprises pétrolières pour couvrir la réparation de dommages accidentels ou des entreprises minières pour la restauration du site à la clôture de l'exploitation).

Si l'étude d'impact environnemental du projet est le cadre d'identification des besoins de compensation et si le plan de gestion environnemental, décrivant les actions de remédiation, est le cadre de mise en œuvre des mesures compensatoires ; la compensation porte ici sur des éléments de biodiversité mesurables « en nature » et non pas sur la perte de la valeur des services écosystémiques entraînée par le projet. Significativement, le coût de la compensation n'est pas celle de valeur des services écosystémiques mais le coût de la restauration des milieux ou de leur mise en conservation (i.e. les coûts de leur gestion active et les coûts d'opportunité qu'entraînent les restrictions d'usage).

Inscrite en dernier recours dans la séquence « éviter, réduire, restaurer, compenser », la compensation est envisagée comme un mécanisme incitatif qui, en donnant un coût élevé à la destruction de la biodiversité, est supposé conduire les maîtres d'ouvrage à éviter et réduire leurs impacts en amont. Dans la pratique, l'incitation est limitée pour les multinationales qui ont les moyens de payer. Il revient donc au législateur définir ce qui est compensable de ce qui ne l'est pas et aux pouvoirs publics de faire appliquer ces lignes rouges dans les processus de décision.

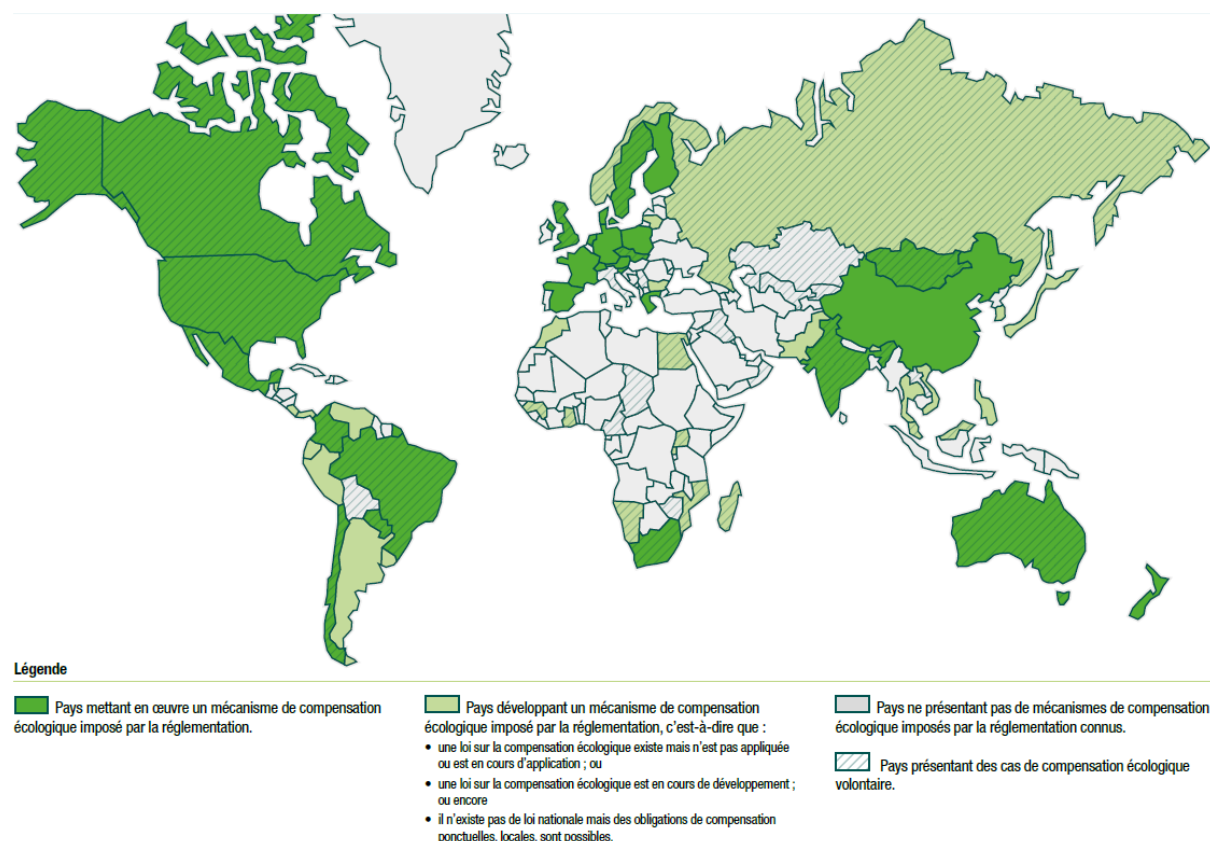
## IV.2. La mise en œuvre du principe de compensation

### *Echelle de mise en œuvre*

La compensation est inscrite dans la réglementation à l'échelle ou sein d'une cinquantaine de pays, principalement industrialisés et émergents (TBC, 2013), dans le cadre des études d'impact environnemental. Elle est obligatoire dans une vingtaine d'entre eux.

Lancées au début des années 1970 aux Etats-Unis, les banques de compensation (espèces et habitats) se sont multipliées à partir des années 1990 du fait d'une régulation accrue. Elles ont essaimé dans le monde anglo-saxon et en Europe mais demeurent au stade expérimental dans de nombreux pays.

Fig. X La pratique de la compensation dans le monde (CDC-Biodiversité 2015)



### *Potentiel de mobilisation de ressources*

Dans sa mise à jour de 2011 des « marchés de la biodiversité », *Ecosystem Marketplace* identifiait 45 programmes en activité sur 19 pays au travers desquels la compensation mobiliserait **\$3,2 Md/an** (entre \$2,4 et 4 Md/an, pour moitié aux Etats-Unis) sur plus de 187 000 hectares (des chiffres à considérer avec précaution faute de transparence des transactions) et identifiait 27 autres programmes alors en préparation. Sur l'hypothèse basse d'une croissance annuelle du marché de 5% (tendance historique), les ressources mobilisées atteindraient entre \$5 et 8 Md/an en 2020 (avec un potentiel estimé à **\$70 millions**, la compensation volontaire occupe une place relativement marginale et difficile à évaluer en l'absence totale d'obligation d'information). Un développement du marché européen comparable à celui du marché américain conduit à envisager une valeur globale conservatrice de **\$10 Md/an en 2020**.

### *La compensation volontaire*

Les initiatives de compensation des atteintes à la biodiversité ne se limitent pas aujourd'hui à la stricte application d'un cadre réglementaire. Certaines ambitionnent d'en pallier les manques ou d'anticiper

son évolution pour des motifs opérationnels ou d'image. Les incitations à investir dans la compensation volontaire des atteintes à la biodiversité de leurs projets sont multiples (Darbi, 2010) :

- **Faciliter l'accès aux territoires et aux ressources** (*license to operate*) : accélérer l'obtention des autorisations administratives mais aussi influencer sur l'élaboration de la politique et de la réglementation environnementale ;
- **Gérer le risque de réputation** du projet en renforçant son acceptabilité auprès des différentes catégories de parties prenantes (*social license to operate*) : communautés locales, régulateurs, société civile, fournisseurs et consommateurs ;
- **Accéder au capital** en s'alignant sur le niveau d'exigence des standards des institutions financières et des bailleurs de fonds internationaux en matière de gestion des impacts sur la biodiversité des projets qu'ils financent ;
- **Gagner en efficacité** dans la gestion des risques comme des actifs/passifs environnementaux ;
- **Gagner de nouveaux marchés** en étant précurseur dans un domaine auquel les investisseurs deviennent sensibles.

#### *Standardisation : la plateforme BBOP*

Animé par les ONG Forest Trends et Wildlife Conservation Society (WCS), le [Business and Biodiversity Offset Programme \(BBOP\)](#) est une initiative lancée en 2004 de promotion des « bonnes pratiques » pour la réalisation d'un objectif de « non perte nette de biodiversité » par la mise en œuvre de la « hiérarchie d'atténuation d'impacts » au travers de l'établissement de lignes directrices, de méthodologies et d'un standard sur la compensation. Il se définit lui-même comme une « communauté de pratiques » (plus de 80 membres) impliquant entreprises, sociétés de conseil, institutions financières, organisations de la société civile et gouvernement acceptant de partager leurs retours d'expérience, notamment autour des projets identifiés comme « pilotes BBOP ».

La première phase des travaux (2006-2009) a porté sur l'élaboration des 10 principes du standard :

1. Absence de perte nette ;
2. Additionnalité des résultats de la conservation ;
3. Respect de la séquence de l'atténuation ;
4. Limites à ce qui peut être compensé ;
5. Échelle territoriale ;
6. Participation des parties prenantes ;
7. Équité ;
8. Résultats à long terme
9. Transparence ;
10. Science et savoirs traditionnels.

La seconde phase des travaux (2009-2012) a permis l'élaboration des critères et indicateurs du standard et des documents d'accompagnement. S'inspirant du modèle des PCI utilisé pour l'élaboration de standards de gestion ou de production durable, le [standard](#) du BBOP pourrait à terme servir à la certification des initiatives d'atténuation des impacts sur la biodiversité.

Selon la [stratégie révisée](#) en janvier 2016, la priorité est aujourd'hui au développement de feuilles de route pour les entreprises et les gouvernements, à la vulgarisation des concepts de compensation, à la diffusion d'études de cas, à la formation, à l'appui enfin aux études de faisabilité incluant la compensation dans les plans de gestion environnementaux (BBOP, 2016).



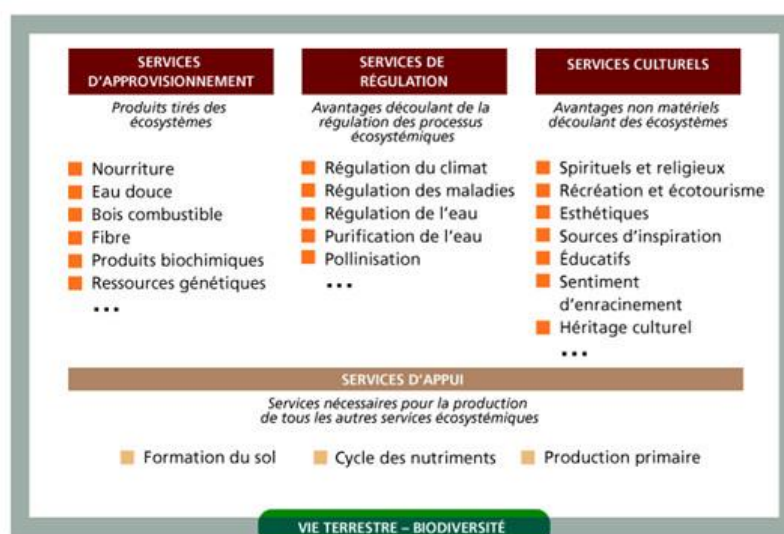
## V. PSE CARBONE REDD+

### V.1. La théorie des PSE à l'épreuve : un continuum de pratiques

#### Les services écosystémiques / services environnementaux

D'après le Rapport sur « L'évaluation des écosystèmes pour le Millénaire » (*Millennium Ecosystem Assessment*, MEA, 2003), les services écosystémiques sont considérés comme « les bienfaits que les écosystèmes procurent aux êtres humains » et peuvent être classés en quatre catégories (cf. Fig. X).

Fig. X Typologie des services écosystémiques (adapté du MEA 2003, FAO 2007)



Pour les services écosystémiques qui sont liés à un régime spécifique de mise en valeur de l'espace et des ressources par leurs usagers, ces services constituent des externalités positives : elles ne relèvent pas d'un échange marchand ni même d'un contrat. Ne pas déboiser ou planter des arbres, améliorant la captation du carbone, sera bénéfique à l'ensemble de la population mondiale. Il en est de même du cas des agriculteurs usagers des terres en amont qui utilisent moins de produits polluants, ce qui rend moins coûteuse le traitement de l'eau potable en aval.

A l'inverse, certains modes de gestion non durable des ressources affecteront la production de ce service, ce sont des externalités négatives. Elles ont un coût pour ceux qui les subissent sans qu'intervienne aucune compensation. Le changement de pratiques comme la restriction ou la suspension volontaire de ses droits d'usage (le service environnemental) ont cependant un coût d'opportunité (renonciation à des gains potentiels) et peuvent entraîner des coûts supplémentaires qu'il faudra compenser pour inciter au changement des pratiques. Les PSE proposent de compenser ces coûts : le bénéficiaire du service paye celui qui le fournit, c'est le « pollueur-payé ».

La contractualisation (entre usagers et bénéficiaires) et la conditionnalité (paiement au résultat) sont au principe du dispositif de PSE. Ces principes constituent une rupture par rapport aux pratiques liées à la mise en œuvre des activités socio-économiques censées encourager indirectement la conservation/restauration (cas des PCDI – Programme de conservation et de développement intégré – ou des initiatives de mise en place d'activités génératrices de revenu dans le cadre des transferts de gestion aux communautés locales).

Figure X Position des PSE dans les instruments de politique publique (Laurans et al, 2011 : 30)



Dans la réalité, la mise en œuvre des PSE donne lieu à une typologie diversifiée et à différentes formes et adaptations plus ou moins éloignées de sa conception théorique : entre des définitions comme celle dite « canonique » avec une approche « normative » de Wunder (2005) et celles plus « positives » et adoptant une approche « élargie » comme celle de Muradian et al. (2010), en passant par des définitions plus « opérationnelles » comme celles de Pagiola et Platais (2007), FAO (2007) et Pagiola et al. (2013).

Nous retrouvons notamment, d'une part, des PSE émanant d'une demande privée exprimée directement par les bénéficiaires d'un changement de l'utilisation des terres (pour ne pas subir les coûts actuels et potentiels liés à la dégradation des services hydrologiques, une société Vittel signe des accords de compensation avec les agriculteurs utilisateurs des terres en amont) ; et d'autre part, des PSE portés par un programme public de gouvernements ou de collectivités locales et reposant généralement sur des prélèvements obligatoires ou de la fiscalité dédiée (le programme PSE au Costa Rica, piloté par le gouvernement et qui compense les propriétaires forestiers, s'appuie sur des recettes fiscales spécifiques provenant de différentes activités).

- Selon Wunder (2005, p. 3), un PSE est « *une transaction volontaire, où un service environnemental (SE) bien défini – ou un usage pouvant assurer la fourniture de ce SE – est “acheté” par (au moins) un client de SE à (au moins) un fournisseur de SE, si – et seulement si – le fournisseur de SE assure la fourniture ininterrompue du SE (conditionnalité)* » (citée et traduite par Froger et al, 2016a)].
- Platais et Pagiola (2007) ajoutent « *la qualification importante que les services ciblés par les programmes de PSE sont ceux qui produisent des bénéfices indirects : c'est à dire, les services qui sont les externalités du point de vue de leurs fournisseurs* » (cité par Pagiola et al., 2013, p.1).
- Pagiola et al. (2013, p.1) considèrent les PSE comme des « *mécanismes qui font des paiements directs et conditionnels aux utilisateurs de terres qui entreprennent des pratiques de conservation visant à générer des bénéfices en dehors de leur propriété (par exemple, pour protéger ou améliorer l'approvisionnement en eau en aval, pour stocker le carbone, ou pour conserver la biodiversité)* ».
- L'origine conceptuelle des mécanismes PSE s'inscrit dans une approche d'internationalisation des externalités : « *étant donné que les fournisseurs de services environnementaux ne reçoivent généralement aucune compensation pour le service rendu, les services tendent à être insuffisants, voire à faire totalement défaut* » (FAO, 2007, p.7). Les transactions dans les dispositifs PSE consistent « *en des opérations volontaires par lesquelles un fournisseur de services est rémunéré PAR ou POUR LE COMPTE des bénéficiaires de ces services, pour des pratiques de gestion agricole, forestière, côtière ou marine dont on attend une fourniture de services plus constante ou plus efficace qu'elle ne l'aurait été sans de tels paiements* » (FAO, 2007, p.8)
- Selon Muradian et al. (2010, p.1205), un PSE se définit comme « *un transfert de ressources entre des acteurs sociaux, visant à encourager les décisions individuelles et/ou collectives d'usage du sol conformes à l'intérêt social dans la gestion des ressources naturelles* » (citée et traduite par Froger et al, 2016a)].

De ces différentes définitions et des observations des réalités sur terrain, nous déduisons l'existence de deux entités principales qui interagissent dans un dispositif PSE :

- d'un côté, il y a l'entité « fournisseur(s) de SE »
- de l'autre côté, on retrouve une entité qui « paie » pour le PSE [« le(s) bénéficiaire(s) directs de SE » ou toutes autres entités publiques ou privées qui bénéficient indirectement ou pas du tout du SE concerné mais qui sont amenées volontairement ou par obligation à payer pour ce SE].

Une troisième entité peut intervenir dans un dispositif PSE. Il s'agit des intermédiaires, observés fréquemment dans les PSE dans les PED, qui accompagnent principalement la mise en place et le fonctionnement même du dispositif PSE (identification du ou des SE concernés, facilitation de la mise

en relation des fournisseurs et des payeurs, élaboration de l'arrangement institutionnel au sein de chaque entité et entre ces deux entités, canalisation et collecte des contributions au PSE, appui dans la distribution des compensations et dans le contrôle des engagements, ...).

#### PSE de type asset-building vs use-restricting

Selon le cas, le paiement peut constituer la contrepartie à une action spécifique à mener par le fournisseur comme par exemple des patrouilles de suivi de la biodiversité ou des actions de reboisement ou la contrepartie d'une restriction des pratiques (le brûlis par exemple) ou des usages (abandon de droits d'usages dans certaines zones)

## V.2. La REDD+

Dans le cadre de sa stratégie de mobilisation de ressources pour la réalisation des objectifs d'Aichi, la CDB a identifié l'intégration de la biodiversité dans les financements climatiques comme l'un des « mécanismes de financement novateurs » à explorer. La biodiversité y est valorisée comme un co-bénéfice attaché à la lutte contre les changements climatiques, qu'il s'agisse de leur atténuation (réduction des émissions de gaz à effet de serre) ou de s'y adapter (réduction de la vulnérabilité des sociétés par une meilleure anticipation du risque). Ayant pour raison d'être de cibler les facteurs de déforestation, la REDD+ relève principalement des politiques d'atténuation et ne concerne que les pays en développement. Les aires protégées ont néanmoins leur place dans le « + » de la REDD.

### **Le panorama des financements climats**

La Banque mondiale estime que les pays en développement devront mobiliser \$75 – \$100 milliards par an pendant les 40 ans dans les mesures d'adaptation et \$140 – 175 milliards par an d'ici 2030 dans les mesures d'atténuation.

En 2009 à Copenhague, les Parties à la CCNUCC se sont fixé un objectif annuel de mobilisation de ressources additionnelles de \$100 milliards d'ici 2020. Elles se sont dotées d'un instrument pour les mobiliser et les allouer : le Fonds Vert pour le Climat (GCF en anglais).

# GLOBAL LANDSCAPE OF CLIMATE FINANCE 2015 **USD 391** BN TOTAL

Landscape of Climate Finance 2015 illustrates climate finance flows along their life cycle for the latest year available, mostly 2014, in USD billions

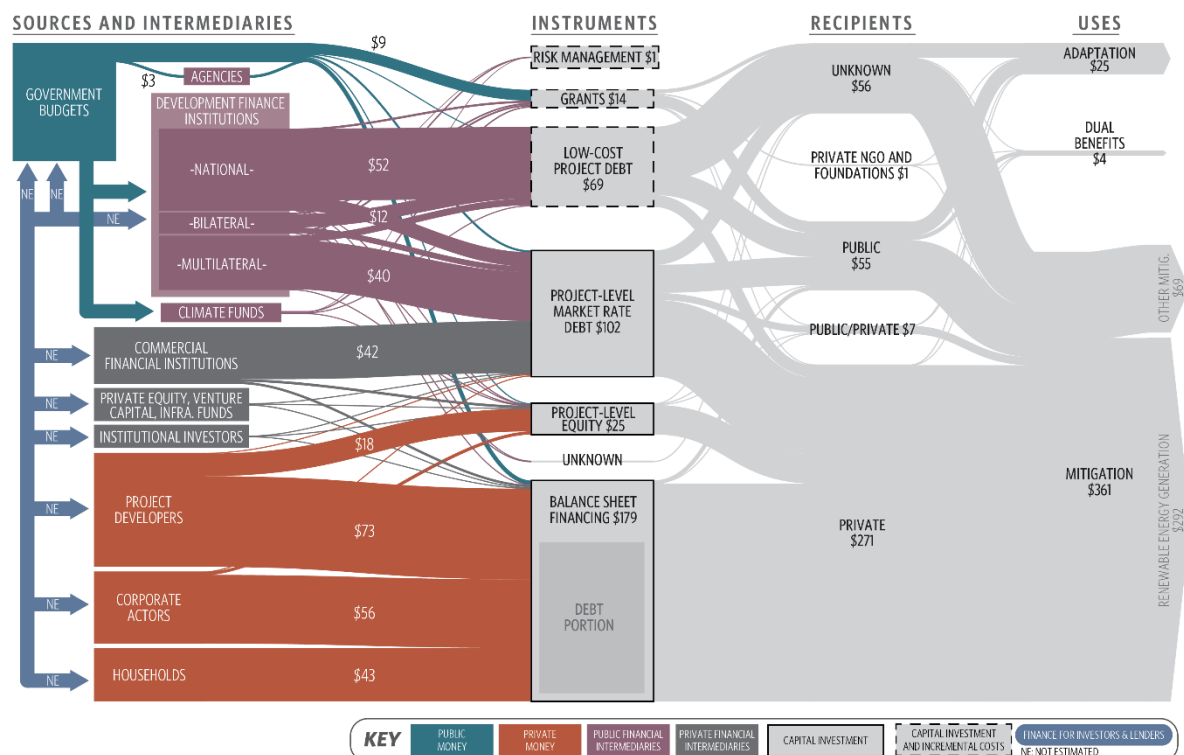
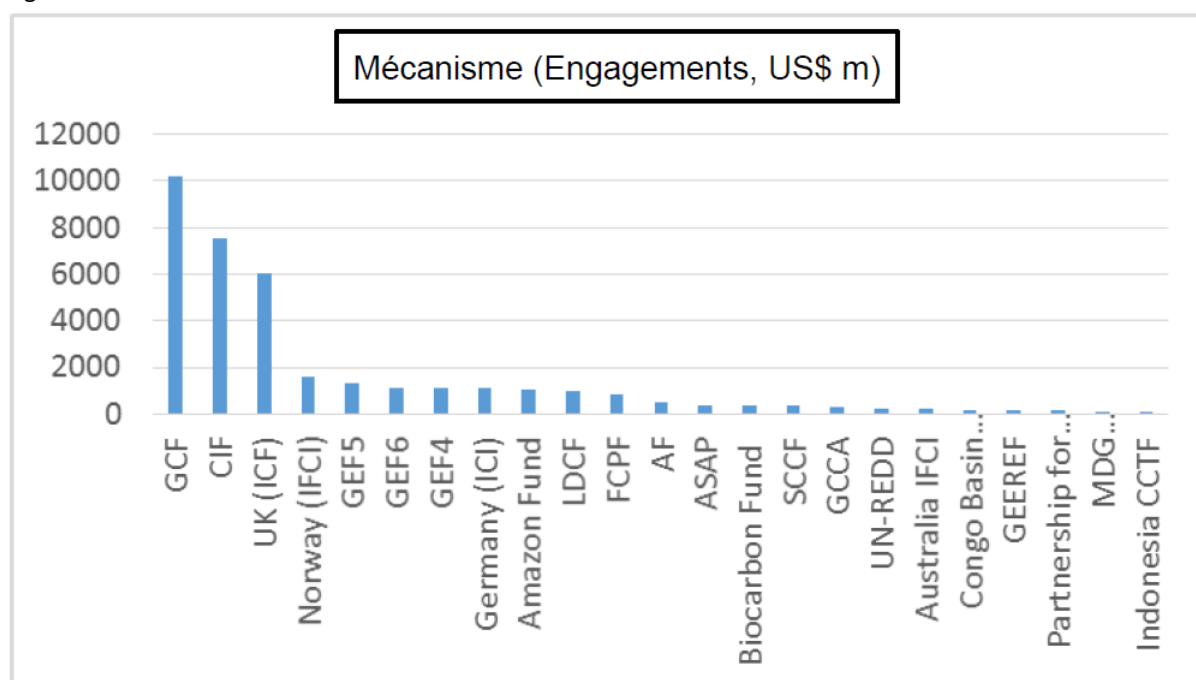


Figure X



## La REDD+ comme mécanisme international

### *Inclure le secteur des terres et les pays en développement dans les politiques d'atténuation*

La déforestation et le changement d'utilisation des terres sont à l'origine d'environ un quart des émissions globales de GES anthropiques. Défrichements agricoles et construction d'infrastructures sont les principaux facteurs d'émissions dans la plupart des pays tropicaux. Limitée, la discussion sur le rôle

de l'agriculture dans l'atténuation s'est focalisée sur les sauvegardes (enjeux de sécurité et de souveraineté alimentaire) plus que sur la réduction efficace des émissions du secteur des terres. Dans la comptabilité des émissions, le secteur des terres présente la particularité d'être à la fois émetteur de GES et puits de carbone.

Dans les négociations climatiques, le rôle des forêts dans l'atténuation a d'abord été traité sous la thématique de l'utilisation des terres, du changement de leur utilisation et de la foresterie (LULUCF en anglais) pour les pays développés cherchant à déduire dans leurs inventaires d'émissions leurs importants puits de carbone forestiers (Etats-Unis, Russie, Canada) puis sous la thématique REDD+ pour les pays en développement.

Les émissions des pays en développement étant en effet principalement issues de la conversion des terres forestières à d'autres usages, ce mécanisme entend faire valoir leur contribution à l'effort global de réductions d'émission. La seule fenêtre accessible au secteur des terres – et de ce fait à nombre de pays en développement – dans le protocole de Kyoto étant les projets de boisement/reboisements dans le cadre du Mécanisme pour un développement propre (MDP), celui-ci n'a pas permis de cibler les moteurs de la déforestation dans ces pays.

### *L'extension du domaine du mécanisme*

REDD+ est un mécanisme conçu pour récompenser les résultats des pays forestiers tropicaux en matière de lutte contre la déforestation à partir de la mesure des réductions d'émissions liées à la déforestation. Initialement proposé pour ne tenir compte que du changement d'utilisation des terres (réduction des surfaces forestières), il a progressivement été convenu de prendre en compte dans le mécanisme la dégradation (réduction de la densité du couvert forestier liée à l'exploitation du bois), le rôle de conservation (aires protégées), de la gestion forestière durable (aménagement forestier) et de l'accroissement des stocks de carbone forestiers (restauration naturelle, plantations).

L'extension du champ de RED à REDD+ a été portée notamment par les pays forestiers d'Afrique centrale dont la dynamique historique de déforestation est moindre, non pas en raison de pratiques vertueuses mais d'un modèle de développement axé sur la génération d'une rente forestière et minière plutôt que sur une rente agricole (soja et viande en Amazonie, palmier à huile et pâte à papier en Indonésie). Faute de pouvoir obtenir la rémunération d'un stock de carbone sur pied indépendamment des pressions sur la ressource, ils ont obtenu de valoriser l'aménagement forestier durable et l'extension de leur réseau d'aires protégées. La Chine a de son côté poussé à inclure l'accroissement des stocks de carbone pour valoriser ses reboisements à grande échelle.

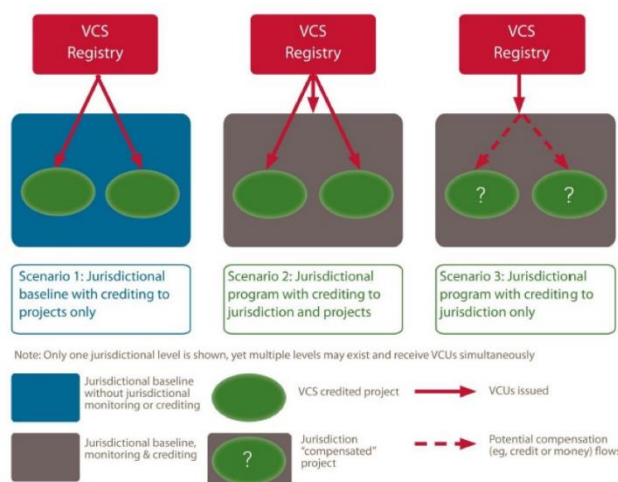
### *Les trois phases du développement de la REDD+*

Prévue pour se déployer en trois phases dites de préparation, d'investissement (réformes structurelles, sectorielles et transversales) et de paiements aux résultats, le déploiement de REDD+ s'est longtemps limité à des projets pilotes déclinant, en les simplifiant, des méthodologies MDP pour ajouter un module carbone à des projets intégrés de conservation et de développement existants. Avec l'entrée dans la phase d'investissement, les incitations REDD+ sont désormais pensés à l'échelle de juridictions (Etats, provinces) pour rémunérer la performance de politiques et mesures de ces juridictions qu'il est impossible ou très coûteux de mesurer avec l'étalon carbone.

Le standard privé de certification carbone VCS a accompagné ce mouvement en proposant une offre de certification adaptée permettant l'inclusion dans ce programme des projets générateurs de crédits éparpillés sur un territoire et élaborés avec des méthodologies différentes.







REDD+ est un des rares domaines où la négociation multilatérale a enregistré des progrès depuis Copenhague, permettant d'envisager une mise en œuvre à l'échelle nationale envisagée au début du mécanisme. L'essentiel du cadrage méthodologique a été adopté par les parties en 2013 (Cadre de Varsovie). Les trois points qui restaient en suspens ont été conclus à Bonn en juin 2015 : (i) le suivi des garanties et des sauvegardes, (ii) les approches non-marché (à la demande de la Bolivie) et (iii) la prise en compte des bénéfices non carbone de la conservation (à la demande de l'Afrique centrale).

### ***Quel débouché pour les crédits REDD+***

Les enjeux sont désormais (i) la démonstration de la mise en œuvre de REDD+ sur le terrain, (ii) la mobilisation des ressources financières suffisantes pour la mise en œuvre de REDD+, et (iii) la définition de la place de REDD+ dans l'accord et dans l'arrangement climat post-2020. A l'heure où se multiplient les programmes REDD+ à l'échelle d'Etats fédérés (Acre au Brésil) ou de Provinces (Maï-Ndombe en RDC) dont le Fonds carbone de la Banque mondiale est le principal débouché, l'option d'un financement par le marché du mécanisme REDD+ n'est envisageable que si des marchés de conformité nationaux ou régionaux décident d'accepter des crédits REDD+.

La question de la non-permanence des crédits forestiers (et plus largement de ceux qui sont issus du secteur des terres) est un obstacle à leur fongibilité avec les crédits issus de la réduction des émissions de combustibles fossiles dans le cadre de mécanisme de compensation. L'intégrité environnementale supposerait en effet de garantir la permanence sur les cents ans correspondant à la durée de vie d'une particule de carbone émise dans l'atmosphère, donc de pouvoir garantir le changement d'utilisation des terres à cette échelle temporelle, ce que seuls des systèmes de servitudes environnementales financés à long terme permettraient d'envisager. Pour cette raison, le principal marché de conformité (l'UE) n'intègre pas de crédits issus de la déforestation évitée.

### **V.3. Les opportunités PES Carbone au Sénégal**

#### ***Résultats de l'étude de faisabilité REDD+ avec les RNC du PGIES :***

##### Ci-dessous la conclusion de l'étude :

Les projets de création de Réserves Naturelles Communautaires (RNC) au Sénégal sont des projets d'une très grande qualité montrant des co-bénéfices environnementaux et sociaux très importants. Il est certain que ces projets seront très demandés sur le marché volontaire du carbone. En outre, ces initiatives sont avant tout des projets portés par les populations rurales organisées en Comité de Gestion, ce qui est révolutionnaire dans le monde du carbone. Avec la vision d'apporter des outils innovants de financement pour les RNC existantes et à venir, nous avons conduit l'étude de faisabilité pour un Projet des RNC mises en œuvre dans le cadre du PGIES.

Ce projet montre de très importantes difficultés lorsque l'on confronte ce projet aux critères et méthodologies des standards internationaux. Bien que nous ayons proposé des stratégies innovantes

pour mettre en œuvre la finance carbone dans ce projet « RNC existantes », les risques sont trop importants. Nous recommandons donc de ne pas développer ce projet carbone. Néanmoins, les modèles utilisés et la quantification des réductions d'émissions (142 393 tCO<sub>2</sub> réduites en moyenne par an pour le projet « RNC existantes de la zone du PNNK) peuvent constituer des arguments robustes pour chercher des financements autres que les crédits carbone: fonds d'adaptation aux changements climatiques, coopération, etc.

En résumé :

- Développer un projet carbone à partir des RNC existantes est techniquement difficile à cause de complication méthodologique



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**ANNEX [G]. KEY ASSESSMENT REPORT FOR THE COMPONENT 2 “INVESTMENTS AND CLIMATE RESILIENT PRACTICES ADOPTED BY LOCAL COMMUNITIES” (IN FRENCH)**

**Rapport technique n°2 du PPG : compilation des travaux des experts de l'équipe de formulation sur les mesures d'adaptation aux changements climatiques**

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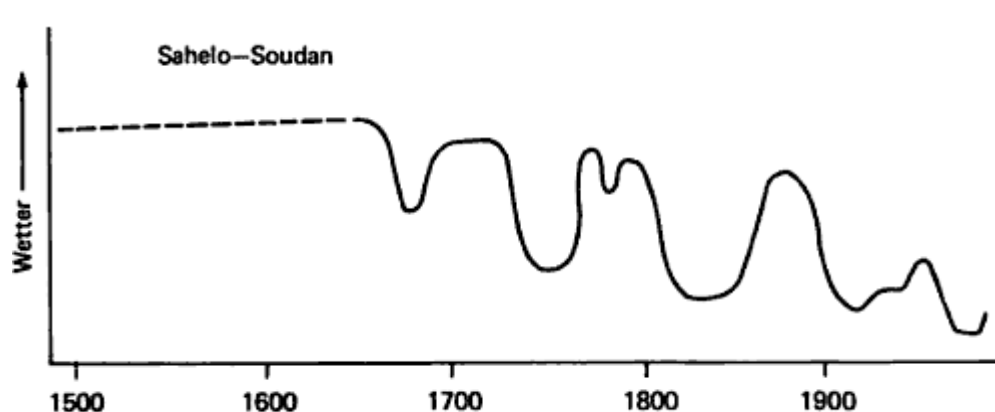
**Septembre 2016**

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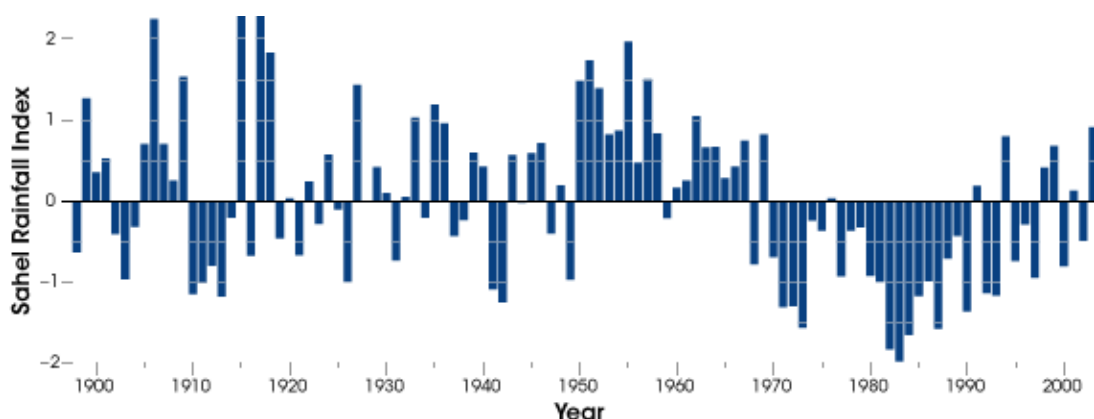
## B. QUELLES ACTIONS D'ADAPTATION SUR LES SITES CONCERNES PAR LE PROJET ?

### Préambule: les variations climatiques au Sénégal

- La pluviométrie du Sahel a historiquement été variable et décroissante. La seconde figure montre la sévérité de la sécheresse des années 1970 et 1980, et suggère un retour à partir de 1990 à une situation comparable à avant 1950 :



Synthèse des changements pluviométriques dans la zone sahélo-soudanienne, d'après Nicholson, 1985. Sub-saharan rainfall 1981-1985. *Journal of climate and applied meteorology* 23 : 1388-1391



Indices des précipitations au Sahel 1896-2004, d'après *Benedikt.Seidl* (2008) sur la base de données de JSIAO ([http://jisao.washington.edu/data\\_sets/sahel/](http://jisao.washington.edu/data_sets/sahel/))

- Le réchauffement global est une réalité. Il entraîne des changements dans le climat et une augmentation progressive du niveau de la mer.
- Un des enjeux est de régionaliser les impacts du réchauffement global (downscaling). Gaye et Sylla (2009, cité dans PNUD 2009) proposent une régionalisation pour le Sénégal avec un haut degré de certitude. Beaucoup de scientifiques ne partagent pas cette position, surtout que plusieurs dizaines de scénarios sont en jeu. Le document de projet pourrait adopter une position plus prudente.
- L'essentiel du débat semble porter sur la difficulté d'arriver à un modèle qui est applicable avant 2000 et après 2000, tel qu'illustré par Biasutti, M. 2013. Forced Sahel rainfall trends in the CMIP5 archive. *Journal of Geophysical Research: Atmospheres*. 118 (4) : 1613-1623.

“The observed rainfall variability in the Sahel region, the semiarid transition zone located south of the Sahara desert, has undergone strong decadal variations. After a period of pronounced wetness in the 1950s, extended droughts followed in the 1970s and 1980s with devastating environmental and socio-economic impacts. This past decadal rainfall variability was mainly caused by a certain distribution of sea-surface temperatures in observations and models alike. **This relationship**

between sea-surface temperatures and rainfall variability during the observational period is no longer applicable in future climate projections, with a large range of future rainfall trends from strong drying to large wetting (Fig. 1). Thus additional influences were suggested to become important in the future, among others land-cover changes.”

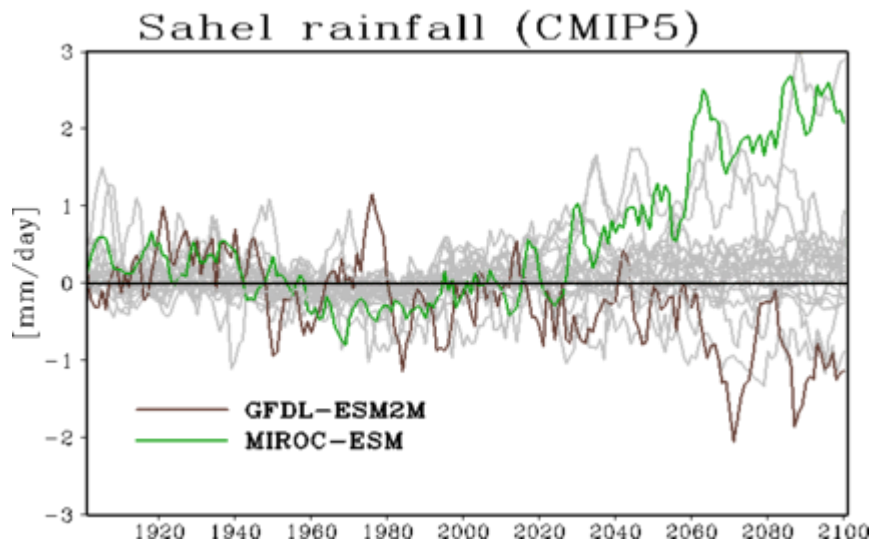


Fig. 1. Large uncertainty in future Sahel rainfall. The JAS mean Sahel rainfall ( $10^{\circ}\text{W}$ - $30^{\circ}\text{E}$ ;  $10^{\circ}$ - $20^{\circ}\text{N}$ ) anomalies during the twentieth and twenty-first centuries from CMIP5 models. Brown- and green-solid lines represent the two extreme Sahel rainfall anomalies simulated by GFDL-ESM2M and MIROC-ESM. The rainfall anomalies from other climate models are shown by grey lines. The anomalies are the differences from the historical mean, and all the time series data are smoothed using a five-year running mean.

- L’auteur suggère que le couvert végétal pourrait jouer un rôle, mais n’explique pas comment et si c’est le couvert local ou le couvert ailleurs dans le monde.
- L’incertitude concernant la pluviométrie future du Sahel est confirmée dans Park, J.-Y, Bader, J., and Matei, D. 2014. Northern-hemispheric differential warming is the key to understanding the discrepancies in the projected Sahel rainfall. Nature Communications. 5: 5985.

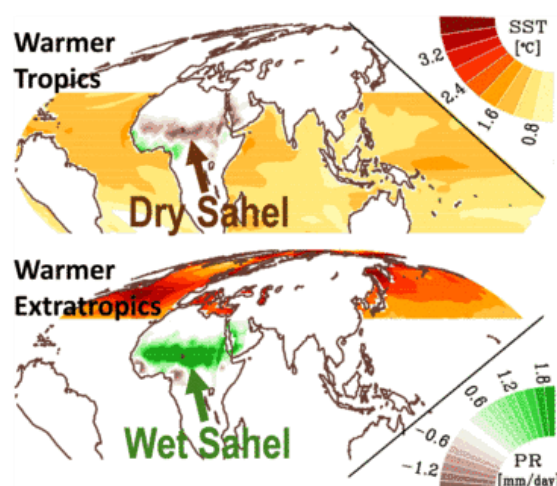
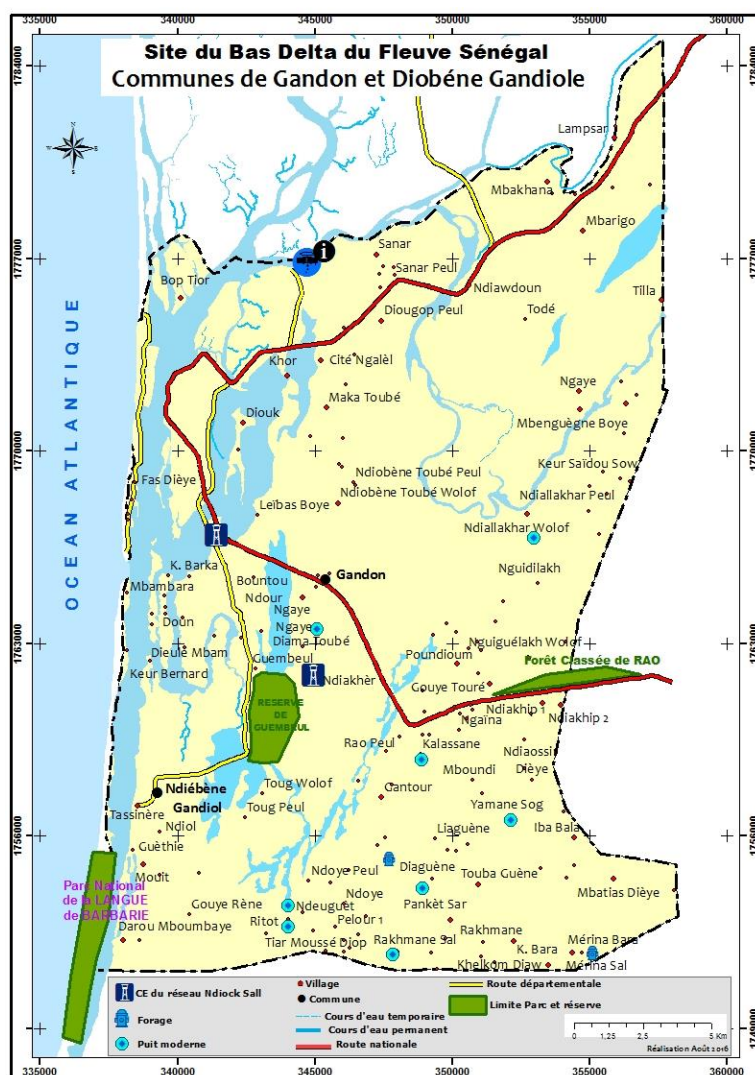


Fig. 2. Competing impact of tropical and extra-tropical oceanic warming on future Sahel rainfall. Schematic figure of future linkages between tropical/extra-tropical warming and Sahel rainfall changes. The precipitation (PR) anomalies are model responses to future sea-surface temperature (SST) changes in the tropics and extra-tropics.

## B.I. Site du bas delta du fleuve Sénégal



Carte 1: Site du delta du fleuve Sénégal (Source: PPG)

### B.I.1. Constats des experts

- Dans la zone de Gandon, l'occupation du sol se caractérise par une prédominance des mangroves fermées avec une légère baisse de la surface d'occupation en 1984 (331,055 ha) contre 316,08 ha en 2010 au profit des mangroves dégradées qui ont connu une hausse passant de 185,974 ha en 1984 à 209,264 ha en 2010. Ensuite viennent les tannes nues avec une augmentation d'environ 500 ha (CSE, 2010). Des savanes arbustives sont également présentes avec des espèces soudano-sahéliennes et sub-guinéennes (Tableau 10).

Tableau 10 : Statistiques de l'occupation des sols dans la RNC de Gandon

Strate	Superficie (ha)
Eau	457
Mangrove	490
Zone agricole	24

Zone inondable	315
Sols	30
Savane arbustive	173
Steppe arbustive	16
Steppe herbeuse humide	15
Steppe herbeuse sèche	24
<b>Total</b>	<b>1 544</b>

Selon une étude diachronique, entre 1984 et 2003, réalisée par le CSE (2004), des modifications majeures ont remarquées dans l'occupation et l'utilisation des sols. Le **capital ligneux** de l'année 1984 était de 4,260,246 ha et est passé à 3,797,366 ha en 2004.

- D'après des informations du PEPAM, le **niveau d'accès à l'eau potable** dans les communautés rurales de Gandon et Gandiol est de l'ordre de 81% ce qui n'est pas loin des objectifs de 82% visés en 2015 dans le cadre des Objectifs du Millénium pour le Développement.
- Les **changements climatiques** observés dans cette zone et en relation avec les ressources en eau peuvent être classés comme suit :
  - changements liés à la baisse de la pluviométrie
  - changements liés à la remontée du niveau de la mer et l'érosion côtière
  - changements liés à certains projets et actions sur le milieu : il s'agit principalement des changements relatifs aux barrages et aménagements sur le fleuve Sénégal et l'ouverture de la brèche sur la langue de Barbarie en 2003

En résumé le site du bas delta du Fleuve Sénégal est d'une grande vulnérabilité par rapport aux changements climatiques et les populations des communes de Gandon et Ndiobène Gandiol sont les plus affectées et ont des capacités de résilience à ces changements relativement faibles.

<b>Matrice SWOT</b>	
<b>Forces (Capacités)</b>	<b>Faiblesses (Besoins)</b>
Important potentiel en eau de surface	Invasion des eaux de surface, des nappes d'eau et des terres par les eaux salées marines (perte de terres agricoles et de zones de pâturage, conflits potentiels entre usagers)
Alimentation en eau des villages de la zone par le réseau de la SDE (Ndiok Sall et réseau de Saint Louis)	Insuffisances dans le système d'alimentation en eau potable (pression faible et production insuffisante en certains endroits)
Taux d'accès en alimentation en eau potable satisfaisant	Dégradation de la mangrove (disparition des palétuviers et apparition des tannes, développement de plantes aquatiques invasives)
Existence de plan de développement et de POAS (plan d'occupation et d'affectation des sols) au niveau des deux communes	Exode des populations ayant perdu leurs terres ou activités
Organisation des populations (mutuelle, CIV, Groupements de producteurs)	Désertification
<b>Opportunités (Potentiel)</b>	<b>Menaces (Capacités à renforcer)</b>
Existence de quelques ressources humaines de bon niveau qui portent actuellement les actions de développement et appui de l'ARD	Forte érosion côtière avec diverses conséquences (réduction des activités de pêche, accidents mortels, la disparition de filaos, saturation des sols.
Site en périphérie de Saint Louis et sur la route Nationale N1	Faibles capacités des populations et des communes à faire face aux effets des changements climatiques
Possibilités d'exploitation du sel et d'aménagement de la mangrove suite à l'avancée du niveau de la mer dans le continent	
Projet d'amélioration des conditions d'alimentation en eau potable en cours par la SONES	

Présence de nombreux partenaires intervenant entre autre dans le secteur de l'eau (PDIDAS, MCA, SAED)	
Possibilités de disposer de sols et de ressources en eau avec le projet PDIDAS	

## B.1.2. Actions proposées dans le cadre du projet

### Propositions liées à la gestion de l'eau

- Lutte contre l'érosion côtière :
  - Mise en place d'un fort **plaidoyer** aussi bien au niveau local et national et éventuellement international pour faire prendre connaissance de la vulnérabilité des populations de cette zone suite à une initiative de sauvetage de la ville de Saint Louis et susciter une forte adhésion à un esprit de solidarité ;
  - Cette solidarité pourrait se concrétiser par la **mise en place d'un mode de financement innovant** dont les ressources proviendraient de (i) structures ayant une responsabilité dans les conditions qui sont à l'origine de l'ouverture de la brèche ou qui bénéficient des avantages de la brèche (OMVS, SAED, CSS, Producteurs de la vallée, mairie de Saint Louis... ), (ii) de partenaires locaux et extérieurs intervenant dans la protection de l'environnement et les changements climatiques ou sensibles à la problématique de l'érosion côtière.
- Amélioration de la disponibilité de l'eau pour les activités génératrices de revenus (maraîchage en particulier) et récupération de terres salées. Il s'agit d'une demande d'adaptation aux changements climatiques exprimée dans toutes les zones d'intervention du projet. Pour la zone du Delta du Fleuve Sénégal où les seules possibilités sont celles que pourrait offrir le **projet PDIDAS**, un partenariat devrait être établi avec ce projet pour une prise en compte du besoin de récupération de terres salées pour le compte des populations de la RNC de Gandon/Diobène Gandiole.

**Tableau 11 : Chiffrage de propositions liées à la gestion de l'eau pour le site du bas delta du fleuve Sénégal**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Disponibilité en eau pour le maraîchage (PDIDAS)	n.p. (provision pour récupération de terres salées)	50 000 000	PDIDAS

### Propositions portant sur l'agriculture

- Développement de filières : développement de la **filière huître**, développement de la **filière sel** et **développement d'activités de maraîchage dans les forêts**. A Ndiébène Gandiolé, le projet MCA avait prévu de construire une garderie d'enfants pour permettre aux femmes de s'adonner plus librement aux différentes activités de développement notamment à la récolte du sel et à la cueillette des huîtres. Appui au **micro-jardinage**, et à l'**élevage**, ovin (achat de géniteurs) et avicole (construction de poulaillers et acquisition de coqs).
- Récupération de terres salées
- Mise en place de formations en fonction des besoins identifiés :
  - La gestion et l'exploitation des infrastructures rurales (forage, mare pastorale, périmètres maraichers, bergerie, poulailler, plateforme multifonctionnelle, moulin, broyeur, magasin de stockage, unité de transformation, tank à lait, kit de biogaz, etc.)
  - La gestion des activités financées par crédit revolving
  - La gestion financière
  - Les techniques culturales (cultures vivrières et maraîchage) et d'élevage



- Le stockage des intrants, de produits agricoles et des sous-produits
- La gestion de l'eau et l'irrigation
- La gestion des risques et l'assurance agricole
- Le conseil agricole et rural
- La gestion de l'espace
- La gestion des conflits
- Le plaidoyer et la levée de fonds
- La transformation et la gestion de la qualité
- Les normes HCCP
- L'emballage l'étiquetage
- La planification budgétaire et l'exécution du budget
- Le plaidoyer
- Les fonds d'adaptation et de résilience et le marché du carbone
- Le système d'alerte précoce et l'information agro-climatique

Les partenaires potentiels sont les agences d'exécution pour la réalisation d'infrastructures, pour le conseil agricole et rural (ARD, ANCAR, BAMTAARE, ANEV, ITA, AVSF, PNBS (Programme National de Bioagz au Sénégal), DBRLA), les projets et programmes en cours (P2RS, PADAER, PASA LouMaKaf, PAFA-E, PRAPS, PDESOC, projet résilience face aux changements climatiques et champs écoles de la FAO, DRIARS, PDIDAS, MCA), les structures de l'Etat (Gouvernance, préfecture et sous-préfecture, Ministère chargé de l'Environnement, Ministère chargé de l'Agriculture, SAED, SODEFITEX, SODAGRI, DRDR, Ministère chargé de l'Elevage, Ministère chargé de la Pêche, Ministère chargé de l'Hydraulique), les partenaires techniques et financiers (UE, FIDA, BM, BAD, ONUDI, PNUD, FAO).

**Tableau 12 : Chiffrage de propositions liées à l'agriculture pour le site du bas delta du fleuve Sénégal**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Achat de coqs raceurs	10	100 000	
Construction poulailler	n.p.	1 400 000	
Géniteur Ladoum	10	8 000 000	
Micro-jardinage	n.p.	60 000 000	
Récupération de terres salées	1000 ha	100 000 000	

#### **Propositions liées à la forêt**

La fonction de conservation des RNC doit être revue en faveur d'une meilleure prise en compte de leurs différentes potentialités. L'aménagement devra s'appuyer sur la **réactualisation du plan d'aménagement (RNC Gandon)** pour passer d'un aménagement de conservation à un aménagement de production pour une contribution directe des RNC à l'amélioration des revenus des populations. Il constitue un outil structurant qui permettra qui non seulement accompagne et renforce les « pratiques résilientes de subsistance diversifiées », mais qui permet d'aller au-delà, vers une dynamique de développement. Il contribuera ainsi, tout en inscrivant son action dans une dynamique de restauration et d'amélioration du couvert végétal, à encourager le développement économique de la zone à travers des **filères de produits forestiers ligneux et des filières de produits forestiers non ligneux**. Les plans d'aménagement permettront, entre autres, de mieux orienter les projets que les différents acteurs seront amenés à soumettre aux institutions de financement. La réactualisation des plans d'aménagement existant (plus orientés sur la conservation) permettra de garantir la place des RNC dans le développement local. Ils contribueront, à l'instar des études de filières, à mieux préparer la planification d'un développement local basé, d'abord sur les potentialités locales avant de compter sur des financements venant d'ailleurs. La réactualisation des plans d'aménagement passe par des inventaires qui mettront l'accent sur les essences objectifs qui devront diriger l'aménagement. Il y aura un premier

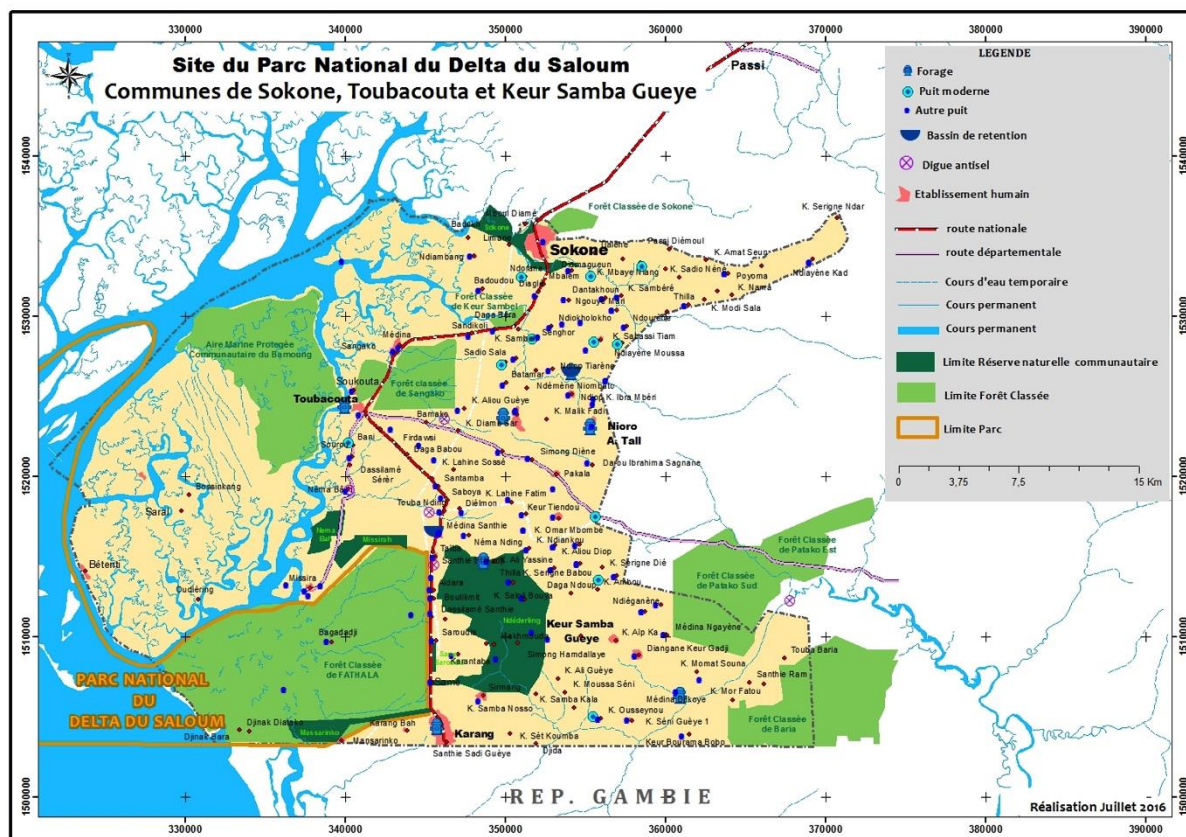
inventaire au démarrage du projet pour la réactualisation des plans puis un second inventaire à la fin du projet pour évaluer l'évolution des potentialités des RNC. Pour 1 RNC, un montant d'environ 6 500 000 FCFA permettra de réactualiser les plans d'aménagement, intégrant l'analyse de la situation de référence et les consultations publiques.

***Tableau 13 : Chiffrage de propositions liées à la forêt pour le site du bas delta du fleuve Sénégal***

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Réactualisation du plan d'aménagement	1	6 500 000	



## B.II. Site du Parc National du delta du Saloum



Carte 2 : Site du Parc National du delta du Saloum (source : PPG)

### B.II.1. Constat des experts

- La zone agricole occupe près de la moitié de la superficie des RNC (48%) lorsque les formations forestières occupent des proportions assez modestes dont : 24% pour la savane arbustive, 11% pour la mangrove, 7% pour la savane arborée et 1% pour les formations de vallée (Tableau 14). Il faut noter que du point de vue de la production de produits forestiers, la zone du PNDS dispose d'un potentiel fort intéressant. Rien qu'au niveau des massifs forestiers de la région de Fatick, l'inspection régionale, des Eaux et Forêts, enregistre 180 766 quintaux de charbon de bois, 64 478 stères de bois de chauffe et 10 624 stères de bois d'artisanat. A cela s'ajoutent les PFNL (fruits, écorces,...) issus des espèces telles que l'anacardier, le santan, le rônier, etc. et le potentiel en gibier.

Tableau 14 : statistique de l'occupation des sols des RNC du Parc Naturel du delta du Saloum (Dieng, 2009b)

Strate	Superficie (ha)
Carrière	6,80
Eau	35,00
Jachère	138,24
Sols nus	24,84
Zone agricole	1 099,68
Mangrove	261,61
Formation de vallée	32,03
Savane arborée	155,73
Savane arbustive	548,86
<b>Total</b>	<b>2 302,79</b>

- La région de Fatick présente un taux de pauvreté de 67,8% en 2010 (PRDI, 2013)
- Les ressources naturelles sont très affectées par les changements climatiques. Les changements liés au climat observés dans cette zone peuvent être classés comme suit :
  - Changements liés à la baisse et l'irrégularité de la pluviométrie Diminution de 30% de la pluviométrie sur près de 40 ans (depuis 1971)
  - Changements liés à la remontée du niveau de la mer.

L'ensemble des aléas agit sur les ressources en eau, les ressources végétales, les ressources pédologiques et les ressources fauniques. Les enjeux à prendre en compte sont :

- la réduction des services des écosystèmes liée à une érosion de la biodiversité de près de 40% entre 1971 et 1996 (Diouck, 1995, 1999 ; Galat-Luong et al, 1999 ; Lykke, 1996);
- la diminution du couvert végétal, la baisse de la production végétale et la destruction des arbres ;
- le rabattement des nappes phréatiques et leur salinisation;
- la baisse de la qualité des eaux ;
- l'ensablement et la dégradation de la mangrove et des vasières. Le Delta du Saloum où l'on rencontre l'une des forêts de mangrove les plus importantes du pays était une zone très poissonneuse à cause de son potentiel en zone de frayère. L'écosystème de mangrove occupe environ 80 000 hectares dans les estuaires du Saloum (DEEC). La réduction remarquable de la superficie de mangrove du pays, passée de 440 000 ha en 1983 à 185 000 ha en 1997 (PAGEMAS, 2006), a créé de nombreuses perturbations dans la vie des populations riveraines.
- l'érosion (Pointe de Sangomar jusqu'à Djinack) ;
- les maladies animales

Le tourisme dépend principalement des ressources naturelles et de l'accès aux services sociaux de base. Ces deux secteurs sont affectés par l'ensemble des aléas climatiques identifiés dans la région (TACC-PNUD, 2014 (Fatick)). En définitif, ce sont les RNC de Missirah, Néma Bah et Massarinko qui présentent les forts niveaux de vulnérabilité par rapport aux changements climatiques.

<b>Matrice SWOT</b>	
<b>Forces (Capacités)</b>	<b>Faiblesses (Besoins)</b>
Niveau d'accès à l'eau potable dans la commune de Sokone satisfaisant	Faible niveau d'accès à l'eau potable dans les communes de Toubacouta et Keur Samba Gueye par rapport aux objectifs
	Mauvaise qualité d'eau consommée dans certains villages situés à l'ouest
Fortes potentialités en eau de surface en particulier dans la vallée de Ndéderling	Invasion des eaux de surface et des terres par les eaux salées marines (perte de terres agricoles et de zones de pâturage, conflits potentiels entre usagers) dans la partie ouest de la zone (Missirah, Néma Bah, Toubacouta, Massirinko, Sokone)
Présence de quelques barrages et digues anti sel (mobilisation et protection des eaux de surface)	Salinisation des eaux de la nappe phréatique dans la partie ouest de la zone (Toubacouta, Missirah, Néma Bah, Massirinko) puits impropre à la consommation →
Nombre relativement important de puits et forages dans la partie Est de la zone	Puisage manuel de l'eau dans les puits pénible pour les femmes et les enfants
Présence de périmètres maraichers exploités par les femmes dans beaucoup de villages	Ruissellement et ravinement important pendant la saison des pluies (dégradation des sols et des équipements)
	Maladies animales
	Diminution du couvert forestier
	Dégradation des mangroves menaçant les espèces associées dont l'exploitation constitue une source de

	revenus et d'autoconsommation pour les populations locales
	Erosion côtière
<b>Opportunités (Potentiel)</b>	<b>Menaces (Capacités à renforcer)</b>
Existence de projets d'amélioration du système d'alimentation en eau potable nouvellement terminés (Keur Samba Gueye) et en cours (Toubacouta, Sokone)	Faibles capacités des populations et des communes à faire face aux effets des changements climatiques
Pluviométrie relativement forte et bonne potentialités en ressources en eau de surface	Tarissement précoce des mares et des puits suite à la baisse de la pluviométrie
Bonne capacité de recharge des nappes d'eau souterraine	Réforme de la gestion des forages ruraux en cours et pas encore bien comprise par les populations, les ASUFOR et les responsables des communes
Existence de plan de développement au niveau des deux communes et d'initiatives de mobilisation en particulier à Sokone	Lutte contre les maladies animales
Organisation des populations (mutuelle, CIV, Groupements de producteurs, ASUFOR) fonctionnelles	
Possibilités de partenariat avec P2RS, BARVAFOR	

## B.II.2. Actions proposées dans le cadre du projet

### Propositions liées à la gestion de l'eau

- Aménagement de bassins versant (en vue de lutter contre le fort ruissellement, le ravinement, la dégradation des sols et des équipements). Les moyens les plus appropriés pour faire face à cette problématique sont l'adoption de bonnes pratiques culturales, de reforestation et d'aménagement et d'occupation de l'espace. Pour ce faire des solutions de renforcement des capacités techniques (**création du Centre de Protection de la Nature**) et de dotation de ressources financières pour appuyer les populations à réaliser elles même les aménagements à faire sont suggérées. 100 ha sont à aménager pour le delta du Saloum.
- Aménagement de bas fonds (promotion de la riziculture) : Cette problématique concerne les zones qui ont un fort potentiel en cette matière et une forte demande, soit 50 ha.
- Amélioration de la disponibilité de l'eau pour les activités génératrices de revenus (maraîchage en particulier) : il s'agit d'une demande d'adaptation aux changements climatiques exprimées dans toutes les zones d'intervention du projet au bénéfice en particulier des femmes et des jeunes et qui pourra se réaliser **à partir de puits maraîchers existants** (et qui pourront dans certains cas faire l'objet de réhabilitation).

**Tableau 15 : Chiffrage de propositions liées à la gestion de l'eau pour le site du delta du Saloum**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Aménagement de bassin versant	100 ha	7 500 000	
Aménagement de bas fonds	40 ha	100 000 000	
Disponibilité en eau pour le maraîchage (puits)	10	40 000 000	

### Propositions portant sur l'agriculture

- Développement de filières

- filière anacarde. Selon les estimations des entreprises Works (2002) puis par Sagie (2006), la production moyenne noix d'anacarde est de 15 000 tonnes (région de Kolda et Sédhiou 9 000 tonnes soit 60%, région de Ziguinchor 5.000 tonnes soit 30% et région de Fatick 1 500 tonnes soit 10%). Le rendement des plantations d'anacarde est très variable selon la zone de production. Selon le ministère de l'agriculture, il se situe en moyenne à 550 kg/ha. Le projet pourra contribuer au renforcement de la filière par la promotion et l'installation d'une **unité de transformation**. En réalité, il existe plusieurs unités de transformation dans la zone du Delta du Saloum. Cependant, il y a trois groupements de femmes à Sokone dont les unités qui répondent plus aux normes nationales voir même internationales. Ces groupements sont habitués à participer à des expositions (foires) et dans des grandes surfaces. Cependant, le reste des groupements ont besoin d'appui pour mettre leurs unités aux normes. La plupart manquent de machine de décorticage de qualité et de conservation pour garder le produit frais. Certains groupements comme celui de celui de Dassilamé Socé (financé par le PGIES) souffrent d'un problème d'organisation et de leadership. Des sessions de sensibilisation seront menées par l'équipe du projet sur la nécessité d'une meilleure organisation des différents acteurs dans les différents segments de la filière. L'appui du projet consistera à faciliter et à encadrer les groupements pour un meilleur fonctionnement. Le problème de rentabilité de la filière ne se pose pas dans la zone. Le projet facilitera l'acquisition de matériel plus moderne par le biais d'un crédit revolving. Les groupements qui le souhaiteraient feront financer leurs activités par la maison de microfinance de Toubacouta. Le projet s'emploiera à faciliter l'implication de différents acteurs. Il contribuera à la mise en relation avec le secteur privé pour faciliter l'écoulement des produits. L'un des aspects les plus déplorable dans la zone du delta du Saloum est le gâchis constaté sur la pomme d'anacarde. Les pommes tombent et pourrissent par quantités impressionnantes sous les arbres. Le projet devra s'investir en appuyant le renforcement de certaines unités de transformation en **matériel de séchage et de transformation** de la pomme d'anacarde. Un montant forfaitaire de 50 000 000 FCFA sera réservé pour appuyer un certain nombre de groupements méritants. Il apparaît également nécessaire de mettre en place un magasin de stockage et de conditionnement.
- Produits halieutiques. Les activités de pêche et d'ostréiculture sont dominantes à Missirah, la RNC est contiguë au Parc National du Bas Delta du Saloum. Du fait de la surexploitation des ressources halieutiques, des stratégies d'adaptation sont développées par les populations organisées autour de comités pour gérer de façon rationnelle les ressources. Par le passé, un renforcement de la résilience des populations, particulièrement les groupements féminins pour une sécurité alimentaire a été opéré par des projets dont le Projet italien de sécurité alimentaire qui a permis de construire une unité de transformation des produits halieutiques et appuyés les groupements en matériel de pêche. Ce projet étant clôturé depuis 2012, il s'avère nécessaire d'appuyer les membres du CIV dans les activités de pêche et d'ostréiculture. Cet **appui sera accordé aux femmes transformatrices pour faire du commerce et la transformation des produits halieutiques**. A Nemabah, il est envisagé de consolider les activités entamées avec le PGIES, aviculture et ostréiculture et renforcer les CIV. Le groupement de femmes avait pu disposer d'une délibération d'1 ha de terre pour y mener de l'arboriculture notamment des eucalyptus dont les perches sont utilisées dans l'ostréiculture. La Mairie de Toubacouta a eu à délibérer récemment 5 ha au profit des femmes. Des **pirogues et des équipements d'ostréiculture** seront également mis à la disposition des populations cibles. Le **bassin piscicole** sera réhabilité.
- Appui au maraîchage. En collaboration avec l'ANEV, il est prévu l'installation d'un **périmètre maraîcher de 2 ha**, le creusement d'un **puits maraîcher** et l'**aménagement de vallée rizicole sur 5 ha**. Pour réduire la vulnérabilité des cultures vivrières, base de la sécurité alimentaire, un appui sera octroyé aux producteurs membres du CIV en crédit intrants (semences, engrais, biopesticides) sous forme de crédit revolving. Il est également prévu de **réhabiliter la pépinière fruitière** existante
- Filière apiculture. Une dizaine de villages répartis principalement dans les Communes de Dialakoto est concerné par la production de miel. Le coût des **ruches Kenyanes** considérant

04 par village est de 1 200 000 FCFA. Une seule unité de transformation pourra suffire dans un premier temps pour l'ensemble des villages. En plus **des équipements divers**, le coût de revient de l'activité peut être estimé à environ à 35 000 000 FCFA. La gestion de l'unité sera assurée par une entité fédératrice des différents groupements concernés. La filière s'appuiera sur les groupements et organisations faitières mis en place pour la filière apiculture. Le projet aidera dans l'organisation de la collecte, du regroupement de la production, du conditionnement et de la commercialisation au niveau local et national. Le projet aidera dans les premières années à des mises en relations avec des acteurs privés. Des activités de sensibilisation seront menées par les membres de l'équipe de projet pour développer les différents segments de la filière dans la zone du Delta du Saloum (opportunités d'amélioration des revenus, contribution à la lutte contre les feux de brousse, etc.).

Analyse SWOT de la filière miel	
FORCES / SUCCES	FAIBLESSES
<ul style="list-style-type: none"> <li>- l'apiculture est en train de devenir une véritable filière génératrice de revenus et d'emploi dans la zone</li> <li>- l'implantation d'unités de production Modernes</li> </ul>	<ul style="list-style-type: none"> <li>- Manque d'organisations d'apiculteurs (il n'existe pas de répertoire qui recense de manière exhaustive les acteurs</li> <li>- Difficulté d'obtention de ruches dans les délais souhaités</li> </ul>
OPPORTUNITES	MENACES / CONTRAINTES
<ul style="list-style-type: none"> <li>- l'implantation d'unités de production Modernes</li> <li>- existence du Réseau des Apiculteurs du Delta du Saloum (RADES)</li> <li>- l'apiculture malgré le fait qu'il soit plus récent bénéficie d'un appui de</li> <li>- la part des partenaires au développement comme l'UICN, le PAPIL et la coopération japonaise</li> </ul>	<ul style="list-style-type: none"> <li>- Manque d'implication des Services techniques, de l'administration territoriale, des maires dans la filière</li> <li>- Manque de ressources humaines bien formées dans l'installation des ruches</li> </ul>

- Lutte contre les feux de brousse. Pour parer aux effets néfastes des feux de brousse fréquents, il est proposé l'ouverture de **50 km de pare-feux**.
- Sessions de formation.
  - Deux sessions **d'alphabétisation fonctionnelle** organisée avec l'outil GERME (Gérer Mieux son Entreprise) du Bureau international du Travail (BIT) qui donne un certain nombre de modules dont un sur le marketing, un sur le calcul des coûts, et un sur la comptabilité. Les trois modules se donnent en langue locale. Chaque module dure 10 jours. Les sessions seront organisées une à Toubacouta et une à Sokone. L'ensemble de la formation dure donc 30 jours à raison de 50 000 FCFA/jours pour le formateur. En considérant un montant forfaitaire de 1 000 000 FCFA pour des frais divers liés à l'organisation (transport, hébergement, nourriture, etc.), le coût global des deux sessions de formation est estimé à 4 000 000 FCFA.
  - Autres formations

Thématiques de formation	Nombre	Coût/unité FCFA	Coût total FCFA
Techniques de production plants en pépinière (fruitiers, espèces locales,...)	2	500 000	1 000 000
Techniques de production de miel	2	500 000	1 000 000
Techniques de transformation de la noix et de la pomme d'anacarde	2	500 000	1 000 000

Des formateurs-relais procéderont à la démultiplication de la formation dans leurs villages respectifs. En considérant que les relais pourront organiser au moins une formation par village, 30 sessions de formation au niveau des villages à raison de 75 000 FCFA, l'unité, le coût total des formations décentralisées dans les villages est d'environ 2 250 000 FCFA. Le coût global de la formation pour la

filière gomme est de 11 250 000 FCFA.

Ces formations vont toucher 25 à 30 personnes par session. Avec la démultiplication par les relais, au moins 1 000 personnes dont au moins 70% de femmes dans la zone du Delta du Saloum.

**Tableau 16 : Chiffrage des propositions liées à l'agriculture pour le site du delta du Saloum**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Appui aux femmes pour le commerce. Transformation, produits halieutiques	2	20 000 000	FAO
Réhabilitation bassin aquacole	1	4 000 000	PAFA
Achat de coqs raceurs	n.p.	100 000	PAFA
Pirogue et équipements pour ostréiculture	n.p.	5 000 000	PAFA
Puits	4	16 000 000	ANEV, PAPIL, PAFA-PAFA-E, Wula Nafa,P2RS
Pare-feu	50 km	20 000 000	ANEV
Périmètres maraîchers	6,4 ha	32 000 000	ANEV, PAPIL, PAFA-PAFA-E, Wula Nafa,P2RS
Aménagement de bas-fonds rizicoles	5 ha	12 500 000	ANEV
Réhabilitation pépinière et jardin fruitier	n.p.	4 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS
Acquisition d'intrants (semences, engrais, produits phytosanitaires)	n.p.	10 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS, (Fonds revolving?)
Aménagement de bas-fonds	20 ha	50 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS
Mesures CES/DES	n.p.	5 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS
Diffusion de foyers améliorés	50	2 500 000	
Plateforme multifonctionnelle et séchoir (anacarde)	n.p.	3 000 000	ANEV
Réhabilitation d'unités de transformation (anacarde)	3	2 500 000	ANEV
Magasin de stockage et conditionnement (anacarde)	n.p.	20 000 000	ANEV
Ruches et équipements pour l'apiculture	40 villages	35 000 000	
Sessions de formation	30 jours et 6 sessions	7 000 000	

#### Propositions liées à la forêt

- La fonction de conservation des RNC doit être revue en faveur d'une meilleure prise en compte de leurs différentes potentialités. L'aménagement devra s'appuyer sur la **réactualisation du**



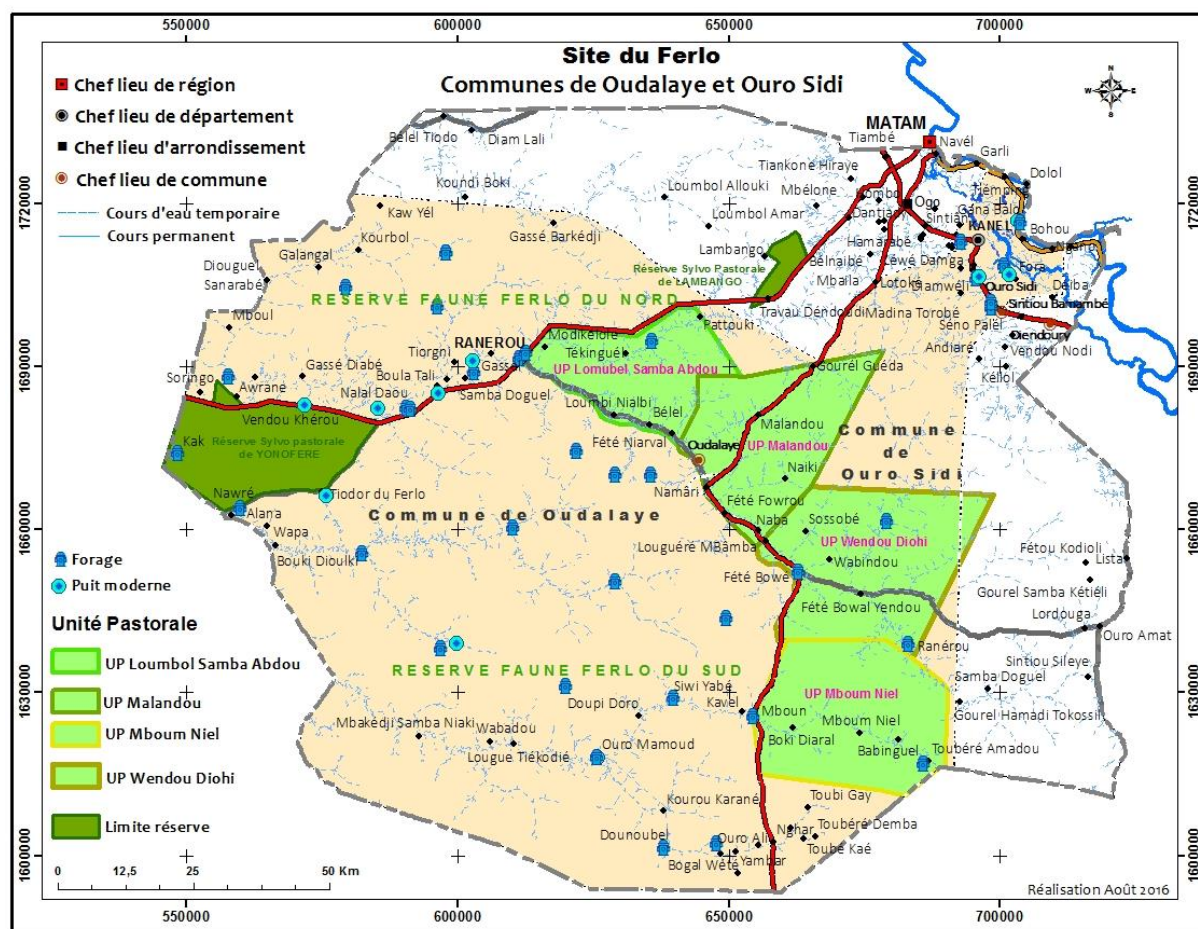
**plan d'aménagement** pour passer d'un aménagement de conservation à un aménagement de production pour une contribution directe des RNC à l'amélioration des revenus des populations. Il constitue un outil structurant qui permettra qui non seulement accompagne et renforce les « pratiques résilientes de subsistance diversifiées », mais qui permet d'aller au-delà, vers une dynamique de développement. Il contribuera ainsi, tout en inscrivant son action dans une dynamique de restauration et d'amélioration du couvert végétal, à encourager le développement économique de la zone à travers des **filières de produits forestiers ligneux et des filières de produits forestiers non ligneux**. Les plans d'aménagement permettront, entre autres, de mieux orienter les projets que les différents acteurs seront amenés à soumettre aux institutions de financement. La réactualisation des plans d'aménagement existant (plus orientés sur la conservation) permettra de garantir la place des RNC dans le développement local. Ils contribueront, à l'instar des études de filières, à mieux préparer la planification d'un développement local basé, d'abord sur les potentialités locales avant de compter sur des financements venant d'ailleurs. La réactualisation des plans d'aménagement passe par des inventaires qui mettront l'accent sur les essences objectifs qui devront diriger l'aménagement. Il y aura un premier inventaire au démarrage du projet pour la réactualisation des plans puis un second inventaire à la fin du projet pour évaluer l'évolution des potentialités des RNC. Pour les 8 RNC et UP, un montant d'environ 52 000 000 FCFA (6 500 000 FCFA x 8) permettra de réactualiser les plans d'aménagement, intégrant l'analyse de la situation de référence et les consultations publiques.

- Pour lutter contre les feux de brousse, il est proposé l'ouverture de **50 km de pare-feu**.
- Sessions de formation sur les techniques de lutte contre les feux de brousse (2 sessions pour 1 000 000 FCFA) et sur les techniques de transformation des produits forestiers non ligneux (2 sessions pour 1 000 000 FCFA).

**Tableau 17 : Chiffrage de propositions liées à l'agriculture pour le site du delta du Saloum**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Réactualisation du plan d'aménagement	8	52 000 000	
Pare-feu	50 km	20 000 000	ANEV
Sessions de formation	4 sessions	2 000 000	

### B.III. Site du Ferlo



Carte 3 : Site du Ferlo (source : ?)

#### B.III.1. Constat des experts

- Dans la zone du Ferlo, six strates sont présentes, à savoir: la savane boisée, la savane arborée, la savane arbustive, les formations de vallée, les sols nus et la zone agricole. A ces strates s'ajoutent le réseau hydrographique et les mares. On observe ainsi que la savane arbustive occupe plus de la moitié du territoire (52%) alors que les savanes arborées et boisées occupent des proportions assez modestes : 20% et 6% respectivement. Les sols nus occupent une portion de 14% des terroirs (Tableau 18).

Tableau 18 : Statistiques de l'occupation des sols du site du Ferlo (Dieng, 2009a)

Strate	Nombre de «fragments »	Superficie (ha)
Formation de vallée	70	9 634,71
Savane boisée	29	11 050,96
Savane arborée	79	38 929,30
Savane arbustive	89	104 256,15
Sols nus	145	28 456,79
Zone agricole	42	5 846,35
<b>Total</b>	<b>454</b>	<b>198 174,26</b>



- Des facteurs climatiques tels que la longue saison sèche, les tourbillons de vent, les tempêtes de sable etc. réduisent, respectivement par l'érosion et par l'ensablement des dépressions interdunaires, la fertilité des sols de la partie aride et semi-aride du Sénégal. Les conséquences du changement climatique sont
  - déficit hydrique chez les plantes,
  - multiplication des incendies de forêts,
  - extension des espèces sahéliennes et réduction de la richesse spécifique,
  - dégradation des sols,
  - dépérissement des peuplements forestiers et augmentation des risques biotiques (affaiblissement de l'arbre, effet sur les bio-agresseurs)
  - avancée de la désertification
- Les maladies des animaux constituent un problème majeur. Les maladies prioritaires surveillées dans le cadre du Système national de Surveillance épidémiologique (SNSE) sont la péripneumonie contagieuse bovine, la peste des petits ruminants, la fièvre aphteuse, la dermatose nodulaire contagieuse, la peste équine, la rage, la fièvre de la vallée du Rift, la peste porcine africaine, les pasteurelloses bovine, ovine et caprine le charbon bactérien, le charbon symptomatique et les maladies aviaires (Direction de la Protection zoosanitaire, MEPA, 2016). Les quatre maladies prioritaires suivantes avaient été ciblées pour la vaccination de masse :
  - la peste des petits ruminants (PPR);
  - la peste équine (PE);
  - la maladie de Newcastle (MN);
  - la dermatose nodulaire contagieuse bovine (DNCB).

Hormis ces quatre maladies, d'autres vaccinations ont concerné entre autres, la septicémie hémorragique, la pasteurellose des petits ruminants, le botulisme, le charbon symptomatique, la fièvre charbonneuse, la fièvre aphteuse, l'entérototoxicité, la pasteurellose porcine et la rage pour améliorer la couverture sanitaire du cheptel. La vaccination contre la fièvre de la vallée du Rift a été également entreprise. Cette initiative, une première en Afrique de l'Ouest, est une réponse à l'évolution enzootique de la maladie dans notre sous-région. La Campagne nationale de vaccination du cheptel 2014-2015 s'est déroulée de juin 2014 au 31 mars 2015.

- Les pâturages sont surexploités.

Matrice SWOT	
Forces (Capacités)	Faiblesses (Besoins)
Amélioration en cours du niveau d'accès à l'eau potable dans les communes	Disparités dans le niveau d'accès à l'eau potable et niveau d'accès relativement faible dans les 2 communes concernées
Présence d'un important réseau hydrographique et donc de fortes potentialités en eau de surface (mares) pour l'abreuvement du cheptel	Tarissement rapide des cours d'eau de surface et des mares (fossilisation du réseau hydrographique)
Forte potentialité de la nappe profonde du Maastrichtien	Profondeur importante de l'eau de la nappe phréatique (70m et plus) et tarissement du niveau en cours de saison sèche
Augmentation du nombre de forages dans la zone et présence de quelques puits en bordure des vallées	Coût de réalisation des forages dans la nappe profonde élevé
Présence de périmètres maraichers exploités par les femmes dans quelques villages	Difficulté de mobilisation des ressources en eau pour l'alimentation en eau) et les activités économiques (élevage et agriculture irriguée)
Campagnes de vaccination	Grande étendue de la zone, habitat dispersé et faible niveau d'infrastructures de base et de voie de communication
	Puisage manuel de l'eau dans les puits pénible pour les femmes et les enfants
	Ruissellement et ravinement important pendant la saison des pluies (dégradation des sols)
	Maladies animales

	Incendies de forêt, désertification et perte des espèces endémiques
	Perte de terres arables
<b>Opportunités (Potentiel)</b>	<b>Menaces (Capacités à renforcer)</b>
Existence de projets avec volet hydraulique (ADOS, PASA, PADAER, PUDC) et de possibilités de partenariat	Faibles capacités des populations et des communes à faire face aux effets des changements climatiques
Faible capacité des communes (manque de ressources humaines et financières)	Tarissement précoce des mares et des puits suite à la baisse de la pluviométrie
Existence de quelques organisations de populations (Groupements de producteurs, ASUFOR)	Réforme de la gestion des forages ruraux en cours et pas encore bien comprise par les populations, les ASUFOR et les responsables des communes
	Surpâturage
	Vaccination des animaux

### B.III.2. Actions proposées dans le cadre du projet

#### Propositions liées à la gestion de l'eau

- Aménagement de bassins versant (en vue de lutter contre le fort ruissellement, le ravinement, la dégradation des sols et des équipements). Les moyens les plus appropriés pour faire face à cette problématique sont l'adoption de bonnes pratiques culturales, de reforestation et d'aménagement et d'occupation de l'espace. Pour ce faire des solutions de renforcement des capacités techniques (**création du Centre de Protection de la Nature**) et de dotation de ressources financières pour appuyer les populations à réaliser elles même les aménagements à faire sont suggérées. **400 ha** sont à aménager pour la zone du Ferlo.
- Aménagement de mares : Cette problématique concerne les zones qui ont un fort potentiel en cette matière et une forte demande ; nous retenons la possibilité d'aménager 3 mares.
- Amélioration de la disponibilité de l'eau pour les activités génératrices de revenus (maraîchage en particulier) : il s'agit d'une demande d'adaptation aux changements climatiques exprimées dans toutes les zones d'intervention du projet au bénéfice en particulier des femmes et des jeunes et qui pourra se réaliser à **partir de forages existants qui offrent des excédents de débit permettant l'aménagement de 2 à 5ha**

**Tableau 19 : Chiffrage de propositions liées à la gestion de l'eau pour le site du Ferlo**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Aménagement de bassin versant	400 ha	30 000 000	
Aménagement de mares	3	150 000 000	
Disponibilité en eau pour le maraîchage (forages)	4	32 000 000	

#### Propositions portant sur l'agriculture

- Développement de filières
  - Le projet va appuyer la **réhabilitation du bloc de périmètre maraicher, pépinière, verger, et de réserves d'espèces forestières**. Maintenant que la question de l'eau est en passe d'être réglée, un **appui en intrants** sera octroyé aux groupements de femmes qui s'occupent du maraîchage. Afin de renforcer la sécurité alimentaire et la résilience des populations face aux changements climatiques, les agropasteurs qui comptent sur les cultures vivrières pour leur alimentation seront appuyés en **semences de variétés hâtives**

**de mil, sorgho et maïs.** Cette intervention du projet pourra être délivrée à travers un crédit revolving octroyé aux membres du CIV qui s'adonnent à l'agriculture.

- Elevage. Des mares pastorales seront mises en place.
- Développement de la filière gomme arabique. Il existe présentement 1850 ha de superficie clôturée sur toute l'étendue de la réserve de biosphère du Ferlo dont 550ha pour le PGIES. Pour le ProFNAC, les 44 villages répartis dans les Commune de Oudalaye (27), Ouro Sidy (11), Ndendory (1), Vélingara Ferlo (5) peuvent avoir chacun un **périmètre de 5 ha en moyenne**. La superficie totale des périmètres sera de 220 ha. Considérant le coût à l'ha, le montant total destiné à cette activité est d'environ 550 000 000 FCFA. La filière gomme arabique est bien lancée dans la zone du Ferlo. Cependant, les populations se confinent dans le rôle de producteur et de vendeur du produit à l'état brut. Des **sessions de sensibilisation** sur l'importance des périmètres de gomme du point de vue écologique (par rapport aux changements climatiques) et socio-économique (opportunités d'amélioration des revenus, mise en place d'organisme faitière de producteurs avec des entités (groupements, petites et moyennes entreprises, etc.), officiellement reconnues seront tenues par l'équipe du projet. Au moins 1 000 personnes (dont au moins 50% de femmes) seront directement bénéficiaires de ces sessions pour une meilleure implication des populations.
- Filière apiculture. Une dizaine de villages répartis principalement dans les Communes de Dialakoto est concerné par la production de miel. Le coût des **ruches Kenyanes** considérant 04 par village est de 1 200 000 FCFA. Une seule unité de transformation pourra suffire dans un premier temps pour l'ensemble des villages. En plus **des équipements divers**, le coût de revient de l'activité peut être estimé à environ à 35 000 000 FCFA pour les 26 villages concernés. La gestion de l'unité sera assurée par une entité fédératrice des différents groupements concernés. La filière s'appuiera sur les groupements et organisations faitières mis en place pour la filière apiculture. Le projet aidera dans l'organisation de la collecte, du regroupement de la production, du conditionnement et de la commercialisation au niveau local et national. Le projet aidera dans les premières années à des mises en relations avec des acteurs privés. Des activités de sensibilisation seront menées par les membres de l'équipe de projet pour développer les différents segments de la filière dans la zone du Delta du Saloum (opportunités d'amélioration des revenus, contribution à la lutte contre les feux de brousse, etc.).
- Développement d'autres filières. Les **études de filières** doivent être considérées comme des sources d'informations et d'analyse de base pouvant alimenter les planifications du développement local. Dans une perspective d'identification et de mobilisation de toutes les sources de revenus endogènes possibles pour les communes, il est important que les différentes ressources naturelles (du point de vue des produits qu'elles procurent) dont ces dernières disposent soient connues et développées. Plusieurs produits existent dans la zone du Ferlo. Il s'agit du fruit de *Adansonia digitata* (baobab), du *Balanites aegyptiaca*, de *Zizyphus mauritiana* et de *Boscia senegalensis*. Cependant, la collecte et la commercialisation se fait de manière anarchique. L'estimation des revenus que les populations en tire est difficile à évaluer. Il s'agira de mettre en place tout un dispositif de sensibilisation et de formation pour montrer l'importance de ces produits qui, au-delà des aspects nutritionnels important, peuvent contribuer à l'amélioration sensible des revenus des populations et ainsi, contribuer au développement économique de la zone.
  - Campagne de vaccinations animales. L'appui en vaccins se fera à travers un crédit revolving.
    - Peste des petits ruminants : 106 francs par tête vaccinée dont 56 F CFA payés par l'Etat (vaccin 30 FCFA et 26 F CFA pour le mandat) et 50 F CFA par l'éleveur ;
    - Peste équine : 1000 F CFA dont 700 F CFA représentant le coût du vaccin fourni par l'Etat et 300 F CFA payés par l'éleveur ;
    - Maladie de Newcastle : 92 F CFA dont 12 F CFA représentant le coût du vaccin fourni gratuitement par l'Etat, 30 F CFA payés par l'éleveur et 50 F CFA payés par l'Etat pour le mandat ;
    - Dermatose nodulaire contagieuse bovine : 105 F CFA dont 25 F CFA représentant le coût du vaccin fourni par l'Etat, 50 F CFA payés par l'éleveur et 30 F CFA payés par l'Etat pour le mandat.

- Lutte contre l'émission de gaz à effet de serre. Pour parer aux effets néfastes des émissions des gaz à effets de serre, une valorisation des bouses de vache est prévue à travers l'installation de **10 unités de biogaz** et de l'équipement connexes pour la cuisson et l'éclairage au profit de ménages cibles. La mise en œuvre de cette activité sera confiée à l'ONG AVSF qui dispose d'une expérience en la matière et est choisie comme agence d'exécution par des projets tels que le PAFA-E et le PARFA, de même que **100 fourneaux diambar** assurant une meilleure efficacité énergétique.
- Lutte contre les feux de brousse. Acquisition de matériel de lutte contre les feux de brousse.
- Sessions de formation.
  - Deux sessions **d'alphabétisation fonctionnelle** organisée avec l'outil GERME (Gérer Mieux son Entreprise) du Bureau international du Travail (BIT) qui donne un certain nombre de modules dont un sur le marketing, un sur le calcul des coûts, et un sur la comptabilité. Les trois modules se donnent en langue locale. Chaque module dure 10 jours. Les sessions seront organisées à Ranérou. L'ensemble de la formation dure donc 30 jours à raison de 50 000 FCFA/jours pour le formateur. En considérant un montant forfaitaire de 1 000 000 FCFA pour des frais divers liés à l'organisation (transport, hébergement, nourriture, etc.), le coût global des deux sessions de formation est estimé à 4 000 000 FCFA.
  - Autres formations

Thématiques de formation	Nombre	Coût/unité FCFA	Coût total FCFA
Techniques de production plants en pépinière (fruitiers, espèces locales,...)	2	500 000	1 000 000
Techniques de greffage (agrumes, ziziphys Gola)	2	500 000	1 000 000
Techniques de production de miel	2	500 000	1 000 000
Techniques de mise en place d'ouvrage de DRS/CRS	2	500 000	1 000 000
Techniques de saignée de gomme	2	500 000	1 000 000
Techniques d'exploitation durable d'un peuplement naturel ou artificiel de gommieraie	2	500 000	1 000 000

**Tableau 20 : Chiffrage de propositions liées à l'agriculture pour le site du Ferlo**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Puits	2	8 000 000	PADAER, CECI, PRODAM
Périmètres maraîchers	n.p.	16 000 000	CECI, ANCAR, FAO, PADAER, ANEV, PRODAM, ADOS
Acquisition d'intrants (semences, engrais, produits phytosanitaires)	n.p.	9 800 000	CECI, ANCAR, FAO, PRODAM, ADOS, ANEV, (Fonds revolving?)
Aménagement de mares	3	180 000 000	CECI, ANCAR, FAO, PADAER, CECI, PRODAM
Fourneaux diambar	100	1 500 000	CECI, ANCAR, FAO
Biogaz	20	17 600 000	CECI, ANCAR, FAO, PADAER, CECI, PRODAM
Acquisition de vaccins	n.p.	6 500 000	CECI, ANCAR, FAO, ADOS, ANEV
Unité de fabrication d'aliments	10	8 000 000	PADAER, CECI, PRODAM
Matériel de lutte contre les feux de brousse	n.p.	2 500 000	PRODAM
Parc à vaccination et appui	n.p.	10 000 000	ADOS, CECI, ANEV
Etudes de filières	4	20 000 000	
Installation de périmètres de gomme arabique	5ha pour chacun des 44 villages	550 000 000	

Ruches et équipements pour l'apiculture	44 villages	35 000 000	
Sessions de formation	14	10 000 000	

#### *Propositions liées à la forêt*

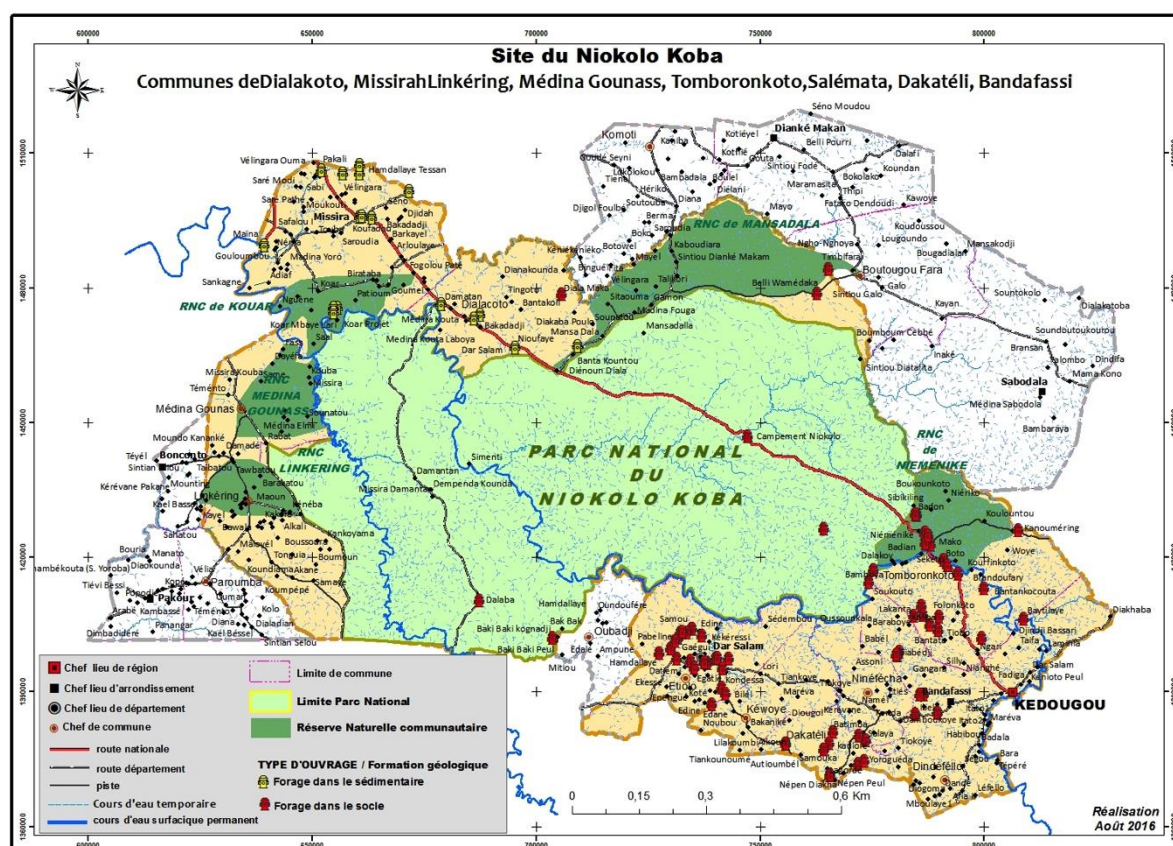
- Création d'un centre de formation polyvalent. Le Centre de formation polyvalent comportera une salle de réunion/formation d'une capacité de d'environ 30 personnes, un garage pour plusieurs véhicules (lourds et légers), des magasins pour le stockage de produits et différents matériels de lutte contre les feux de brousse, etc. Le coût d'un centre du genre est estimé à environ 100 000 000 FCFA (pris en charge par la Direction des Eaux et Forêts dans le cadre de sa mission de lutte contre les feux de brousses).
- Lutte contre les feux de brousse. Un montant de 150 000 000 FCFA sera dégagé pour **l'achat d'un gradeur et d'un tracteur pour l'ouverture et l'entretien de pare feu, de camions citernes et de matériel de lutte contre les feux de brousse.** qui sera pris en charge par le projet. Le projet procédera à **l'ouverture d'au moins 500 km de pare feu.** A raison de 75 000 FCFA le coût du km, le coût global de l'opération est pour un montant d'au moins 37 500 000 FCFA. Le coût de **l'équipement des comités de lutte contre les feux de brousse** peut être estimé environ 3 000 000 FCFA.
- La fonction de conservation des RNC doit être revue en faveur d'une meilleure prise en compte de leurs différentes potentialités. L'aménagement devra s'appuyer sur la **réactualisation du plan d'aménagement** pour passer d'un aménagement de conservation à un aménagement de production pour une contribution directe des RNC à l'amélioration des revenus des populations. Il constitue un outil structurant qui permettra qui non seulement accompagne et renforce les « pratiques résilientes de subsistance diversifiées », mais qui permet d'aller au-delà, vers une dynamique de développement. Il contribuera ainsi, tout en inscrivant son action dans une dynamique de restauration et d'amélioration du couvert végétal, à encourager le développement économique de la zone à travers des **filières de produits forestiers ligneux et des filières de produits forestiers non ligneux.** Les plans d'aménagement permettront, entre autres, de mieux orienter les projets que les différents acteurs seront amenés à soumettre aux institutions de financement. La réactualisation des plans d'aménagement existant (plus orientés sur la conservation) permettra de garantir la place des RNC dans le développement local. Ils contribueront, à l'instar des études de filières, à mieux préparer la planification d'un développement local basé, d'abord sur les potentialités locales avant de compter sur des financements venant d'ailleurs. La réactualisation des plans d'aménagement passe par des inventaires qui mettront l'accent sur les essences objectifs qui devront diriger l'aménagement. Il y aura un premier inventaire au démarrage du projet pour la réactualisation des plans puis un second inventaire à la fin du projet pour évaluer l'évolution des potentialités des RNC. Pour les 3 RNC et UP, un montant d'environ 19 500 000 FCFA (6 500 000 FCFA x 3) permettra de réactualiser les plans d'aménagement, intégrant l'analyse de la situation de référence et les consultations publiques.
- Des études de filières sur quatre espèces forestières (*Balanites aegyptiaca*, et *Ziziphus mauritiana* dans la partie nord de la zone du Ferlo et *Adansosia digitata*, *Sterculia setigera* dans la partie sud) et une sur l'écotourisme seront réalisées. Ces études permettront de rassembler et de mieux structurer les informations dans les différents segments des filières. Elles feront une meilleure analyse des contraintes institutionnelles et organisationnelles et révéleront les besoins en termes de capacités des différents acteurs. En considérant le coût de l'étude à environ 5 000 000 FCFA, le montant total est de 25 000 000 FCFA. Des études ont été faites pour les filières de *Adansosia digitata* et *Sterculia setigera* mais plus dans le contexte de la zone de Tambacounda. Elles seront capitalisées.
- Sessions de formation sur les techniques de transformation des produits forestiers non ligneux et sur les techniques de lutte contre les feux de brousse.

**Tableau 21 : Chiffrage de propositions liées à la gestion des forêts pour le site du Ferlo**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Equipement des comités de lutte contre les feux de brousse	n.p.	3 000 000	
Pare-feu	500 km	37 500 000	
Gradeur, tracteur et citerne	n.p.	150 000 000	
Réactualisation du plan d'aménagement	3	19 500 000	
Etudes de filières	5	25 000 000	
Sessions de formation	4	2 000 000	



## B.IV. Site du Niokolo Koba



Carte 4 : Site du Niokolo Koba (source : ?)

### B.IV.1. Constat des experts

- En 2010, la savane arborée revient en force occupant ainsi près de 35 % de la zone étudiée. La savane arbustive a quasi disparu, et ne représente plus que 0,28%. La savane boisée a aussi régressé, passant de 40% en 1986 à 17% en 2010 (MEDD, 2010).
- Les impacts du changement climatique sont
  - Baisse d'environ 400 mm de la pluviométrie annuelle
  - Sols peu profonds et vulnérables après déboisement à l'érosion éolienne et au ruissellement ;
  - Détérioration du couvert végétal à cause du charbonnage
  - Feux de brousse fréquents.

Matrice SWOT	
Forces (Capacités)	Faiblesses (Besoins)
Amélioration en cours du niveau d'accès à l'eau potable dans les communes	Disparités dans le niveau d'accès à l'eau potable et niveau d'accès relativement faible dans les certaines communes concernées
Présence d'un important réseau hydrographique et donc de fortes potentialités en eau de surface (cours d'eau et mares) pour l'abreuvement du cheptel et l'irrigation	Insuffisance d'ouvrages de mobilisation des eaux de surface et faible valorisation du potentiel en eau de surface
Forte potentialité des nappes d'eau souterraine dans la partie sédimentaire (ouest de la zone)	Ressources en eau limitées des nappes d'eau du socle de la partie est
Présence de périmètres de banane le long du fleuve Gambie	Difficulté de réalisation de forages en zone de socle (Forages des fois improductifs)

Présence de périmètres maraichers exploités par les femmes dans quelques villages	Densité de forages relativement faible en zone sédimentaire
	Coût de réalisation des forages dans la nappe profonde élevé
	Puisage manuel de l'eau dans les puits pénible pour les femmes et les enfants
	Ruissellement et ravinement important pendant la saison des pluies (dégradation des sols)
	Feux de brousse fréquents
	Détérioration du couvert forestier à cause du charbonnage
<b>Opportunités (Potentiel)</b>	<b>Menaces (Capacités à renforcer)</b>
Existence de projets avec volet hydraulique (PADAER, PUDC, P2RS) et de possibilités de partenariat	Faibles capacités des populations et des communes à faire face aux effets des changements climatiques
Faible capacité des communes (manque de ressources humaines et financières)	Réforme de la gestion des forages ruraux en cours et pas encore bien comprise par les populations, les ASUFOR et les responsables des communes
Existence de quelques organisations de populations (Groupements de producteurs, ASUFOR)	Non prise en compte pour le moment de la gestion des forages en zone de socle dans la réforme de l'hydraulique rurale
	Feux de brousse fréquents

#### B.IV.2. Actions proposées dans le cadre du projet

##### Propositions liées à la gestion de l'eau

- Aménagement de bassins versant (en vue de lutter contre le fort ruissellement, le ravinement, la dégradation des sols et des équipements). Les moyens les plus appropriés pour faire face à cette problématique sont l'adoption de bonnes pratiques culturales, de reforestation et d'aménagement et d'occupation de l'espace. Pour ce faire des solutions de renforcement des capacités techniques (**création du Centre de Protection de la Nature**) et de dotation de ressources financières pour appuyer les populations à réaliser elles même les aménagements à faire sont suggérées. **400 ha** sont à aménager pour la zone du Niokolo Koba.
- Aménagement de bas fonds : Cette problématique concerne les zones qui ont un fort potentiel en cette matière et une forte demande ; nous retenons la possibilité d'aménager 10 ha dans la zone du Niokolo Koba.
- Amélioration de la disponibilité de l'eau pour les activités génératrices de revenus (maraîchage en particulier) : il s'agit d'une demande d'adaptation aux changements climatiques exprimées dans toutes les zones d'intervention du projet au bénéfice en particulier des femmes et des jeunes et qui pourra se réaliser **à partir de puits maraîchers existants**.

**Tableau 22 : Chiffrage de propositions liées à la gestion de l'eau dans le zone du Niokolo Koba**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Aménagement de bassin versant	400 ha	30 000 000	
Aménagement de bas fonds	10 ha	25 000 000	
Disponibilité en eau pour le maraîchage (puits)	10	40 000 000	



### Propositions portant sur l'agriculture

Développer les filières PFNL, développer le maraîchage dans les forêts

- Développement de filières
- Maraîchage et fruiticulture. Le projet en partenariat avec l'ANEV va financer l'aménagement de 4 ha de **bas-fonds rizicoles, la mise en place de périmètres maraîchers** ainsi que la réalisation d'un **puits**, l'acquisition d'un **moulin**, d'un **magasin de stockage et de conditionnement** et la **réhabilitation de vergers de banane**. Un besoin de réfection d'un tronçon de piste avait été exprimé pour permettre l'accès à certaines parcelles de banane. Une unité de transformation des PFNL sera également installée.
- Elevage. Achat d'un **géniteur ovin** et **délimitation des zones de parcours** pour lutter contre la divagation du bétail, acquisition de **coqs raceurs** et de **vaccins**. Les financements de l'abri pour les poulaillers seront mobilisés à travers le cofinancement.
- Filières de produits forestiers non ligneux. Le projet mettra l'accent sur les filières karité, fruit du baobab et miel qui sont les plus couramment exploités dans la région. Ils rapportent des revenus assez substantiels aux ménages. De plus, les femmes sont les principales actrices qui travaillent dans la cueillette, la transformation et la commercialisation au niveau local. Les femmes s'impliquent dans ces filières sans en tirer le maximum de bénéfices faute d'infrastructure, d'équipements et d'encadrement. Il s'agira de mettre en place des **unités de transformations**. Afin de faciliter des économies d'échelles, un centre de transformation multifonctionnel (Karité, fruit du baobab et miel) sera construit à Salémata. En plus de la production de poudre de fruit du baobab, du matériel pour l'extraction de l'huile de baobab sera installé. Les investissements nécessaires (3 bâtiments, 1 puits, 1 château d'eau, 2 grands bassins, 1 aire de séchage et les équipements, etc.) sont estimés à environ 100 000 000 FCFA. Le centre sera géré par une entité (organisation faîtière) où différents groupements de femmes sont représentés. Le projet aidera dans la mise en place des différents niveaux d'organisation, notamment l'administration et la gestion du centre, la recherche de débouchés et la commercialisation. Le projet contribuera aussi à la promotion de la filière madd à Mako dans les villages concernés par la RNC de Mako. Une petite **unité multifonctionnelle pour la transformation du madd** (marmelade, jus et sirop), du miel et du bouye sera construite à Mako. Elle sera constituée de bâtiments (7 000 000 FCFA), équipements (2 frigos, 1 presse artisanale, 1 moulin, 1 maturateur, etc.) (2 500 000 FCFA), une petite centrale de production d'énergie solaire (5 000 000 FCFA). Dans la région de Tambacounda, on retrouve le fruit du baobab, le miel, le fruit du zizyphus, le tamarin, le néré, les gommés mbep et arabique, certaines feuilles et racines, les exsudats, l'igname sauvage. Des sessions d'information, de sensibilisation seront tenues pour développer ces différents produits et leurs filières. Le projet mettra l'accent sur la gomme *Sterculia setigera* qui a une importance particulière dans la région dans la mesure où elle contribue à l'amélioration des revenus des populations qui s'adonnent à la récolte pendant une bonne partie de l'année. Une **unité de transformation multifonctionnelle** sera installée à Dialakoto. Elle permettra de produire du jus et du sirop de madd. En plus, elle permettra d'extraire l'huile des graines de baobab. Une **presse manuelle et un foyer** amélioré fonctionnant au biogaz seront installés. Le coût de revient est d'environ 20 000 000 FCFA. Le madd sera vendu en partie localement. Le projet pourra appuyer dans la mise en relation avec des acheteurs au niveau de la région de Dakar et autres grandes villes du Sénégal, au niveau notamment des grandes surfaces.
- Lutte contre les feux de brousse. Réalisation de **80 km de pare feu**.
- Lutte contre l'émission de gaz à effet de serre. Mise en place de **4 kits de biogaz** qui sera confiée à Bamtaaré qui est chargé de la mise en œuvre du Programme National de Biogaz au niveau de Kédougou. Des **foyers améliorés** seront installés pour 1000 ménages (parmi les plus démunies) répartis dans les différents villages concernés par les RNC. Cela représente un coût global de 7 500 000 FCFA. Le projet aidera au renforcement des capacités de quelques forges artisanales locales dans la production des foyers améliorés. Afin de faciliter une diffusion à grande échelle, un montant de 5 000 000 FCFA pourrait être dégagé pour les groupements sous forme de crédit revolving pour le financement de la fabrication des foyers améliorés. Les groupements assureraient la commercialisation auprès des membres et d'autres acteurs.

- Sessions de formation.

- Deux sessions **d’alphabétisation fonctionnelle** organisée avec l’outil GERME (Gérer Mieux son Entreprise) du Bureau international du Travail (BIT) qui donne un certain nombre de modules dont un sur le marketing, un sur le calcul des coûts, et un sur la comptabilité. Les trois modules se donnent en langue locale. Chaque module dure 10 jours. Les sessions seront organisées à Ranérou. L’ensemble de la formation dure donc 30 jours à raison de 50 000 FCFA/jours pour le formateur. En considérant un montant forfaitaire de 1 000 000 FCFA pour des frais divers liés à l’organisation (transport, hébergement, nourriture, etc.), le coût global des deux sessions de formation est estimé à 4 000 000 FCFA.
- Autres formations

Thématiques de formation	Nombre	Coût/unité FCFA	Coût total FCFA
Techniques de production plants en pépinière (fruitiers, espèces locales,...)	2	500 000	1 000 000
Techniques de production de miel	2	500 000	1 000 000
Techniques de saignée de gomme sterculia	2	500 000	1 000 000

**Tableau 23 : Chiffrage de propositions liées à l'agriculture pour le site du Niokolo Koba**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Achat de coqs raceurs	10	100 000	
Puits	1	4 000 000	
Pare-feu	80 km	32 000 000	ANEV
Périmètres maraîchers	n.p.	21 000 000	PRODAC
Aménagement de bas-fonds	10	25 000 000	ANEV
Magasin de stockage et conditionnement	n.p.	20 000 000	
Biogaz	4	3 520 000	PRODAC
Acquisition de vaccins	n.p.	1 500 000	
Parc à vaccination et appui	n.p.	1 500 000	
Géniteur Ladoum	n.p.	800 000	ANEV
Moulins	n.p.	1 600 000	ANEV
Délimitation zone de parcours	n.p.	12 500 000	ANEV, PRODAC
Unité de transformation multifonctionnelle	3	114 500 000	
Sessions de formation	8	7 000 000	
Mise en place de foyers améliorés	1000 foyers	7 500 000	

**Propositions liées à la forêt**

- Création d’un centre de formation polyvalent. Le Centre de formation polyvalent comportera une salle de réunion/formation d’une capacité de d’environ 30 personnes, un garage pour plusieurs véhicules (lourds et légers), des magasins pour le stockage de produits et différents matériels de lutte contre les feux de brousse, etc. Le coût d’un centre du genre est estimé à environ 100 000 000 FCFA (pris en charge par la Direction des Eaux et Forêts dans le cadre de sa mission de lutte contre les feux de brousses). Le centre sera construit à Salémata. Il sera multifonctionnel et pourra ainsi abriter différents événements organisés par les acteurs dans la zone de Tamba-Kédougou.
- Lutte contre les feux de brousse. Un montant de 150 000 000 FCFA sera dégagé pour **l’achat d’un gradeur et d’un tracteur pour l’ouverture et l’entretien de pare feu, de camions citernes et de matériel de lutte contre les feux de brousse.** qui sera pris en charge par le projet. Le projet procédera à **l’ouverture d’au moins 200 km de pare feu.** A raison de 75 000 FCFA

le coût du km, le coût global de l'opération est pour un montant d'au moins 15 000 000 FCFA. Le coût de **l'équipement des comités de lutte contre les feux de brousse** peut être estimé environ 2 000 000 FCFA.

- Développement de l'écotourisme. La **construction d'un centre ou case écotouristique** au niveau local revient à 5 000 000 FCFA l'unité. La **formation de 2 éco gardes** coûte 60 000 FCFA. Ils seront dotés en **vélo** 80 000 FCFA (pour les deux vélos). Il faudra leur confectionner des **tenues** qui reviennent à environ 40 000 et des **chaussures** pour 20 000 FCFA et des badges pour faciliter leur identification tout en veillant à qu'ils ne se substituent pas aux agents forestiers
- La fonction de conservation des RNC doit être revue en faveur d'une meilleure prise en compte de leurs différentes potentialités. L'aménagement devra s'appuyer sur la **réactualisation du plan d'aménagement** pour passer d'un aménagement de conservation à un aménagement de production pour une contribution directe des RNC à l'amélioration des revenus des populations. Il constitue un outil structurant qui permettra qui non seulement accompagne et renforce les « pratiques résilientes de subsistance diversifiées », mais qui permet d'aller au-delà, vers une dynamique de développement. Il contribuera ainsi, tout en inscrivant son action dans une dynamique de restauration et d'amélioration du couvert végétal, à encourager le développement économique de la zone à travers des **filières de produits forestiers ligneux et des filières de produits forestiers non ligneux**. Les plans d'aménagement permettront, entre autres, de mieux orienter les projets que les différents acteurs seront amenés à soumettre aux institutions de financement. La réactualisation des plans d'aménagement existant (plus orientés sur la conservation) permettra de garantir la place des RNC dans le développement local. Ils contribueront, à l'instar des études de filières, à mieux préparer la planification d'un développement local basé, d'abord sur les potentialités locales avant de compter sur des financements venant d'ailleurs. La réactualisation des plans d'aménagement passe par des inventaires qui mettront l'accent sur les essences objectifs qui devront diriger l'aménagement. Il y aura un premier inventaire au démarrage du projet pour la réactualisation des plans puis un second inventaire à la fin du projet pour évaluer l'évolution des potentialités des RNC. Pour les 7 RNC, un montant d'environ 45 500 000 FCFA (6 500 000 FCFA x 7), permettra de réactualiser les plans d'aménagement, intégrant l'analyse de la situation de référence et les consultations publiques.
- Sessions de formation sur les techniques de lutte contre les feux de brousse et les techniques de transformation des produits forestiers non ligneux.

**Tableau 24 : Chiffrage de propositions liées à la gestion de la forêt pour le site du Niokolo Koba**

Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Equipement des comités de lutte contre les feux de brousse	n.p.	2 000 000	
Pare-feu	200 km	15 000 000	
Gradeur, tracteur et citerne	n.p.	150 000 000	
Centre écotouristique et personnel	à l'unité	5 260 000	
Réactualisation du plan d'aménagement	7	45 500 000	
Sessions de formation	4	2 000 000	



## B.V. Bilan des propositions chiffrées pour les quatre zones du projet

Delta Sénégal				Delta du Saloum			Ferlo			Niokolo Koba		
Propositions liées à la gestion de l'eau				Propositions liées à la gestion de l'eau			Propositions liées à la gestion de l'eau			Propositions liées à la gestion de l'eau		
Type	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements	Quantité	Coût (FCFA)	Partenaires éventuels pour co-financements
Aménagement de bassin versant	/	/		100 ha	7 500 000		400 ha	30 000 000		400 ha	30 000 000	
Aménagement de mares	/	/		/	/		3	150 000 000		/	/	
Aménagement de bas fonds	/	/		40 ha	100 000 000		/	/		10 ha	25 000 000	
Disponibilité en eau pour le maraîchage (puits)	/	/		10	40 000 000		/	/		10	40 000 000	
Disponibilité en eau pour le maraîchage (forages)	/	/		/	/		4	32 000 000		/	/	
Disponibilité en eau pour le maraîchage (PDIDAS)	n.p. (provision pour récupération de terres salées)	50 000 000	PDIDAS	/	/		/	/		/	/	
Propositions portant sur l'agriculture				Propositions portant sur l'agriculture			Propositions portant sur l'agriculture			Propositions portant sur l'agriculture		
Appui aux femmes pour le commerce. Transformation, produits halieutiques				2	20 000 000	FAO						
Réhabilitation bassin aquacole				1	4 000 000	PAFA						
Achat de coqs raceurs	10	100 000		n.p.	100 000	PAFA				10	100 000	
Pirogue et équipements pour ostréiculture				n.p.	5 000 000	PAFA						
Puits				4	16 000 000	ANEV, PAPIL, PAFA- PAFA-E,	2	8 000 000	PADAER, CECI, PRODAM	1	4 000 000	

						Wula Nafa,P2RS						
Pare-feu				50 km	20 000 000	ANEV				80 km	32 000 000	ANEV
Périmètres maraîchers				6,4 ha	32 000 000	ANEV, PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS	n.p.	16 000 000	CECI, ANCAR, FAO, PADAER, ANEV, PRODAM, ADOS	n.p.	21 000 000	PRODAC
Aménagement de bas- fonds rizicoles				5 ha	12 500 000	ANEV						
Réhabilitation pépinière et jardin fruitier				n.p.	4 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS						
Acquisition d'intrants (semences, engrais, produits phytosanitaires)				n.p.	10 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS, (Fonds revolving?)	n.p.	9 800 000	CECI, ANCAR, FAO, PRODAM, ADOS, ANEV, (Fonds revolving?)			
Ruches et équipements pour l'apiculture				40 villages	35 000 000		44 villages	35 000 000				
Aménagement de bas- fonds				20 ha	50 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS				10	25 000 000	ANEV
Mesures CES/DES				n.p.	5 000 000	PAPIL, PAFA- PAFA-E, Wula Nafa,P2RS						
Diffusion de foyers améliorés				50	2 500 000							
Plateforme multifonctionnelle et séchoir				n.p.	3 000 000	ANEV	10	8 000 000	PADAER, CECI, PRODAM	3	114 500 000	
Réhabilitation d'unités de transformation				3	2 500 000	ANEV						
Magasin de stockage et conditionnement				n.p.	20 000 000	ANEV				n.p.	20 000 000	
Aménagement de mares							3	180 000 000	CECI, ANCAR, FAO, PADAER, CECI, PRODAM			

Fourneaux diambar							100	1 500 000	CECI, ANCAR, FAO			
Biogaz							20	17 600 000	CECI, ANCAR, FAO, PADAER, CECI, PRODAM	4	3 520 000	PRODAC
Foyers améliorés										1000 foyers	7 500 000	
Acquisition de vaccins							n.p.	6 500 000	CECI, ANCAR, FAO, ADOS, ANEV	n.p.	1 500 000	
Matériel de lutte contre les feux de brousse							n.p.	2 500 000	PRODAM			
Parc à vaccination et appui							n.p.	10 000 000	ADOS, CECI, ANEV	n.p.	1 500 000	
Géniteur Ladoum	10	8000000								n.p.	800 000	ANEV
Moulins										n.p.	1 600 000	ANEV
Délimitation zone de parcours										n.p.	12 500 000	ANEV, PRODAC
Micro-jardinage	n.p.	60000000										
Récupération de terres salées	1000 ha	100000000										
Sessions de formation				30 jours et 6 sessions	7 000 000		14	10 000 000		8	7 000 000	
Construction poulailler	n.p.	1400000										
Etudes de filières							4	20 000 000				
Installation de périmètres de gomme arabique							5ha pour chacun des 44 villages	550 000 000				
Propositions liées à la forêt				Propositions liées à la forêt			Propositions liées à la forêt			Propositions liées à la forêt		
Réactualisation du plan d'aménagement	1	6 500 000		8	52 000 000		3	19 500 000		7	45 500 000	
Pare-feu				50 km	20 000 000	ANEV	500 km	37 500 000		200 km	15 000 000	
Sessions de formation				4 sessions	2 000 000		4	2 000 000		4	2 000 000	

Equipement des comités de lutte contre les feux de brousse							n.p.	3 000 000		n.p.	2 000 000	
Gradeur, tracteur, citerne							n.p.	150 000 000		n.p.	150 000 000	
Etudes de filières							5	25 000 000				
Centre écotouristique et personnel										à l'unité	5 260 000	



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## **ANNEX [H]. KEY ASSESSMENT REPORT OF THE GENDER SPECIALIST CONSULTANT (IN FRENCH)**

<p><b>Rapport de la Consultante Genre du PPG du Projet de Promotion d'une finance novatrice d'adaptation communautaire autour des réserves naturelles communautaires (pfnac)</b></p>
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## **I. Introduction Générale :**

Le Sénégal est un pays membre de la Communauté économique des Etats de l'Afrique de l'Ouest (CEDEAO) et de l'Union économique et monétaire des Etats l'Afrique de l'Ouest (UEMOA).

Il est une République laïque et démocratique ; de par sa constitution, le Sénégal assure l'égalité de tous les citoyens devant la loi, sans distinction d'origine, de race, de sexe, de religion et respecte toutes les croyances. Il est composé de 14 régions, 45 départements, 117 arrondissements et 557 communes. Les collectivités locales, sont administrées par des citoyens élus au suffrage universel. En 2014, la population sénégalaise est estimée à 14.508.715 habitants dont 49,9% d'hommes et 50,1% de femmes.

Cette population est majoritairement jeune et est composée d'une dizaine d'ethnies inégalement répartie. La langue Wolof reste la plus parlée (75% de la population). Le Sénégal fait partie des Pays les Moins avancés (PMA) bien qu'il soit classé par la Banque mondiale depuis 2011 au rang des pays à revenu intermédiaire.

L'économie sénégalaise, s'est inscrite sur une nouvelle trajectoire, suite à la relance qui s'est opérée en 2014. Le contexte de mise en œuvre du Plan Sénégal Emergent (PSE), par le Gouvernement a contribué à renforcer le cadre économique interne. Le raffermissement des investissements publics, notamment, dans l'agriculture, les infrastructures et l'énergie, conjugué à la relance des industries et aux performances du sous-secteur agricole, ont concouru à relever le taux de croissance du PIB réel estimé à 6,5% au terme de l'année 2015, après 4,3% un an auparavant.

Le Sénégal est classé 154ème sur 172 pays sur l'IDH du PNUD en 2013. Comparé aux autres pays du continent africain, le Sénégal est pauvre en ressources naturelles. Ses principales recettes en devises proviennent de la pêche et du tourisme.

L'Agriculture occupe plus de la moitié de la population (selon le PSE 60% environ de la population du Sénégal dépend dans ses activités et/ou son revenu des ressources naturelles). L'agriculture est dominée par les exploitations familiales (90%) mais on assiste à une augmentation progressive de la taille des exploitations et à leur modernisation. A cela s'ajoute l'installation progressive de l'agrobusiness.

La pêche qui reste un secteur clé de l'économie subit les conséquences de la dégradation des ressources halieutiques et de l'augmentation récente de la facture énergétique. Cependant, compte-tenu de sa situation géographique et de sa stabilité politique, le Sénégal fait partie des pays africains les plus industrialisés. Plusieurs stratégies de développement axées sur la réduction de la pauvreté et l'accélération de la croissance ont été menées avec des résultats mitigés ces dernières années.

L'élevage est une activité importante en termes de création de richesses. Sa contribution au PIB est estimée à 4,2% en 2012. L'élevage contribue à la sécurité alimentaire et nutritionnelle des populations et présente un potentiel de croissance important aussi bien au niveau de l'aviculture qu'au niveau des bovins et des ovins.

L'accès aux services sociaux de base est encore freiné par le niveau d'électrification, entre autres des centres de santé, et l'état des infrastructures tel que confirmé par l'audit genre sur les politiques énergétiques.

Dans le domaine de l'éducation, des progrès significatifs ont été enregistrés. L'Etat a consenti de réels efforts avec les différents programmes mis en œuvre. Un accent particulier est mis sur l'atteinte de la parité dans le milieu scolaire, mais il faut noter que dans une large majorité les femmes sont encore analphabètes. Le Sénégal est un des dix pays en Afrique où plus de la moitié (58%) des adultes sont analphabètes. La majorité de ces analphabètes sont des femmes. (Unesco, 2012)

Dans le domaine de la santé, il est à noter une amélioration de la santé infanto-juvénile et maternelle, la réduction des maladies endémiques telles que le VIH-SIDA, le paludisme et la tuberculose. Néanmoins, le taux de décès maternels au cours des naissances est encore élevé (410 décès pour 100.000 naissances vivantes - EDS IV -).

Selon le sexe, on observe des variations sur la durée de vie moyenne ; les femmes ont une espérance de vie supérieure à celle des hommes : 66,5 ans contre 63,2 ans. Des différences significatives sont également observées entre les milieux urbain et rural. Quel que soit le sexe, l'espérance de vie à la naissance est plus élevée en milieu urbain : 67,4 ans qu'en milieu rural : 62,7 ans (RGPHAE, 2013)

Le Sénégal a capitalisé des résultats encourageants dans la lutte pour l'égalité de genre et l'autonomisation des femmes. L'indice de parité à l'école primaire, est favorable aux filles et dernièrement les femmes ont connu une montée en puissance dans les sphères de décision publique grâce à la loi sur la parité 3.

En termes d'accès à l'emploi et malgré leur plus grand nombre, les femmes ont moins accès à un emploi si on considère la population active. Selon la SNEEG, sur 37,2% d'inactifs, les 66,8% sont des femmes et cette tendance concerne autant le milieu rural que le milieu urbain, par exemple à Dakar 41,1% des hommes sont actifs contre 62,1% des femmes.

Toutefois, il faut noter que le taux d'activité des femmes est sous- estimé dans la mesure où leur contribution à l'économie du foyer (travail reproductif) n'est pas comptabilisé alors qu'elles y consacrent une bonne partie de leur temps.

## **II. Le Sénégal face aux changements climatiques :**

Le changement climatique figure actuellement parmi les questions les plus importantes à l'ordre du jour politique et économique mondial. En Afrique, le changement climatique est une réalité palpable qui détermine d'emblée le cours de la vie des populations. Des événements météorologiques extrêmes et l'imprévisibilité accrue des cycles météorologiques ont de graves conséquences pour les populations, particulièrement les couches vulnérables qui dépendent des terres, des lacs et des mers pour subvenir à leurs besoins alimentaires et gagner leur vie. En conséquence, la mobilisation de l'Afrique autour de cette question connaît une évolution rapide. Le Sénégal qui subit aussi, de plein fouet les impacts du changement climatique est très actif en terme de recherche de solutions d'atténuation et d'adaptation. L'action conjuguée de facteurs naturels et anthropiques a profondément modifié les écosystèmes et conduit à leur dégradation.

Du fait de leurs richesses en biodiversité, les écosystèmes du Sénégal constituent une assurance pour la sécurité alimentaire des populations. Néanmoins, cette sécurité alimentaire se trouve aujourd'hui menacée par plusieurs facteurs dont les changements climatiques qui représentent une menace énorme pour les populations particulièrement les couches dites vulnérables.

Pourtant, la conservation des écosystèmes fait partie des préoccupations majeures de l'Etat du Sénégal qui, outre son dispositif réglementaire et législatif national, a signé et ratifié plusieurs conventions environnementales et s'est engagé auprès des organisations régionales et internationales dans la mise en œuvre des stratégies de développement durable.

Le Sénégal est d'ailleurs l'un des pays africains dont le cadre juridique et institutionnel de gestion de la biodiversité est en avance tant du point de vue de l'élaboration des règles de gestion que de leur application. En effet, la signature par L'Etat du Sénégal de la Convention des Nations Unies sur la diversité biologique, et sa ratification en 1994 au sommet planète terre de Rio de Janeiro en 1992 constituent la première étape de la ferme volonté d'appliquer une nouvelle politique de gestion de la biodiversité.

Nonobstant ces initiatives, l'évolution du climat et des écosystèmes connaît des bouleversements cycliques avec des phases de sécheresse qui affectent négativement les conditions de vie d'un nombre conséquent de personnes, particulièrement les jeunes et les femmes qui en sont d'ailleurs les premières victimes. Les enfants sont également parmi les personnes les plus vulnérables aux conséquences des changements climatiques et sont les plus touchés eu égard certaines catastrophes ; en outre, certaines maladies qui les touchent, telles que le paludisme, la diarrhée et la malnutrition, sont très sensibles aux conditions climatiques.

Les populations affectées particulièrement celles vulnérables ont ainsi besoin de lutter en priorité pour le maintien de la sécurité alimentaire, de leurs conditions de vie et s'adapter aux effets du changement climatique. Selon le Groupe d'experts intergouvernemental sur l'évolution du climat (GIEC) l'adaptation se définit comme étant « l'ajustement des systèmes naturels ou humains en réponse à des stimuli climatiques présents ou futurs ou à leurs effets afin d'atténuer les effets néfastes ou d'exploiter des opportunités bénéfiques. » S'adapter au changement climatique, signifie ainsi réduire la

vulnérabilité aux risques climatiques en cours et à venir. Or les changements climatiques n'affectent pas de la même manière toutes les personnes au sein d'un ménage, ou d'une communauté donnée. La répartition inégale des droits, des ressources et du pouvoir restreint la capacité d'action sur le changement climatique, d'où la nécessité absolue d'intégrer le genre dans la prise en charge de la vulnérabilité au changement climatique qui est intrinsèquement lié aux vulnérabilités induites par les déséquilibres sociales, économiques et politiques.

Le projet de promotion d'une finance novatrice d'adaptation communautaire autour des réserves naturelles communautaires a pour objectif de mettre en place un ensemble de mesures et de stratégies en vue de promouvoir l'équité de genre et garantir la promotion de la femme et des autres groupes vulnérables (personnes âgées, handicapées, jeunes etc.) dans les activités d'adaptation aux changements climatiques qui seront initiées. Il s'agit là de la participation de toutes les couches de la population dans la formulation et l'exécution des activités du projet afin qu'elles aient égal accès aux bénéfices, aux décisions et contrôle des ressources générées par le projet en vue d'une amélioration de leurs conditions de vie.

L'intégration du genre dans la prise en charge de la question de l'adaptation aux changements climatiques, plus particulièrement dans le projet de promotion d'une finance novatrice d'adaptation communautaire autour des réserves naturelles communautaires trouve ainsi sa pertinence dans les différents rôles que jouent les femmes dans leur société. Ainsi, au-delà d'une simple discrimination à l'égard des femmes et des jeunes, la problématique genre constitue une dimension importante à prendre en compte dans les stratégies de développement durable.

## **2.1. Vulnérabilité des femmes dans l'accès aux ressources au Sénégal**

En milieu rural, les femmes jouent un rôle pivot dans le développement de leur communauté et occupent une place prépondérante dans le système socio-économique traditionnel. Elles génèrent une partie substantielle du budget familial par la vente de produits de cueillette, de maraîchage, de pêche, etc.

Les femmes contrôlent aussi l'essentiel de l'économie non monétaire et sont responsables de beaucoup d'activités liées à la reproduction sociale; en effet, elles font la totalité des travaux domestiques (cuisson des repas, vaisselle, linge, puisage de l'eau, ramassage de bois mort, cueillette et vente de fruits sauvages, etc.) et s'occupent également des enfants, des personnes âgées et/ ou malades.

Du fait de leur position au sein de la société, les femmes vivent de manière générale dans une situation de vulnérabilité économique et sociale qui se trouve aujourd'hui exacerbée par les changements climatiques qui aggravent les difficultés auxquelles elles sont déjà confrontées.

Au niveau des quatre sites du projet que sont le bas delta du fleuve Sénégal (prédominance de la production halieutique, la zone du Ferlo (avec une prédominance de l'élevage), le delta du Saloum et la zone de Tambacounda (prédominance forestières et faunique), les activités socio- économiques concernent principalement l'agriculture, l'élevage et la pêche et les femmes y participent pleinement. Néanmoins, sous l'influence des valeurs socio-culturelles, les opportunités de promotion sociale offertes aux femmes et aux jeunes sont généralement limitées aussi bien au niveau de la famille qu'à celui de la collectivité: difficultés d'accès à la terre, à l'éducation, au processus de prise de décision, etc. Ce sont là autant de contraintes qui entravent l'épanouissement de la femme et de la jeunesse au plan individuel et collectif, et déterminent la pauvreté particulière dans laquelle vivent une large majorité des femmes et des jeunes dans le milieu rural au Sénégal.

### **2.1.1. Agriculture**

En effet, les femmes représentent 52 % de la population sénégalaise mais ne disposent que de 4% des ressources foncières. Pratiquement dans tous les ménages ruraux, la femme participe pleinement à la production de la nourriture familiale ; pour autant, leurs droits d'accès aux facteurs de production, particulièrement le foncier restent très limités. Les femmes accèdent au foncier par divers procédés dont les plus courants sont l'accès par la famille, (mari, frère ou fils) et/ou à travers les groupements et associations féminins. La législation foncière sénégalaise étant peu appliquée.

Des aspects d'ordre financier peuvent aussi être identifiés comme obstacles pour un accès sécurisé des femmes au foncier. En effet, les femmes manquent généralement de ressources financières et de moyens de production pouvant leur permettre un accès sécurisé à la terre et à sa mise en valeur efficiente. Dans les zones où les transactions foncières sont fortement monétarisées, ces difficultés financières réduisent largement leurs possibilités d'action.

Des contraintes techniques se posent également en termes de manque d'encadrement, de ressources productives (semences, engrais, etc.) et de moyens de production (équipements agricoles modernes) pouvant assurer aux femmes une autonomie de production et garantir les possibilités d'une production à grande échelle. L'analphabétisme et le faible niveau d'instruction de la majorité des femmes rurales constituent également un frein pour leur accès à l'information et à la connaissance des lois et procédures d'attribution des ressources.

La baisse des rendements agricoles, et les parcelles qui sont exposées à la loi féroce de l'économie du marché, rend l'agriculture plus précaire et obligent certains, particulièrement les jeunes à recourir à l'émigration en laissant les femmes derrière eux. Ce qui contribue grandement à leur vulnérabilité.

### **2.1.2. Accès à l'eau**

En sus de la vulnérabilité agricole, les femmes rurales sont confrontées à des difficultés liées à la ressource eau qui se raréfie de plus en plus ; ce qui en fait une corvée très prenante pour les femmes.

Le Sénégal est confronté à un déficit pluviométrique de 35% (Gora Ndiaye ; 2007) du au changement climatique. Dans ce contexte, les femmes sont confrontées à de réelles difficultés en termes d'accès à l'eau, particulièrement dans les zones qui ne disposent pas de forages, de puits équipés, encore moins de branchement à un réseau de distribution. La collecte de l'eau devient ainsi très difficile pour elles. Avec une nappe phréatique en constante baisse, la profondeur des puits dans certaines zones du pays peut atteindre 45 voire 50 mètres. Ce qui rend davantage la corvée des femmes ardue et impacte négativement leur santé, leur prend beaucoup de temps et leur empêche de s'adonner à des activités productives comme le maraîchage, l'aviculture, le petit commerce, etc.

### **2.1.3. Accès à l'énergie**

De manière générale, les femmes rurales restent très attachées à la biomasse naturelle avec toutes les difficultés d'approvisionnement et risques liés à leur santé et à celles de leurs enfants. La collecte du bois de cuisson est devenue difficile dans la plupart des zones rurales du pays où les ressources forestières se sont dégradées. Elles sont ainsi amenées à se rabattre sur l'usage de combustibles non conventionnels comme la bouse de vache, le plastique ou les résidus qui peuvent être sources de maladies et d'affections. L'énergie est le secteur le plus expressif en termes d'impacts négatifs des changements climatiques sur les femmes dans la mesure où la biomasse est encore la source principale d'énergie des ménages sénégalais. L'utilisation du bois et du charbon de bois reste encore relativement importante avec 35 % de la consommation totale d'énergie.

## **III. Généralités sur le Genre :**

### **3.1. Définition:**

Le genre fait référence aux « rôles » sociaux attribués à chaque sexe et aux « rapports » sociaux entre les sexes. Contrairement aux différences biologiques qui existent entre les hommes et les femmes, ces rôles et rapports sociaux de sexe ne sont pas figés : ils évoluent dans le temps ; ils sont dynamiques, influencent et sont influencés par divers facteurs et en fonction des caractéristiques sociales, économiques, culturelles, religieuses de chaque société. Les rôles sociaux et les rapports sociaux de sexe sont source de stéréotypes, et créent des discriminations et des inégalités en majorité à l'égard des femmes mais aussi, dans certains domaines, à l'égard des hommes. Ces rôles sociaux déterminent les relations de pouvoir entre les deux sexes, fixent les droits et les devoirs des femmes et des hommes, modèlent leurs comportements, leurs aspirations, leurs choix de vie.

L'approche genre et développement (GED) cherche à assurer une répartition égale des opportunités, des ressources et des bénéfices entre les différents groupes de la population visée par un projet, une intervention.

L'approche se fonde sur les relations femmes / hommes que détermine la société et non plus sur les femmes en tant que groupe. L'approche est centrée sur les forces sociales, économiques, politiques et culturelles qui déterminent la façon dont les hommes et les femmes peuvent participer à un projet, en bénéficier et contrôler ses ressources et ses activités. Elle consiste à favoriser une prise de conscience et à introduire des stratégies et des outils pour l'égalité et l'inclusion.

L'intégration de la dimension genre a pour objectif de s'assurer que les besoins et les priorités des femmes et des hommes sont pris en compte ; elle vise en fait, une meilleure efficacité et une plus grande équité dans les programmes et projets de développement.

Dans cette perspective, intégrer le genre dans le projet de promotion d'une finance novatrice d'adaptation communautaire autour des réserves naturelles communautaires revient à promouvoir un développement équitable dans les différentes zones d'intervention du projet. Sa pertinence apparaît évidente pour atteindre les objectifs d'adaptation au changement climatique. Mais elle suppose une rupture.

### **3.2. Equité et égalité de genre au Sénégal :**

L'analyse des causes, déterminants et manifestations et le vécu de la pauvreté au Sénégal a permis d'élaborer une stratégie axée sur plusieurs points dont le genre:

- la création de richesse ;
- le renforcement des capacités et la promotion des services sociaux de base;
- l'amélioration des conditions de vie des groupes vulnérables ;
- l'approche participative de mise en œuvre et de suivi - évaluation basée sur la décentralisation du pilotage et de l'exécution.
- l'intégration de l'approche du genre qui reconnaît et part de la spécificité des besoins en vue d'améliorer l'impact des interventions et d'assurer l'équité.

Le Sénégal a signé et ratifié différentes conventions internationales relatives au droit de l'homme de manière générale (droit économique, socio culturel, civil et politique etc.) parmi lesquelles :

- La Convention sur l'élimination de toutes les formes de discrimination à l'égard des femmes, adoptée en 1979 et ratifiée par le Sénégal en 1985 ;
- Le protocole facultatif à la Convention sur l'élimination de toutes les formes de discrimination à l'égard des femmes, ratifié par le Sénégal en 2002 ;
- La Charte Africaine des Droits de l'Homme et des Peuples, ratifiée en 1982 ;
- Le protocole à la Charte Africaine des Droits de l'Homme et des Peuples, relatif aux droits des femmes, ratifié le 1er Décembre 2004.

L' 'égalité entre l'homme et la femme est garantie par la constitution (référendum du 7 janvier 2001) qui proclame « l'accès de tous les citoyens, sans discrimination à l'exercice du pouvoir à tous les niveaux, l'égal accès de tous les citoyens aux services publics, le rejet et l'élimination sous toutes les formes de l'injustice, des inégalités et des discriminations ».

Les articles 7, 18 et 25 de la constitution soulignent respectivement la protection contre toutes mutilations physiques, l'interdiction et la punition du mariage forcé dans les conditions fixées par la loi ; l'interdiction de la discrimination entre l'homme et la femme devant l'emploi.

Au niveau des codes en vigueur, lois et règlements nationaux bon nombre de dispositions nationales ayant un impact sur la situation de l'égalité et de l'équité de genre existent notamment dans le domaine de la famille (Code de la famille, Code de la nationalité), dans le domaine du travail (Code du travail et de la sécurité sociale, Code général des impôts), au niveau pénal (Code de procédure pénale), et sur le plan foncier (Code foncier).

A ces dispositions, s'ajoutent d'autres lois :

- La loi n° 2010-11 du 28 mai 2010 instituant la parité absolue Homme-Femme au Sénégal dans toutes les institutions totalement ou partiellement électives ; adoptée par l'Assemblée Nationale le 14 mai 2010 et par le Sénat le 19 mai 2010.
- La Stratégie Nationale pour l'Égalité et l'Équité de Genre (SNEEG) élaborée et validée en 2005.

À côté de ces lois et dispositions en charge de la promotion du genre, des mécanismes d'appui ont été mis en place particulièrement un point focal genre dans chaque ministère et un Comité consultatif de la femme qui regroupe les représentants des organisations de femmes, des syndicats, des ONG, des partis politiques. Le comité consultatif est chargé de donner des avis sur les questions majeures relatives à la promotion de la femme.

Ce dispositif institutionnel d'appui en faveur du genre est également soutenu par des programmes et projets développés en partenariat avec la communauté internationale en faveur de la promotion de la femme.

Il est cependant à noter que l'application des textes nationaux favorables à l'équité et à l'égalité de genre est non effective, de même que la faible traduction dans la législation nationale des dispositions incitées par l'adoption des instruments internationaux portant sur les droits des femmes.

Sur le plan politique, public et syndical, les femmes sont présentes à tous les postes et ont acquis de grandes avancées en termes de nombre de postes de ministres, de députés et d'élues locales.

Malgré tout, le plus important réside dans le vécu quotidien, cadre d'évolution des modes de vie des femmes qui restent confrontées à des problèmes spécifiques en particulier en milieu rural où elles constituent près de 70% de la force de travail et assurent un peu plus de 80% de la production agricole avec un accès limité aux moyens de production. Elles sont très vulnérables à la pauvreté et sont confrontées au manque de ressources et de revenus.

#### **IV. Bonnes pratiques d'intégration du genre dans un programme de développement: Exemple du Millénnium Challenge Account -MCA Sénégal-**

##### **Contexte :**

Dans sa politique d'appui à la croissance et à la lutte contre la pauvreté dans certains pays les moins avancés, le gouvernement américain a mis en place le Millenium Challenge Corporation (MCC) pour aider les pays éligibles à mieux lutter contre la pauvreté à travers des financements conséquents.

C'est dans cette perspective que le MCC et le gouvernement du Sénégal ont signé en septembre 2009 pour une durée de cinq ans un accord de subvention i.e. un Compact de

\$ 540 millions pour le financement de projets de développement ciblant les secteurs de l'agriculture, du transport et des infrastructures sociales. Compte tenu des inégalités constatées entre hommes et femmes dans les pays en voie de développement, inégalités qui renforcent la féminisation de la pauvreté et sa transmission intergénérationnelle, le MCC a mis un accent particulier sur l'intégration du genre dans la mise en œuvre de toutes les activités initiées dans le compact. Cette intégration du genre qui a revêtu une dimension transversale est basée sur la politique genre du MCC, la politique opérationnelle de la Banque Mondiale en matière de réinstallation involontaire (OP4.12) et les politiques du Sénégal en matière d'égalité et d'équité de genre.

Les activités initiées dans le compact se déclinent comme suit :

1. Le volet routier qui couvre a) la réhabilitation de la route nationale N° 2 tronçon Richard Toll-N'Dioum qui est long de 121, 6 km et la construction du pont de N'Dioum ; b) la construction de la RN6 portant sur la Section Ziguinchor-kolda-vélingara long de 256 km et la construction du pont de Kolda. L'objectif principal de ce volet est de stimuler le trafic intérieur et transfrontalier, le commerce et de fournir un accès fiable toute l'année aux marchés, écoles et hôpitaux, y compris pendant la saison des pluies.

2. Le Projet Irrigation et Gestion des Ressources en Eau qui a pour objectif principal d'accroître les volumes d'eau et la disponibilité permanente des ressources en eau d'irrigation dans la Vallée du fleuve Sénégal. Ce projet comporte quatre activités.

- L'Activité « Delta »

Cette activité vise une amélioration des débits qui transitent par le réseau d'adducteurs du delta qui alimente de nombreux périmètres irrigués et qui pourrait desservir d'importantes superficies irrigables. Le projet comporte également une activité de construction d'un réseau de drainage.

- L'Activité « Podor »

L'Activité de Podor est centré sur le site de N'Galenka.

L'objectif visé est de développer des canaux d'irrigation et de drainage et des infrastructures connexes sur le site pour une superficie de 440 ha.

- L'Activité foncière

Le projet de sécurisation foncière est exécuté dans toutes les zones géographiques du projet d'irrigation et ses éventuelles extensions

- Les mesures de Sauvegarde Sociales

Mettent en exergue l'importance d'intégrer les femmes et les groupes vulnérables dans tout le processus étant donné qu'ils sont défavorisés par rapport à l'accès aux ressources.

3. Les actions environnementales et sociales

Le projet d'irrigation et de gestion des ressources en eau comportent des actions de mitigation des impacts négatifs proposées par le plan de gestion environnemental et social, santé et sécurité à savoir : (i) les actions de reboisement, les actions d'IEC/sensibilisation et lutte contre les maladies hydriques et IST/ Sida, etc.

4. Les actions Sociales et Genre

Ces actions visent globalement à contribuer à la réduction de la pauvreté à travers la mise en œuvre d'activités génératrices de revenus en faveur des couches vulnérables, riveraines de la zone d'intervention des différents projets initiés dans le compact.

#### 4.1. Quelques résultats de l'intégration du genre dans les activités du compact

Avant l'entame des activités du compact, MCA-Sénégal s'est fixé des objectifs très clairs en terme d'accès égal des femmes et des hommes aux séances d'information et de sensibilisation dans les projets d'irrigation et les projets routiers, d'accès égal aux activités économiques, d'accès et de contrôle améliorés des groupes vulnérables aux terres aménagées, d'accès égal des hommes et des femmes aux activités d'accompagnement pour mitiger les impacts négatifs des travaux routiers. Les besoins sexospécifiques ont été identifiés avant l'entame des activités et pris en compte dans la mise en œuvre. Les résultats de l'intégration du social /genre par les entreprises chargées de la mise en œuvre, sont appréciés à trois niveaux : institutionnel, opérationnel et communautaire.

**Sur le plan institutionnel**, chaque entreprise a recruté un responsable social/genre qui a élaboré un plan d'intégration social/ genre en se basant sur le Plan d'Intégration Social/ Genre de MCA-S (PISG) et sur la politique genre de MCC et s'est assuré de son exécution effective et efficiente. Le plan d'intégration genre a pour objectif de proposer un ensemble de mesures pour une intégration de la dimension genre dans toutes les activités initiées dans un projet ou une activité donnée du compact. Sa mise en œuvre a été tributaire de sa validation par le MCA/Sénégal.

**Sur le plan opérationnel**, des ONG locales ont été recrutées pour la mise en œuvre du plan d'intégration social/ genre qui s'articule de manière générale sur le recrutement de la main d'œuvre locale et celle féminine sur le chantier (recrutement de femmes pointeur, signaleuses, opératrice labo, secrétaire, technicienne de surface etc.) l'implication effective des femmes et des jeunes dans les sessions d'information et de sensibilisation pendant les travaux, la gestion des plaintes émanant des populations



locales y compris les couches vulnérables, la participation et l'implication effective des femmes dans l'aménagement des bosquets villageois, dans les communautés rurales ciblées et la mise en œuvre des mesures d'accompagnement social/genre.

Pour le volet routier les ONG ont démarré par la sensibilisation du personnel des entreprises (y compris les sous-traitants) afin de les amener à prendre conscience des déséquilibres qui existent dans les rapports de pouvoir et leur permettre de mieux comprendre les enjeux liés au genre et son intégration dans les activités du projet.

La sensibilisation des populations des zones d'influence des projets routiers pendant toute la durée des travaux a porté principalement sur les différentes activités menées, les différents impacts, les moyens de mitigation et de bonification mis en place, sur la sécurité routière, la protection de l'environnement, les thèmes liés au social/genre, les mesures d'accompagnement social/genre, etc.

Concernant ce dernier point, un focus particulier a été mis sur la promotion de l'autonomisation économique des femmes, des jeunes et des personnes vivant avec un handicap à travers des activités génératrices de revenus et un vaste programme de formation et de renforcement de capacités.

**Sur le plan communautaire :** Au niveau des zones d'influence des projets et conjointement avec les ONG en charge de la mise en œuvre des plans d'actions, une identification des besoins a été menée afin de repertorier les besoins des populations vulnérables selon leurs expressions et d'élaborer un plan d'actions sociales.

Le plan d'actions sociales vise globalement à contribuer à la réduction de la pauvreté à travers des sessions de formation et de renforcement de capacités et la mise en œuvre d'activités génératrices de revenus en faveur des couches vulnérables (projets maraichers, d'embouche ou avicole,) et à assurer la sécurité alimentaire à travers l'accès des femmes à la terre. Par exemple au niveau de la cuvette de N'galenka, le projet Dental MCA Ngalenka a intégré la dimension genre dès la phase de planification. Les femmes à travers leurs groupements ont participé activement à toutes les rencontres avec les parties prenantes concernées. Par consensus, 10% des aménagements leur ont été attribués aux femmes (discrimination positive) ce qui n'exclut pas le fait qu'elles aient eu la possibilité d'acquérir des terres individuellement (0,50ha) dans les GIE-mixtes.

Au niveau de ce projet, MCA a proposé un modèle de négociation inclusive qui a permis aux ayants droit coutumiers, surtout lignagers, d'être sensibilisés à la nécessité d'inclure l'accès au foncier les femmes qui représentent une frange importante de la population. Des études d'évaluation ont montré que l'accès des femmes à la terre a été effectivement amélioré dans cette zone, grâce à ces critères d'affectation consensuels. Avant l'intervention du MCA les femmes étaient à moins de 7% de titres d'affectation, après l'intervention ce taux est passé à 27%.

Malgré les résultats mitigés (surtout en ce qui concerne le taux de recrutement des femmes sur les chantiers routiers), le Compact a réalisé des projets d'infrastructures routières et d'irrigation d'une portée économique et sociale d'envergure, qui vont aussi bien bénéficié aux hommes qu'aux femmes pendant de longues années.

En outre, un vaste programme de sécurisation foncière de a été exécuté en faveur de 138 000 ménages dans les zones sud et nord du pays. Au total, le Compact a permis la création de 4 276 emplois dont 370 emplois féminins dans les différentes zones d'intervention et amélioré les conditions de vie des couches vulnérables à travers des activités génératrices de revenus.

#### **4.2. Les leçons apprises**

Des ateliers organisés entre experts genre et des visites d'échange effectuées sur des sites permettent de dégager des leçons qu'il serait bien d'intégrer dans les futurs projets d'infrastructure pour une intégration efficace du genre.

- En amont, faire un plaidoyer efficace pour une mise en œuvre d'une politique de genre. Des lenteurs et des blocages dus à la peur du changement et à la volonté de maintenir le statu quo ont été observés dans la mise en œuvre de certaines activités liées au genre.
- Une culture de RSE (responsabilité sociale de l'entreprise) permet de s'approprier plus facilement les exigences en matière de genre.

- En amont, l'Etat doit assurer l'éducation et la formation professionnelle des filles pour leur garantir un potentiel technique leur permettant d'accéder à divers postes sur les chantiers routiers ; les femmes devraient également être formées, sensibilisées et informées sur leurs droits d'accès sur les ressources vitales telles que la terre, l'eau etc.
- La participation active des communautés dans tout processus les concernant est gage d'appropriation, d'acceptation sociale et de pérennisation.
- Les stéréotypes liés au genre sont tenaces et ne peuvent être combattus sans une réelle volonté politique. Il faut beaucoup de détermination et de patience pour intégrer la dimension genre dans un projet.
- Le renforcement des capacités des employés d'une entreprise, des services techniques et des collectivités locales sur les questions liées au genre permet une meilleure compréhension des enjeux et faciliter l'intégration du genre dans les projets de développement.
- L'absence de dispositifs et d'arrangement institutionnels appropriés et conformes aux conditions des femmes est un facteur d'échec de politiques ou de stratégies visant à encourager leur emploi dans les travaux d'infrastructure
- Les femmes au même titre que les hommes peuvent travailler dans les projets d'infrastructures si l'opportunité leur est donnée. Le cas des signaleuses au niveau des projets routiers (RN2 et RN6) en est une parfaite illustration.

### **Bibliographie :**

- Ministère de l'Environnement et de la Protection de la Nature ; Projet de Gestion intégrée des écosystèmes du Sénégal : Elaboration d'un plan D'aménagement, de cogestion et d'utilisation durable des ressources naturelles, d'aires protégées et de leurs périphéries intégrant les terroirs villageois et les réserves naturelles communautaires, Aout 2003
- L'accès des femmes à la terre au Sénégal : Un chemin escarpé ; Dr Fatou Diop Sall, Sociologue, Section de sociologie de l'UGB (article résumant un rapport d'études produit par le GESTES dans le cadre de l'équipe Grafosen/ENDA Pronat)
- Ministère de L'Environnement et du Développement durable : Stratégie National et Plan National d'Actions pour la biodiversité (Aout 2015)
- Ministère de l'Economie et des Finances ; Direction Générale du Plan ; Rapport National sur le Développement Durable 2015
- Ministère de la famille et de l'Entrepreneuriat Féminin Stratégie Nationale pour l'Egalité et l'équité de genre (SNEEG) ; 2005
- MCC, 2011: Gender Policy. Department of Compact Operation, policy owner. Millennium Challenge Corporation. Washington DC.
- Millennium Challenge Account MCA-Sénégal: Plan d'intégration Social et Genre du MCA Sénégal ; Stratégies et opérationnalisation ; Février 2013
- Groupement CSE-SOSETER ; Rapport final : Intégration de la dimension genre dans les travaux de réhabilitation de la RN2 (tronçon Richard Toll-N'Dioum, Mars 2015)

## ANNEX [I]. SOCIAL AND ENVIRONMENTAL SCREENING TEMPLATE

### Project Information

Project Information	
1. Project Title	Promoting innovative finance and community based adaptation in communes surrounding community natural reserves (Ferlo, Niokolo Koba, Senegal River Bas Delta & Saloum Delta)
2. Project Number	5401
3. Location (Global/Region/Country)	Senegal

### Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

<b>QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?</b>
<b>Briefly describe in the space below how the Project mainstreams the human-rights based approach</b>
The project fully incorporates the human-rights based approach, in particular the principles of participation and inclusion, equality and non-discrimination, accountability and rule of law. Participation of civil society, including farmers, groups of women and youth, will be given priority during both project preparation and implementation. The communes will play a role of platform in order to enhance coordination and to support civil society initiatives for climate change adaptation. The project will pioneer a new paradigm for sustainable development in rural areas; hence, direct impacts will be the improvement of livelihoods. All social consequences of the project are expected to be positive. Local communities' approval and support of the interventions will be sought prior to implementation.
<b>Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment</b>
Project preparation has included special attention for women and girls, who face multiple and intersecting challenges related to climate change. In Senegal, women are affected by inequality of rights, resources (land, financial resources, productive capital) and power in decision taking due to existing socio-cultural organisation. In Senegal, 30% of the households live under the poverty line (i.e. less than 2,400 calories per day) and most of them are women and young people. The project supports a Gender and Development approach, to ensure equally shared opportunities, resources, benefits and climate change adaptation strategies between social groups in the target areas. In order to meet that objective, various tools and strategies have been developed. Gender-sensitive indicators and targets have been developed to monitor the progress of the LDCF-financed project and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers appointed by this project will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools under Outputs 2.3 and 2.4 will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to encourage the implementation of gender-sensitive initiatives beyond the project lifespan.
<b>Briefly describe in the space below how the Project mainstreams environmental sustainability</b>
The global environmental problem that the project seeks to address is the community-based adaptation in the communes surrounding the Community Natural Reserves in Senegal. The project will decrease the vulnerability of the communities to climate variability and climate change impacts through the development of resilient activities and the dissemination

of best practices. It includes the promotion of solutions towards land erosion, salinization, forest degradation, and land management. The revegetation of degraded lands will protect natural resources and livelihoods from the effects of climate change. Solely positive effects on habitat and biodiversity are expected from the revegetation activities. Ecosystem functioning for example will be promoted by the activities as they will focus on soil stabilisation, improve water infiltration and restore natural vegetation. Revegetated land will be less vulnerable to degradation by intense rains. Indigenous species will also be preferred to maximise the positive effects on the environment. Lastly, the increase in biomass resulting from revegetation will contribute to carbon sequestration.

## Part B. Identifying and Managing Social and Environmental Risks

<b>QUESTION 2: What are the Potential Social and Environmental Risks?</b>  <i>Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any “Yes” responses). If no risks have been identified in Attachment 1 then note “No Risks Identified” and skip to Question 4 and Select “Low Risk”. Questions 5 and 6 not required for Low Risk Projects.</i>	<b>QUESTION 3: What is the level of significance of the potential social and environmental risks?</b>  <i>Note: Respond to Questions 4 and 5 below before proceeding to Question 6</i>			<b>QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?</b>
<b>Risk Description</b>	<b>Impact and Probability (1-5)</b>	<b>Significance (Low, Moderate, High)</b>	<b>Comments</b>	<b>Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.</b>
Risk 1: The project could potentially reproduce discriminations against women and girls.	I = 3 P = 3	<b>Moderate</b>		The project supports a Gender and Development approach: Gender-sensitive indicators and targets have been developed to monitor the progress of the project and will be refined by the baseline study. Gender-disaggregated data will be collected during project implementation to inform and update the project indicators. Furthermore, up to 50% participation of women (to be determined by the baseline study) will be targeted for each training activity as a prerequisite to hold the event. Trainers appointed by this project will be required to have the required skills and experience to plan and facilitate gender-sensitive training. The set of communication and trainings tools under Outputs 2.3 and 2.4 will also be selected in order to reach men and women similarly. Lastly, awareness raising on gender equity in the context of climate change will be incorporated into the training of government officials to

				encourage the implementation of gender-sensitive initiatives beyond the project lifespan.
Risk 2: The project could potentially promote unsustainable harvesting of plantation and/or natural resources	I = 3 P = 1	Low		The project will enhance/ develop several resilient value chains such as gum Arabic, salt or sea fruits. These activities will be carry out in the framework of the management plans of the CNRs/Pus. Potential of natural resource have been assessed (or will be completed at the inception of the project). Hence, these activities will respect the sustainable patterns of sustainable development.
	<b>QUESTION 4: What is the overall Project risk categorization?</b>			
	Select one (see <a href="#">SESP</a> for guidance)			Comments
	Low Risk	<input type="checkbox"/>		
	Moderate Risk	<input type="checkbox"/>	X	
	High Risk	<input checked="" type="checkbox"/>		
	<b>QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?</b>			
	Check all that apply			Comments
	Principle 1: Human Rights	<input checked="" type="checkbox"/>	X	Identify ways of improving participation of vulnerable communities, with a particular focus on women.
	Principle 2: Gender Equality and Women's Empowerment	<input checked="" type="checkbox"/>	X	Ensure that women of girls are fully involved in both project preparation and implementation.
	1. Biodiversity Conservation and Natural Resource Management	<input type="checkbox"/>	X	Ensure that the CNRs/PU sustainable management plans are updated and respected.
	2. Climate Change Mitigation and Adaptation	<input checked="" type="checkbox"/>	X	Ensure potential GHG emission reductions materialize (carbon sequestration).
	3. Community Health, Safety and Working Conditions	<input checked="" type="checkbox"/>		
	4. Cultural Heritage	<input type="checkbox"/>		
	5. Displacement and Resettlement	<input type="checkbox"/>		
	6. Indigenous Peoples	<input type="checkbox"/>		
	7. Pollution Prevention and Resource Efficiency	<input checked="" type="checkbox"/>		

## Final Sign Off

<b><i>Signature</i></b>	<b><i>Date</i></b>	<b><i>Description</i></b>
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have “checked” to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have “cleared” the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

## SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		Answer (Yes/No)
<b>Principles 1: Human Rights</b>		
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? <sup>45</sup>	No
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6.	Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
<b>Principle 2: Gender Equality and Women's Empowerment</b>		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	No
<b>Principle 3: Environmental Sustainability:</b> Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below		
<b>Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management</b>		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	No
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No

<sup>45</sup> Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	Yes
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? <i>For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.</i>	No
<b>Standard 2: Climate Change Mitigation and Adaptation</b>		
2.1	Will the proposed Project result in significant <sup>46</sup> greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? <i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i>	No
<b>Standard 3: Community Health, Safety and Working Conditions</b>		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No

<sup>46</sup> In regards to CO<sub>2</sub>, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]



3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
<b>Standard 4: Cultural Heritage</b>		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
<b>Standard 5: Displacement and Resettlement</b>		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions? <sup>47</sup>	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
<b>Standard 6: Indigenous Peoples</b>		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)?  <i>If the answer to the screening question 6.3 is “yes” the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.</i>	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No

<sup>47</sup> Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
<b>Standard 7: Pollution Prevention and Resource Efficiency</b>		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs?  <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol</i>	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

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## **ANNEX [J]. CO-FINANCING LETTERS**

See file attached.