

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Integrated project to strengthen the resilience of vulnerable communities and ecosystems in a changing climate

Region

Africa

GEF Project ID

12082

Country(ies)

Senegal

Type of Project

FSP

GEF Agency(ies):

UNDP

GEF Agency ID

10290

Executing Partner

Direction du Changement climatique, de la Transition et des financements verts (DCCTEFV)

Executing Partner Type

Government

GEF Focal Area (s)

Climate Change

Submission Date

9/16/2025

Project Sector (CCM Only)

Climate Change Adaptation Sector

Taxonomy

Stakeholders, Indigenous Peoples, Private Sector, SMEs, Individuals/Entrepreneurs, Local Communities, Civil Society, Non-Governmental Organization, Type of Engagement, Partnership, Consultation, Participation, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Communications, Awareness Raising, Education, Behavior change, Community Based Organization, Capacity, Knowledge and Research, Capacity Development, Enabling Activities, Knowledge Exchange, Knowledge Generation, Learning, Theory of change, Adaptive management, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Women groups, Beneficiaries, Gender results areas, Access to benefits and services, Access and control over natural resources, Participation and leadership, Integrated Programs, Food Security in Sub-Sahara Africa, Resilience to climate and shocks, Agroecosystems, Land and Soil Health, Diversified Farming, Small and Medium Enterprises, Food Value Chains, Gender Dimensions, Food Systems, Land Use and Restoration, Landscape Restoration, Focal Areas, Biodiversity, Protected Areas and Landscapes, Mainstreaming, Tourism, Terrestrial Protected Areas, Community Based Natural Resource Mngt, Forest and Landscape Restoration, Land Degradation, Sustainable Land Management, Land Degradation Neutrality, Restoration and Rehabilitation of Degraded Lands, Land Productivity, Climate Change, Climate Change Adaptation, Least Developed Countries, Climate resilience, Ecosystem-based Adaptation, Community-based adaptation, Livelihoods

Type of Trust Fund

LDCF

Project Duration (Months)

60

GEF Project Grant: (a)

8,932,420.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

Agency Fee(s) Non-Grant (d)

848,580.00	0.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
9,781,000.00	49,600,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)
200,000.00	19,000.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)
219,000.00	10,000,000.00
Project Tags	
CBIT: No NGI: No SGP: No Innovation: No Competitive Window: No	

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

Senegal is particularly vulnerable to the adverse effects of climate change. Indeed, the main impacts of climate change in Senegal include temperature increases, large inter-annual and intra-seasonal variations in rainfall, sea level rise, and increases in the frequency and intensity of extreme weather events. Thus, during Senegal's 30-year drought (1968-1998), temperatures increased by 1.7°C, while rainfall fell by 300 mm (PANA Senegal, 2006).

The 1970s and 1990s, the country suffered from prolonged droughts that accelerated rural exodus, particularly in the Dakar region and along the coast, in the Niayes. Therefore, flood zones that had dried up from the lack of rain, were massively urbanized in an unplanned manner by communities displaced from the capital, as well as rural migrants in the Niayes, where extensive construction in low-lying areas, filling in of natural drainage ditches (hydrographic network) and soil sealing, which once rainfall returned to normal levels, led to flooding with devastating effects on vulnerable populations^[1].

Thus, since the 2000s, heavy rainfall linked to climate change exacerbated the situation and led to recurrent flooding that undermines the efforts of Senegal to combat poverty^[2]. Indeed, extreme flooding has led to the displacement of populations, significant losses in livestock, an accentuation of water erosion and salinization of arable land, the degradation or impassability of roads (leaching and submersion of roads), bridges, dikes, damage to water distribution networks, crop losses. As a consequence, and due to stagnant water, there is a resurgence of waterborne and parasitic diseases. The occupation of area of the Niayes for housing and infrastructure combined with inappropriate farming practices led to the degradation of the Niayes ecosystems.

In particular, vulnerability of farming communities as well as those located in flood zones have been highlighted under the NAP sectoral plans. Therefore, this proposed project aims to develop an integrated approach to strengthen the resilience of vulnerable communities and ecosystems in a context of climate change and thereby contribute to the implementation of the NAP and the NDC.

Urban and peri urban zone of Dakar and the Niayes have been selected due to their high vulnerability to flood and also potential synergies that could be developed on a larger scale: i) the promotion of agricultural practices that facilitate water infiltration can help control flood risk by reducing runoff, ii) flood risk management by promoting the use of nature-based solutions can increase groundwater recharge and thus contribute to supporting groundwater levels.

The project proposes an innovative adaptation approach that include flood management through NbS and shared management mechanisms of water resources (collection of rainwater) and activities that will enable each sector to reduce their consumption and facilitate the infiltration of surface water.

The project will provide capacity building activities and technical support to implement nature-based Solutions (NbS) for flood risk management. The project will also support the establishment of green entrepreneurship and build capacity on business and financial management and provide equipment. In addition, the project will be inclusive and will aim to integrate NbS into urban and peri-urban planning at local level.

The project's expected benefits in terms of adaptation include (i) improved quality of water resources; (ii) restoration of wetlands ecosystems services ; (iii) more sustainable flood risk management mechanism through NbS (such as restoration of wetlands and watercourses using specific plants to improve water absorption and filtration, revegetation of watersheds and cities, and increase permeable surface/ground cover (plant species selected for their resistance and absorption capacity)); (iv) Reducing vulnerability and increasing the resilience of the livelihoods of local populations through nature-based solutions, sustainable agriculture, fishing activities, and ecotourism); (v) improved biodiversity of wetland ecosystems through sustainable use of wetlands ecosystems; (vi) developing climate-resilient agricultural (CRA) value chains.

The proposed LDCF project is aligned with GEF-8 programming themes, including: i) agriculture, food security and health; ii) water; and iii) nature-based solutions. In accordance with the GEF-8 Climate Change focal area priorities, the project will support promotion of nature-based solution (NbS) approach to increase adaptive capacity of urban and peri urban populations of Dakar living in flood- prone areas and wetlands ecosystems to cope with the effects of climate change through innovative mechanisms of shared water resources and flood management.

[1]Ministère de l'eau et de l'assainissement, AFD, Fonds vert pour le Climat, 2022, Projet de gestion intégrée des inondations au Sénégal (PGIIS), Activité 1 : Tâche 1.1 -Etat des Lieux

[2] AFD, 2017, Socio-physical Vulnerability to Flooding in Senegal, Technical Report N°25, February 2017

Indicative Project Overview

Project Objective

Strengthening resilience of agricultural communities and populations living in the Niayes and urban and peri urban zones of Dakar against floods through an integrated water management approach and nature-based solutions.

Project Components

Component 1 : Integration of nature-based solutions into planning at different scales

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
824,690.00	400,000.00

Outcome:

Outcome 1.1. Planning frameworks of project interventions zones incorporate NbS for flood control.

Output:

Output 1.1.1: Results of existing applied research for the integration of NbS for flood control are collected and used under the framework of the project

Output 1.1.2 : Flood management governance at the project site level is improved

Output 1.1.3 NbS for flood management are integrated in existing planning frameworks of the project intervention zones

Component 2 : Restoration and rehabilitation of retention basins and wetlands ecosystems sites through NbS to combat flooding in urban and peri-urban areas of Dakar and the Niayes

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
3,711,105.00	33,930,000.00

Outcome:

Outcome 2.1. retention basins in the peri-urban and urban areas of Dakar and natural outlets (*natural reservoirs*) in the Niayes are restored or rehabilitated through integrated participatory approaches

Outcome 2.2. Community' livelihoods, Niayes ecosystems and productive landscapes in project sites are more resilient to flood through the adoption of NbS practices

Output:

Output 2.1.1 : Maintain and enhance the role of retention basins as reservoirs and rainwater catchments through nature-based solutions in urban and peri-urban areas of Dakar and the Niayes.

Output 2.2.1 Resilience of agricultural land in the Dakar urban and peri-urban areas and the Niayes facing flood risks is strengthened

Output 2.2.2 Water resource management is improved within project intervention zones

Component 3: Development of value chains and involvement of private sector in green entrepreneurship

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
2,886,415.00	12,848,095.00

Outcome:

Outcome 3.1. Green entrepreneurship is enhanced with the involvement of the private sector.

Output:

Output 3.1.1 Involvement of Private sector investment in green entrepreneurship activities is enhanced

Output 3.1.2 : Value chains and green entrepreneurship activities are promoted and developed

Component 4 : Project communication and knowledge sharing

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
824,690.00	

Outcome:

Outcome 4.1: Project implemented based on RBM, and lessons learned/best practices documented and disseminated

Output:

Output 4.1.1 : knowledge management system on NbS to combat floods in urban and peri urban zones and the Niayes (wetlands) is enhanced

Output 4.1.2 Communication strategy developed and implemented

Output 4.1.3: Exchanges at the national, regional, and international levels.

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
260,167.00	60,000.00

Outcome:

Outcome 5.1: Monitoring and Evaluation plan finalized with data collection, reflection and reporting on time to aid in results-based decision-making and adaptive management.

Output:

Output 5.1.1 Project monitored regularly at all levels through multi-source knowledge collection (for annual work plans, results framework, project progress reports, core indicators)

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1 : Integration of nature-based solutions into planning at different scales	824,690.00	400,000.00
Component 2 : Restoration and rehabilitation of retention basins and wetlands ecosystems sites through NbS to combat flooding in urban and peri-urban areas of Dakar and the Niayes	3,711,105.00	33,930,000.00
Component 3: Development of value chains and involvement of private sector in green entrepreneurship	2,886,415.00	12,848,095.00
Component 4 : Project communication and knowledge sharing	824,690.00	
M&E	260,167.00	60,000.00

Subtotal	8,507,067.00	47,238,095.00
Project Management Cost	425,353.00	2,361,905.00
Total Project Cost (\$)	8,932,420.00	49,600,000.00

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

A.1 Country socio-economic context

A.1.1 Geographical and physical and socio economic context

1. Senegal is situated in West Africa, bordered by Mauritania to the north, Mali to the east, Guinea to the southeast, and Guinea-Bissau to the south. Senegal is generally flat, with an altitude of less than 50 m covering nearly 75% of the territory. The highest point (581 m) is located at the southeastern tip, in the foothills of the Fouta-Djalou ^[1]³. It has an extensive hydrographic network consisting of major river systems including the Senegal River, the Gambia River, the Casamance River, the Kayanga, the Sine and the Saloum.
2. The country is divided into six agro-ecological zones ((i) The River Valley (irrigated rice, vegetable growing); (ii) the River Valley (irrigated rice, vegetable growing); (iii) Niayes (80% of the horticulture produced in the country); ((iii) The Groundnut Basin (groundnuts, millet); (iv) Sylvo-Pastoral zone (livestock); (v) Eastern Senegal and Upper Casamance (rainfed rice); (vi) Lower Casamance (rainfed rice), based on biophysical and socio-economic characteristics^[2]⁴. Each agro-ecological zones is home to several coastal, continental, and artificial wetlands. These wetlands are among the richest and most extensive in West Africa. They are characterized by the almost permanent presence of water, migratory birds, and particularly rich biodiversity.^[3]⁵.
3. Senegal has a mostly arid and semi-arid Sahelian climate defined by dry winds which originate in the continental interior and maritime winds which bring precipitation^[4]⁶ and two distinct seasons: a dry season from November till April/May and a rainy season from May/ June to October with decreasing length and precipitation amounts towards the north. Thus, the arid zones receive a rainfall total under 300 millimeters per year in the North very dry, while the forested south receives an average to 1200 mm/year.

4. The 1970s and 1990s, the country suffered from prolonged droughts that accelerated rural exodus, particularly in the Dakar region and along the coast, in the Niayes. Therefore, flood zones that had dried up from the lack of rain, were massively urbanized in an unplanned manner by communities displaced from the capital, as well as rural migrants in the Niayes, where extensive construction in low-lying areas, filling in of natural drainage ditches (hydrographic network) and soil sealing, which once rainfall returned to normal levels, led to flooding with devastating effects on vulnerable populations^[5]⁷.
5. Thus, since the 2000s, heavy rainfall linked to climate change exacerbated the situation and led to recurrent flooding that undermines the efforts of Senegal to combat poverty^[6]⁸. Indeed, extreme flooding has led to the displacement of populations, significant losses in livestock, an accentuation of water erosion and salinization of arable land, the degradation or impassability of roads (leaching and submersion of roads), bridges, dikes, damage to water distribution networks, crop losses. As a consequence, and due to stagnant water, there is a resurgence of waterborne and parasitic diseases. The occupation of area of the Niayes for housing and infrastructure combined with inappropriate farming practices led to the degradation of the Niayes ecosystems.
6. Senegal's GDP in 2020 was \$24.9 billion in current terms. Gross national income (GNI) per capita was \$1,430 in 2020, making it a lower-middle-income country^[7]⁹. Senegal's economy is driven by three key sectors^[8]¹⁰ namely services sector, contributing 49.0 % to the country's GDP in 2020, followed by the industrial sector with 23.1 % and the agricultural sector with 15.8 %^[9]¹¹. Agriculture is the primary means of livelihood for Senegal's population, especially in rural areas and is mainly rainfed. The secondary and tertiary sectors, viz. industries and services located in the cities, contribute 80% of Senegal's GDP^[10]¹².
7. Senegal has a population of 18,126,390 millions of people in 2023 and estimated at 18,593,258 in 2024, according to the fifth General Population and Housing Census (RGPH-5), including 49% of women with an average age of the population of 24 years that reflects the young nature of the country's population. If this trend continues, the national population will reach 54,744,710 inhabitants by 2063. Senegal's level of urbanization (54.9%) is higher than the average for SSA (42 percent), nearly half of Senegal's population lives in urban and peri urban areas, with more than 76% living in areas classified as informal settlements. The capital, Dakar, occupies only 0.3% of Senegal's territory (2011) and is home to 21% of the Senegalese population as well as most public services and economic activities with an average density of 7,390 inhabitants per km². In 2063, i.e. in more than 40 years, if the trends continue, the average density in Senegal will be 278 inhabitants per km², or 0.36 ha per Senegalese. In 2006, Senegal ranked 156th of 177 countries in the UN Development Programme's (UNDP) human development index. The extreme poverty rate in Senegal is reported at 35.7% (2015 data), and multi-dimensional poverty at 46.7% (2013 data) and is concentrated in the Northern dry desert landscapes used by pastoralists^[11]¹³.
8. Although Senegal is experiencing several effects of climate change (droughts in the north, heatwaves, etc.), flood events now occur almost each year during the rainy season (from June to October), affecting first and foremost the most vulnerable people. As a consequence, the Senegalese Government progressively set Disaster Risk Reduction (DRR) as part of its national development strategy in accordance with the Sendai Framework and the national development plan (*Plan Sénégal Émergent*) and the elaboration of a first 10-year Flood Management Program for the 2012-2022-period (*Programme Décennal de Gestion des Inondations – PDGI*) and a second Ten-Year Flood Reduction Program for the 2024–34 period to reduce vulnerability to flood risks. In addition, in its 2020 National Determined contribution (NDC), the government of Senegal estimated at USD 717,705,600 for the period 2020-2030, the amount of investment required to build resilience to floods and a NAP addressing specifically flood risks was developed in 2022. Due to limited resources, the selection of the project area (Dakar and Niayes) has been guided by the followings: (i) in the Niayes and urban and peri-urban Dakar region, recurrent flooding is a major climate risk that has been observed frequently in recent years, causing immediate damage to populations (damaged housing, disease, local economic

losses); (ii) Senegal's National Adaptation Plans (NAPs) and NDC emphasise urban flood management as an adaptation priority, which aligns the project with strategic priorities; (iii) Addressing flooding through NbS in these urban areas will also have indirect co-benefits for other issues (e.g. agroecology in the Niayes will partially mitigate agricultural deficits due to rainfall variability). The project is part of a multi-risk context, but it focuses its resources on flood risk because this is the most significant climate hazard for the targeted communities

A2. Country Climate Context

A.2.1. Baseline /observed and projected Climate change in Senegal

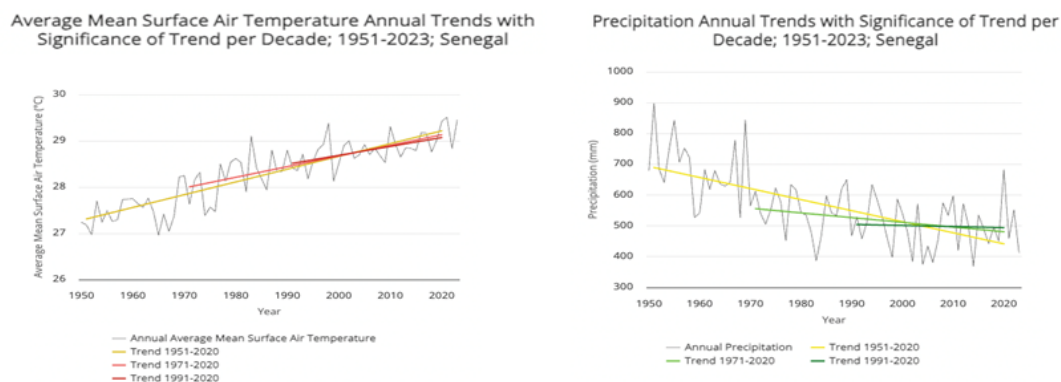
A.2.1.1 Climate baseline

9. Senegal is among countries most vulnerable to projected climate change trends because its population faces significant climate-related hazards exacerbated by poverty, malnutrition, and high exposure of poor and marginalized communities to hazards. Among the highly vulnerable regions in Senegal is the Niayes.

Climate change trends : Observed CC trends

10. The average annual temperature for Senegal was 27.8°C for the period 1960-1990, with monthly averages in the hottest seasons of up to 35°C^{[12]¹⁴}. Mean annual temperatures have increased by nearly 2°C since 1950, or an average of 0.28°C per decade particularly in the Southern and Southeastern regions. During the hot seasons, annual temperature are more and more high^{[13]¹⁵}.
11. Senegal is also becoming drier. Annual rainfall has dropped by 250 mm since the 1950s (or 36.93 mm per decade), while variability has increased. As a result, the country's drier areas have expanded southward, with the 500 mm isohyet shifting from a line between north Dakar and Linguère in the 1950–80 period to the Kaolack and Fatick regions. Similarly, the 1,000 mm isohyet migrated from southern Gambia to the Senegalese Guinean border between 1981 and 2013. Meanwhile, the number of consecutive dry days increased, causing higher water stress. Rainfall is unevenly distributed across the country. Thus, during the rainy season, 75% of annual precipitation falls in just 8 weeks.

Figure 1 : Average mean of temperature and precipitation 1951-2023



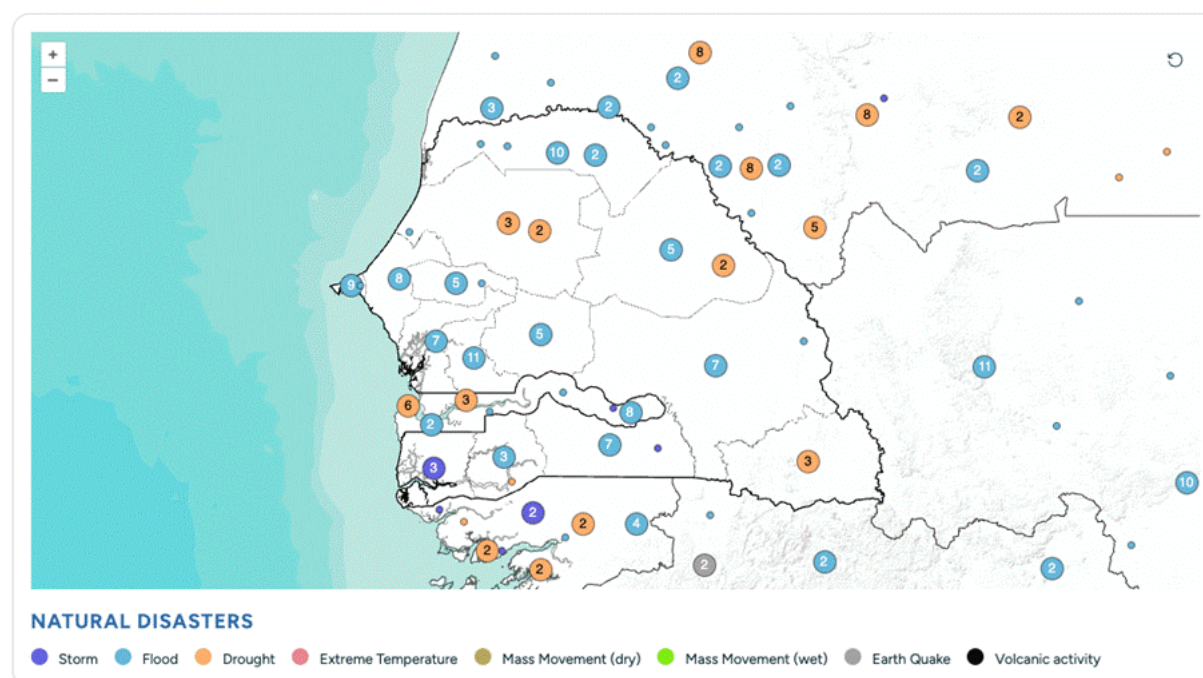
Source : <https://climateknowledgeportal.worldbank.org/country/senegal/climate-data-historical>

12. Climate related hazards, particularly too much or too little water, are having an increasing human and economic toll. In 2023 alone, Senegal reported four extreme events to the World Meteorological Organization (WMO), the highest number for West Africa, including drought in the north, flooding in Oussouye department, and heatwaves in Podor and Ziguinchor departments [14]¹⁶.

Current trends Floods in Senegal :

13. According to the Think Hazard! tool[15]¹⁷, Senegal's vulnerability to natural hazards is high (highest level) for all weather-related hazards categories (river flood, urban flood, coastal flood, water scarcity, extreme heat, and wildfire). Over the last 40 years, floods have become a recurrent phenomenon in Senegal and occurred almost in all the region (as can be seen in figure 2 below). In recent decades, they have affected both urban and rural areas[16]¹⁸. Floods increasingly affect coastal areas and urban centers, with the Dakar region particularly exposed. Since 1989, floods have displaced around 300,000 people in Dakar, and according to UN-Habitat[17]¹⁹.

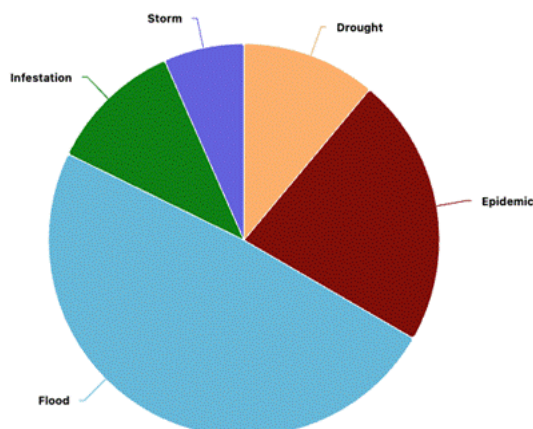
Figure 1 : Global distribution of natural disasters : Senegal 1980-2018



Source: <https://climateknowledgeportal.worldbank.org/country/senegal/natural-disasters-historical>

Figure 3 shows that Floods represented nearly half of weather-related hazards between 1980 and 2024. Over the last decades, the frequency and intensity of severe events have been increasing due to climate change^{[18]²⁰}. A study ^{[19]²¹} shows that vulnerability stems not only from climatic hazards but also, and above all, from human activities, particularly unplanned land use.

Figure 2 : Total natural disasters – Senegal (1980-2024)) (EM-DAT DATA)



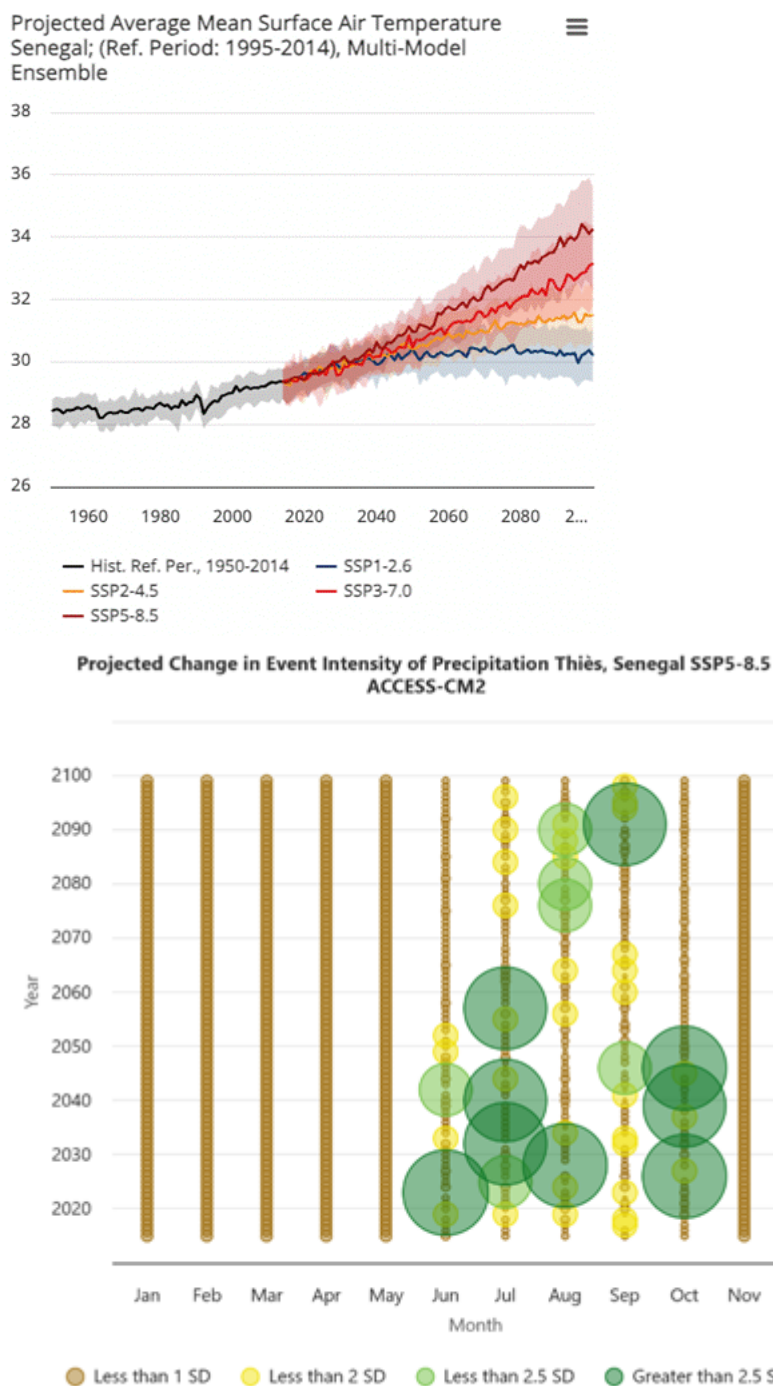
Source: <https://climateknowledgeportal.worldbank.org/country/senegal/natural-disasters-historical>

A.2.1.2. Projected climate change in Senegal

14. Climate impacts in Senegal include rising temperatures, heat waves, high humidity, decreasing rainfall, and increased length and intensity of dry spells^{[20]²²}. Modelling of the future impacts of climate change on GDP shows that GDP would lose between 5% and 15% in the RCP2.6 projection and between 10% and 30% in RCP.8.5 by 2050 compared to a scenario without climate change ^{[21]²³}.
15. Therefore, air temperature over Senegal is projected to rise by 1.8 to 3.6 °C (very likely range) by 2080 ^{[22]²⁴}. Temperatures are predicted to rise between 1.05°C and 1.15°C by 2050 and up to 1.85°C to 4.5°C by 2090 (in reference to 2005, comparing Shared Socioeconomic Pathway (SSP) 1-2.6 and SSP5-8.5)^{[23]²⁵}, with higher temperatures and more temperature extremes projected over eastern and southern Senegal. In the more intense climate change scenario, this could include up to more than two months (65 more days than in 2005) of very hot days by 2050, and more than four months by 2090 (140 more days more days than in 2005).
16. While climate projections across models are not consistent for precipitation, given the high natural year-to-year variability, more intense climate change scenarios suggest an overall drier future for Senegal and a further increase in variability, with future dry and wet periods likely

to become more extreme^{[24]²⁶}. Although, the floods affecting the project intervention zones are due to heavy local rainfall and runoff (storm rains exceeding the infiltration capacity of the soil and structures). In the longer term, sea level rise could aggravate the situation by slowing runoff to the sea and raising the coastal water table.

Figure 2 : Projected average Mean surface air Temperature



Source : <https://climateknowledgeportal.worldbank.org/country/senegal/climate-data-historical>

A.2.1.3. Projected trend floods in Senegal

17. Projections results predicted an increase in extreme events [25]²⁷ and in particular that floods will account for half of all natural disasters worldwide due to their frequency. In the case of Senegal, the decrease in rainfall and changes in their patterns as well as, sea level rise and increase in average temperature will lead respectively to floods in cities, floods during unusual times of the year, floods in crop-growing areas, and floods in urban and rural areas[26]²⁸.
18. Knowledge of the actual risk flood risk on the national territory still shows some gaps and there is no evaluation of the potential impact of extreme events, like 100-years return period rains. However, simulations show that because of climate change, average flows in the Senegal River basin will be reduced by 2035, while increased heavy rainfall events will make floods more likely[27]²⁹. Simulations show that because of climate change, average flows in the Senegal River basin will be reduced by 2035, while increased heavy rainfall events will make floods more likely[28]³⁰.

A.2.1.4. Climate change impacts in Senegal

19. Senegal is particularly vulnerable to the adverse effects of climate change. Indeed, the main impacts of climate change in Senegal include temperature increases, large inter-annual and intra-seasonal variations in rainfall, sea level rise, and increases in the frequency and intensity of extreme weather events (cf. fig 2). Thus, during Senegal's 30-year drought (1968-1998), temperatures increased by 1.7°C, while rainfall fell by 300 mm[29]³¹. Table N°1 (in annex H) shows the main observed and projected impacts of climate change on the different economic sectors in Senegal.

A.2.1.4. Impacts of flood in Senegal

20. Floods have resulted in major damages to housing, urban agriculture, and public infrastructure during the rainy season. Flooding has also created breeding grounds for disease-carrying mosquitoes and other vectors, and sea level rise threatens the quality of potable water and agricultural production and therefore increase in food insecurity and malnutrition[30]³². Moreover, the risks of flooding and impacts of flooding have been exacerbated by unplanned urbanization, the lack of drainage or its obstruction, and rising groundwater levels. Continued urban growth will push more built-up areas into flood zones[31]³³.
21. Between 1980 and 2009, in Senegal, floods affected more than 900,000 people, killed 45 people, and caused damage estimated at more than \$142 million. Referring more specifically to the assessment of the 2009 floods, the key sectors most affected are housing (49%), health (14%), agriculture (11%), education (10%), transportation (8%), industry and commerce (5%)[32]³⁴.
22. Given the impact of floods in the past 30 years and the impact of the last major events, the trend has clearly been accelerating:

- In 2009, major flood events have affected between 485 000 and 507 000 people in Senegal. Throughout the national territory, the economic evaluation of damages amounts to 104 million USD, mainly on the following assets: private housing (49%), health (14%), agriculture (11%), education (10%) and transport (10%). Greater Dakar area has suffered the most from those events, with almost 360 000 people affected and 82 million USD worth of damages (33 million USD on habitat).
 - In 2012, floods caused the death of 26 people. Approximately 264 000 people were affected; more than 7 700 houses were damaged and more than 5 000 families had to be resettled
 - In 2020, 12,475 households, or 77,760 people, were affected, resulting in the displacement of 3,285 people^{[33]³⁵}
 - In 2024, affected over 71,000 people across eight regions, destroying homes, damaging critical infrastructure, and severely disrupting access to essential services^{[34]³⁶}
23. Flooding is a natural phenomenon that can cause loss of life, displacement of populations, and have an impact on human health, property, and infrastructure. They can also harm the environment and seriously compromise economic development. Floods account for half of all natural disasters worldwide due to their frequency. In light of future climate trends, Senegal could be exposed to a series of impacts that may be irreversible. A table presenting the future impacts of flooding can be found (in annex I)^{[35]³⁷}.

A.3 Context of the project site

24. The project intervention will be the urban and peri-urban flood zone of Dakar and the Niayes region ^{[36]³⁸} which is a coastal strip in the northwest along the Atlantic coast. With an area of 8,883 km², the Niayes zone stretches from Dakar to Saint-Louis, in a strip 180 km long and 5 to 30 km wide, 10,000 hectares of arable (cultivable) land. The very low topography of these wetlands explains their primary function of collecting and storing water, consisting of depressions between dunes that allow the water table to rise to the surface. The selection of these zones for the project intervention is guided by potential synergies of the two zones in reducing flood risk by reducing runoff and restore Niayes ecosystems through nature-based solutions (NbS).
25. The mild, humid climate of the Niayes ecosystems, combined with a shallow water table, allows for the development of lush vegetation typical of the sub-Guinean region and provides good conditions for market gardening and arboriculture. The area has significant plant resources, such as woody species and palm trees, which provide a food source for many species of wildlife. Nearly 419 plant species, or 20% of Senegal's flora, and 13 of the 31 species considered endemic to Senegal are found in the Niayes area.
26. Thus, the main socio-economic activities in this area are market gardening, agroforestry, livestock farming, fishing, and trade. However, economic activity remains dominated by market gardening, mainly by women, fishing, and livestock farming. The Niayes area has strong potential for horticultural production practically all year round (during the off-season and hibernage^{[37]³⁹}). As a result, this area accounts for more than 80% of Senegal's market garden production.
27. Over the past three decades, the Niayes ecosystems have been degraded by rapid urbanization, which has put significant pressure on floodplains and caused them to gradually dry out due to changes in the hydrology of the Niayes (rainfall variability) combined with changes in land use over time. Indeed, the occupation of former market gardening areas and former pond beds, irregular and spontaneous construction, failure to implement the Urban Development Master Plan (PDU) and building density are the main factors exacerbating flooding in the Niayes, and

particularly in the urban and peri-urban zones of Dakar^[38]^[40]. There has been a decline in natural landscape features such as vegetation and water bodies, and a sharp increase in built-up areas. In fact, in the Grande Niaye de Pikine, vegetation decreased from 282 ha to 184 ha between 1978 and 2019, and water bodies decreased from 165 ha to 89 ha. During the same period, built-up areas increased from 81 ha to 536 ha, representing a 43% increase, as shown in the figure below. As far as biodiversity is concerned, there has been a reduction in vegetation and a scarcity of fauna^[39]^[41].

28. In addition to flooding, urban expansion within the Niayes ecosystem area has led to the development of certain invasive species such as Typha. The latter is currently considered one of the most significant threats to biodiversity in the Niayes. At present, the uncontrolled development of market gardening is also a threat to the preservation of the Niayes. Due to a lack of land allocated to market gardening in the capital and constant evictions, market gardeners are moving to the Niayes. This form of vegetable field acquisition contributes to the degradation of vegetation cover. It also contributes to changes in water flow patterns, which already make populations highly vulnerable to flooding ^[40]^[42]. The Niayes wetlands play a crucial role in regulating the water cycle by storing rainwater, which reduces the risk of flooding for surrounding communities, particularly those downstream. These environments serve as 'natural spillways' protecting inhabited areas below (such as certain villages in the Niayes or suburbs of Dakar). Their preservation directly benefits over 100,000 people of the Niayes zone stretches from Dakar to Saint-Louis, in a strip 180 km long and 5 to 30 km wide, which are at very high risk of flood exposure ^[41]^[43]

29. Thus, the Niayes area is key for national market gardening and faces the triple challenge of producing food to feed a growing neighborhood population, containing coastal erosion, and providing housing, while its water resources and soils are directly threatened by economic development and urbanization^[42]^[44]. The selection of the Niayes region and urban and peri-urban flood zones of Dakar for this LDC project is guided by the intensity of current and future flood risks^[43]^[45] and the potential synergies that could be developed on a larger scale: i) the promotion of agricultural practices that facilitate water infiltration can help control flood risk by reducing runoff, ii) flood risk management by promoting the use of nature-based solutions can increase groundwater recharge and thus contribute to supporting groundwater levels.

30. The project will directly benefit 362,882 people distributed as follows: 10% of the population of Saint Louis, (106,354); 3 % of the population of Louga, (29,307); 10% of the population of Thiès (32,394); 5 % of the population of Dakar (194,827) . The specific targets will be provided with the gender analysis that will be carried out in the formulation phase of the project. The target areas will be the irregular neighborhoods in the area highly exposed to flood risks where retention basins are degraded and sites in the Niayes wetlands that serve as natural outlets. Sites in urban and peri-urban areas of Dakar will be selected in neighborhoods identified as most vulnerable to flooding, namely Pikine, Guédiawaye, Keur Massar, Rufisque, etc. Five sites (around retention basins) will be selected.

31. With regard to natural outlets in the Niayes, the following sites were identified as potential sites for the LDCF project during the PIF phase and the feedback workshop:

- *Dakar-Lac Rose extension zone.*
- *Lake Tanma:* land has been cleared for agricultural purposes around the lake, which, combined with the effects of climate change, has caused the lake to dry up.
- *Trois marigots zone :* there are invasive plants.
- *Technopole.*

32. However, the final selection of the specific sites within the project zone will be discussed and finalized during the PPG process. Thus, **based on a map of degraded retention basins and natural outlets**, cross-referenced with data on flooding, land pressure, and green development potential, sites will be selected taking into account the following criteria:
- **Socio-economic criteria:** current and future population density; proportion of the population facing food insecurity; Number of people living below the poverty line; Existence of producer associations/groups; Opportunities for developing economic activities
 - **Climate criteria:** Frequency of floods observed over the last 10 years; Future occurrence of floods; Populations threatened by floods, landslides and erosion; Current and future vulnerability of socio-economic infrastructure and populations; Current and future vulnerability of ecosystems
 - **Feasibility/institutional criteria:** Areas where local authorities and communities are involved in ecosystem restoration activities and/or where the relevant territorial authorities show a genuine willingness to get involved in the project (e.g. by making land available); Availability of support/supervision services; Access to markets; Complementarity/synergy with other projects/interventions; capacity to improve the environment
 - **Land issues:** Availability of land – intervention sites; areas where there are basins.
33. The project plans to restore 10 degraded retention basins urban and peri urban zones of Dakar and five degraded naturel outlets in the Niayes. Under this output, the project plans de rehabilitated around 500km of degraded watercourse, 500 ha of degraded land within urban and peri urban Dakar, and 10,000 ha of degraded wetlands and 10,000ha of agricultural land in the Niayes. The aim is to consider how to reconcile the interests of several stakeholder groups (livelihoods dependent on these ecosystems, land use for housing and public or private infrastructure (e.g., Technopole)) with a view to preserving ecosystems for sustainable flood management in the project area^[44]⁴⁶. Flood mitigation and adaptation initiatives in Senegal have multiplied over the last fifteen years, being led by the government with support from bilateral and multilateral donor agencies and NGOs. However, in spite of considerable donor and government funding allocated to addressing the problem of seasonal flooding in urban areas, few sustainable solutions have been proposed thus far^[45]⁴⁷. Furthermore, despite numerous planning efforts, there remains a gap between local response capacity and measures taken at the government level. This is another challenge that the project will need to address.
34. The project interventions would be part of the actions provided for in the NAPs in an integrated manner. The results obtained will be used in other localities in the country where these problems are also observed. To this end, UNDP will support the government in mobilizing resources from other financial mechanisms for scale-up.
35. During the PIF process, the Flood prevention and management directorate (Direction de la prevention et de la gestion des inondations (DGPI)) informed that, the most common solutions to flooding are pumping and relocating populations and constructing infrastructure (canals, etc.). The DPGI currently favors emergency solutions such as pumping water or relocating residents from flood-prone areas. This LDCF project will complement this approach by incorporating nature-based solutions (NbS) into planning in order to address the causes of flooding in a more sustainable manner.
36. In order to address more specifically climate change adaptation measures, Senegal has embarked since 2015 on the formulation of sectoral plans for adaptation to climate change. These plans aim to help sector actors reduce their vulnerability by strengthening their adaptive capacity, ecosystems and facilitating the integration of climate change into national and local planning. To implement this process, the Government of Senegal has requested the support of several technical and financial partners, including the GEF through the UNDP, for the development of 4 sectoral NAPs, namely : agriculture, health, floods and land transport infrastructure. They were broken down into strategic axes and then into priority adaptation options for each of the 4 sectors.
37. This work has highlighted the vulnerability of farming communities as well as those located in flood zones and which weighs on their livelihoods, habitat, health, access to transport infrastructure and environment. This work has also highlighted solutions to manage these

constraints, through an integrated vision of water resources management (deficits or excesses) and nature-based solutions, as well as the possibility of developing green entrepreneurship. Therefore, the Government wishes to use LDCF/GEF resources to prepare 'an integrated programme to strengthen the resilience of vulnerable communities and ecosystems in a context of climate change' and contribute to the implementation of the NAP.

A.4 Root causes and drivers of vulnerability

38. The determining factors of flooding in the urban and peri-urban areas of Dakar and the Niayes are complex and consist of a combination of socio-economic context and natural geographic features exacerbated by climate factors. Thus, the need for housing of the growing population of urban and peri-urban areas of Dakar and infrastructure development have led to the occupation of depressions and wetlands areas of the Niayes which were not designed for these purposes. This situation results on unregulated constructions in low-lying areas and filling in natural drainage ditches (hydrographic network), and soil sealing, which, once rainfall returned to normal levels, led to flooding with devastating effects on vulnerable populations.
39. Therefore, the main drivers and causes of the urban and peri-urban populations and the Niayes ecosystems vulnerability to climate change are as follows:
 - **Uncontrolled and rapid urban growth:** Irregular housing in underequipped (insufficient drainage and waste infrastructure) and low-lying peri-urban areas have reduced infiltration
 - **Poor spatial planning:** poor planning for water management techniques and infrastructure to control water, as well as poor development planning to manage the impacts of human settlement patterns and activities.
 - **Explosion of buildings and roads** that have reduced infiltration and increase runoff
 - **Insufficient drainage infrastructure**
 - **Discharge of solid waste into the network**
 - **Regression of natural flood expansion areas within the Niayes wetlands:** the drivers of wetland degradation are the advance of the construction front, poor waste management, and the conversion of market garden areas into industrial infrastructure, which significantly alter the essential functions of wetlands and prevents them from playing their protecting role as “naturals spill way”.

Climate-induced threats.

40. Heavy rainfall are the main causes of Floods in the project intervention zones. Thus, the frequency and intensity of severe meteorological and hydrological events (floods) are likely to continue escalating with climate change in Senegal and will amplify damage on infrastructure, public equipment and private property. In addition, the risk of spread of Water-borne and mosquito-borne diseases (such as cholera and malaria) due to the presence of stagnant water is likely to increase.

A.5. Barriers to the preferred solution

41. Numerous barriers will need to be addressed to improve adaptative capacity and resilience of urban and peri urban populations and ecosystems of the Niayes. These include the followings:

42. **Barrier 1 : Insufficient participatory governance and weak planning frameworks to incorporate NbS to address flood risks:** Numerous coordinating mechanisms, institutions and ministries have been created and restructured, seemingly without a concerted government vision, and often to comply with international policy frameworks (such as the Hyogo Framework for Action (HFA)) or at the request of international development partners. Policies and plans have often been formulated in isolation from one another, with little horizontal integration and low participation of the local counterparts. In addition, for urban flood management, NbS (such as wetland restoration) offer good value for money compared to grey infrastructure alone, as they also provide co-benefits. Indeed, urban environments rely on various ecosystem and ecosystem services for their resources (provisioning services), air quality, soil quality, water quality (regulating services), and recreational needs in and around cities (cultural services). In the case of the project area, it is important to integrate the Niayes wetlands in order to maintain the various services provided by these ecosystems. While development plans exist for certain municipalities and towns in the Niayes (DAKAR, PIKINE, Technopole, etc.), it is necessary to establish a framework for integrating ecosystems and ecosystem services into urban planning in order to address the environmental challenges facing cities and ecosystems in the Niayes region.
43. **Barrier 2: Limited technical and financial capacity to plan and implement NbS measures by government staff, communities and private sector:** the concept of NbS is still new. There is an evident gap in the necessary skills and knowledge among local government bodies, communities, and the private sector in Senegal to design, execute, and manage NbS projects effectively. This includes a lack of expertise in areas particularly in areas such as reforestation, natural resource management, biodiversity conservation, nurseries for terrestrial and coastal plants, agriculture, and fisheries. Additionally, financial constraints are a crucial barrier in the country for initiating and sustaining NbS adaptation projects, despite the fact that they require much less funding than engineered adaptation solutions. This limitation is not just about the lack of initial funding but also encompasses challenges in financial planning and accessing ongoing financial support, navigating funding mechanisms, and leveraging financial tools tailored for climate adaptation and ecosystem conservation projects. In addition, there is a gap in available technical expertise and financial resources at the local level that are required to support communities to take measures for climate adaptation and to mitigate impacts of climate change.
44. **Barrier 3: Limited access to capital and accessible terms for smallholder farmers and entrepreneurs to transition:** This constraint has been highlighted during the stakeholders consultations during the PIF process. In Senegal, the banking sector is still largely inaccessible to small producers and one of the major barriers for small producers. Without initial capital, farmers cannot invest in modern inputs or equipment that would improve their yields. Targeted microfinance programs, guarantee funds for the agricultural sector, and public-private partnerships could play a key role in making financing more accessible to farmers^[46]⁴⁸. Given the lack of formal credit, informal credit remains widely used. Credit provided through savings and credit groups: these savings and credit groups are most often set up with the support of international NGOs such as CARE International. They offer a system of regular savings and revolving credit, based on trust and solidarity within the group. The amounts loaned are often limited (since they are usually limited to the savings mobilized by the group), short-term (a few months) and have high interest rates.
45. Access to finance is also a major constraint for private sector companies, and Micro, Small and Medium-sized Enterprises (MSMEs)—the main category of companies—are among those that have the most difficulty obtaining credit. Less than one in four firms in Senegal, or 22.6%, have been able to obtain a bank loan or line of credit, which is close to the average results for the ASS region. When they do manage to obtain a loan or line of credit, they must pledge significant assets to secure their loans^[47]⁴⁹.
46. **Barrier 4: Lack of an enabling environment for mobilizing private sector investment in NbS interventions, projects and programs for resilient natural assets.** PIF consultation process, producers, organizations, local entrepreneurs, MSEs, GPFs, and GIEs in both intervention zones indicated that they are facing various difficulties to establish resilient and economically viable ecosystem-based value-chains. This is due to: the lack of equipment for the collection, transport, processing and conservation of NTFPs; the low capacities of the existing GPFs^[48]⁵⁰ and GIEs^[49]⁵¹.

47. **Barrier 5: Limited awareness and knowledge of key stakeholders on NbS approaches and models:** There is a notable lack of awareness about NbS among local communities. This gap is exacerbated by language barriers that complicate interactions with communities for awareness-raising and NbS project implementation. In addition, awareness of NbS for climate change adaptation is also limited at the decision-making or political levels. This lack of awareness extends to confusion between modern approaches to protected areas and customary protected areas, with insufficient awareness and knowledge at both the local village community level and among decision-makers. Decision-makers and private sector leaders often do not understand advantages of NbS in comparison with engineered solution adaptation. Banking sector is also not familiar with this concept and its added value

A.6 Enabling Condition and Project's Approach

48. The project and its interventions are designed to support the Government of Senegal in addressing the climate adaptation challenges and particularly flood impacts and barriers outlined in Section A.1, while enhancing the integration and application of NbS to address this issue. In addition, flooding events in Senegal are frequent and destructive and despite planning efforts, there remains today a missing link between local capacity to respond and government-level policy action. Therefore, the project aims to achieve innovative outcomes in identifying NbS technologies to address floods issue on urban and peri urban sites while protecting populations and neighboring wetlands ecosystems. In addition, the project aims to achieve transformative outcomes at both national and sub-national levels, aligning with the GoS's global and national climate adaptation commitments and priorities.

49. The key contributions of the project include :

Firstly, the project will tackle the issue of the missing link between local capacity to respond and government-level policy action and populations involvement in flood management, which is largely due to fragmented and limited institutional and technical capacity to apply and finance sustainable climate adaptation solutions. To address this, the project will create and strengthen local governance mechanisms to improve coordination, planning, and implementation capacities for integrating NbS into urban planning strategy at local level. This approach is particularly suited to Senegal, integrated flood management at local level is urgently needed. Effective governance will facilitate the collaboration of various sectors and stakeholders, including government agencies, civil society organizations, communities, and the private sector, ensuring that flood management efforts are comprehensive, synergistic, and capable of addressing the complex challenges posed the recurrent flooding events in the urban and peri urban zones of Dakar and the Niayes.

50. Secondly, as described in section A.1, Floods have been a major concern for the Government of Senegal since 2005, when heavy rainfall began to cause serious flood problems in major cities and account for almost half of all weather-related disasters over the last two decades, affecting 2.3 billion people, however, few sustainable solutions have been proposed thus far, therefore by proposing the adoption of NbS, the goal is enhance sustainable solution to the recurrent phenomena of flood in one hand and to enhance community resilience and livelihoods on the other hand. The project will support innovative NbS measures (Restoration of wetlands and watercourses using specific plants to improve water absorption and filtration, revegetation of watersheds and cities, and increase permeable surface/ground cover (plant species selected for their resistance and absorption capacity- to address flood issue, rainwater collection and alternative sustainable livelihoods to foster the linkages between and raise awareness of the different groups of populations towards their involvement in flood management. In the context of high dependency on natural resource, the project will facilitate market linkages and community enterprises based on value chain analysis for sustainable agriculture production. Through these actions, the project will increase agricultural resilience, strengthen community livelihoods, and enhance ecosystem management to improve ecosystem services, all of which contribute to the overall resilience of the project's sites and their inhabitants. Lastly, to foster replication and systemic change, the project will emphasize knowledge management and sharing. By documenting lessons learned and best practices, the project will provide valuable insights and evidence for effective adaptation solutions, informing future policies, strategies, and investments in Senegal and beyond. The exchange of best practices and scientific information will also encourage innovation and ongoing improvement in climate adaptation strategies within the country.

51. Overall, these interventions are expected to deliver multiple benefits in climate adaptation, environmental sustainability, economic development, and social equity, contributing to the GEF's Least Developed Countries Fund (GEF's LDCF) objectives and strategies. To achieve these outcomes, the project will build on existing political commitments and leverage support and investments from both government and non-government entities

A.7 Problem statement and preferred solution

52. The **problem** that this project seeks to address is that peri-urban and urban population of Dakar and the Niayes as well livelihoods of local communities living in the Niayes as well as humid zones of within the Niayes are threatened by recurrent floods ,impacts of which are expected to intensify under projected climate change. Local communities do not have the capacity or institutions to address these threats. Furthermore, the ongoing development investments made by government and donors in the project region will be undermined if climate change risks are not integrated into the planning and implementation of development measures. Urgent interventions are needed to build capacity to develop alternative urbanization models, strengthen the preservation/conservation of humid zones of the Niayes, alternative livelihoods and increase the awareness of communities living within the Niayes on how to adapt their production systems to climate change as well as urban and peri-urban populations to protect their lives and belongings.
53. The **solution** to the problem that this project seeks to address is to enhance the climate resilience of local communities living in urban and peri-urban zones of Dakar and restore the functioning capacity of the ecosystems as surplus water retention zones through NbS measures. In addition to be low cost solutions for Senegal, NbS approaches provide a low-cost effective means for securing and enhancing multiple ecosystem benefits for vulnerable communities in urban and peri urban zones as for the small producers that livelihoods depend on these ecosystems. As part of an integrated adaptation approach, NbS has been shown to require comparatively small investments relative to the long-term social, economic and environmental benefits^[50]⁵². The package of NbS interventions that will be implemented through this project will address a range of Government priorities as in addition to being innovative. Detailed in Section B.1

A.8 Baseline projects

54. The proposed GEF project builds directly on a strong foundation of ongoing and completed initiatives in Senegal that address flood management and ecosystems restoration. To address the issue of recurrent flooding, numerous projects have been implemented to “**rescue**” populations, “**provide relief**,” “**manage the situation**,” and “**mitigate**” through pumping and water evacuation (local authorities, civil protection and fire services), cleaning gutters, constructing drainage works (ONAS, PROGEP), building water retention basins, and relocating and resettling populations. Thus, **significant** investments in drainage and sanitation systems have been financed by the World Bank (which contributed USD 90 million) through the Rainwater Management and Climate Change Adaptation Project (PROGEP). These initiatives are reactive to urgent situations.
55. Several other initiatives have been developed around the following themes (Table 2):
- Natural ecosystems management and best practices and training under increasing climate change, and the associated risks of droughts and floods -
 - information systems and ecosystems management: PRGTE; Ecosystem-based Adaptation (EbA) for resilient natural resources and agro-pastoral communities in the Ferlo Biosphere Reserve and Plateau of Thies.
 - **value chain development and training**; Diversification of livelihoods and value chains Other initiatives Project 2 of the program to strengthen resilience to food and nutrition insecurity in the Sahel - P2-P2RS , Project to improve the resilience of ecosystems and communities to climate change along the GMV route (PAREC)
 - climate resilient agriculture practices: PIESAN and PROVALE-CV2:
 - decentralized water management and governance: Project to restore the ecological and economic functions of Lake Guiers (PREFELAG) : Harmonize national and subnational adaptation planning in Senegal
 - best practices natural resource management: Project to support the establishment of resilient development hubs and the preservation of biodiversity
 - vulnerability studies undertaken by the project: Food security and agriculture: accelerated adaptation (SAGA- Phases 1 & 2) :

- Training on adaptive capacity, financial return assessment of NbS and mobilization of the private sector: Scaling up Climate ambition on Land use and Agriculture through Nationally Determined Contributions and National Adaptation Plans (SCALA I & SCALA II):
 - best practices for urban planning and urban greening and gardening: BRACED Project:
 - financial sustainability of decentralized public entities: Support program for municipalities and urban areas in Senegal (PACASEN)
 - EbA solutions into flood management: Strengthening Community Climate Resilience through EbA- 2025-; Flood control project – Pikine Irrégulier Sud (PIS-2)
 - mapping of flood risk from PGHS project in the downscaling of the risk at local level.
 - Integrated urban planning and rainwater management: Rainwater Management and Climate Change Adaptation Project (PROGEPI): RASTATT/Saint Louis partnership project
 - Access to credit in climate smart agriculture value chain : Green Climate Finance Facility for Fostering Climate-Smart Agriculture in Senegal
56. However, these initiatives have generally approached these issues through sector-specific lenses, with limited integration of Nature-based Solutions (NbS) in flood management and urban planning . In addition, there are missing linkages between recurrent floods and degradation of wetlands in one hand and implementation of soft infrastructure and NbS measure for flood management in a sustainable way and in order to raise reliance of populations and ecosystems towards recurrent floods in urban and peri-urban Dakar and the Niayes.
57. The project proposes an innovative adaptation approach to combat recurrent flooding by linking sustainable wetland ecosystems management with urban and peri-urban planning Thus, the project will use innovative NbS system through an integrated approach and holistic approach to (re) create natural paths for water flows and use surplus rainwater in a more effective way. The project will capitalize on the lessons learned on institutional frameworks, and technical foundations created by GEF- and non-GEF-funded initiatives, while addressing remaining gaps on flood management, ecosystems management and sustainable urban planning. gender equity, and landscape-scale resilience. The project, while drawing on these good practices, will propose new nature-based solutions to contribute to the management of flood problems and the development of smart agriculture.
58. The exit strategy for the proposed project requires that after project completion: i). the understanding and uptake of NbS for flood control in urban and peri-urban continues to be advanced through knowledge management (component 4); ii) the coordination mechanisms strengthened, strategies and plans developed, information and knowledge base built, and enhanced capacity continue to support flood control through NbS interventions; and iii) NbS interventions — i.e. the restored wetland and retention basins— and permeable paving implemented under Component 2 are regularly monitored and maintained.
59. **Sustainability of physical project interventions:** First and foremost, strengthen the capacities of local authorities and decentralized institutions in project sites (e.g. through Output 2.1), as they are key stakeholders for the project's success. The ecosystems rehabilitated by the project will be maintained through arrangements and practices established in existing planning frameworks. The sustainability of the restored wetland will be ensured through the local existing framework (urban development plans and land use plans (POS, SDAU) with the support of the coordination committees (*Comité local Coordination du projet* - CLCP) (Output 1.1.2). Similarly, the rehabilitated retention basins will be maintained the associations for local and collective management AGCI (association de gestion Communautaire et institutionnelle) established by the project (Output 1.1.1). The permeable pavement demonstration areas will be maintained beyond the project period by the Ministère de l'urbanisme, Ministère de l'hydraulique et de l'assainissement (DGPRE), DGPI...) along with the institutions providing the demonstration sites. During the project preparation, it will be emphasized that stakeholder engagement process throughout the project life cycle will build on existing initiatives of the communities that will be found at project site to resolving flood problems in their localities.
60. **Financial sustainability:** As part of the capacity-building interventions, the project will provide training to city authorities and community organisations on identification of potential integrated flood management interventions. In addition, the valuation of the benefits provided by urban ecosystems (Output .2.1) will encourage decision-makers to continue maintaining the ecosystems restored under the project and to invest further in such adaptation interventions. The project benefits will be maintained after implementation because of the: i) visible benefits of NbS interventions and permeable paving; ii) increased technical capacity of national and local government; iii) built-in monitoring and evaluation of project interventions; iv) presence of a sustainable knowledge management system; and v) availability of financing for maintaining or scaling up of initiatives. In addition, project outcomes have been designed to be scalable and replicable at national and local level.

Table 2: Baseline projects

Project	Objective/Component s/Main results	Implementati on period	Areas of interventi on	Potential co-financing	Implementing partner	Donors	Amount
Integrated flood management in Senegal (PGIIS)	Project objective: To strengthen the resilience of populations to flood risk	2021-2024	Senegal: + 197,000 km ⁽²⁾ Seven priority areas (10,000 km ²)	NO	Ministry of Water and Sanitation (MEA) (Directorate of Flood Prevention and Management (DPGI))	AFD/GCF	US\$7,106,842
Strengthening Community Climate Resilience through EbA	Objective: Responds to the urgent need to strengthen flood resilience in Thiès. This initiative integrates ecosystem-based adaptation (EbA) and AbE guiding principles into flood management, with a focus on sustainable and resilient approaches that leverage local ecosystem services.	2025		YES	Practical action in collaboration with Thiès Polytechnic	Global EbA funding	US\$250,000
Flood control project – Pikine Irrégulier Sud (PIS-2)	The project objective is to develop the Pikine Irrégulier Sud area in order to reduce its vulnerability to flooding and unsanitary stagnant water through the implementation of the following four components:	2021 - 2026	Pikine region in five municipalit ies: Guinaw Rail Nord, Thiaroye Gare, Tivouane Diacksao, and Diamague ne Sicap Mbao; 750 ha and 300,000 inhabitants	NO	National Agency for Investment Promotion and Major Projects in Senegal (APIX)	GCF/AFD/State of Senegal	56 M euros
Local IWRM project in the Somone basin	Overall objective: to develop a sustainable and participatory approach to water resource management	2019	Sine-Saloum, Dakar, Thiès	NO	Ministry of Water and Sanitation (DGPPE)	The Seine-Normandy Basin Agency , as donor.	

	with prospects for replication.						
Strengthening the management of the niayes and casamance lands and ecosystems in a context of climate change - republic of senegal (PRGTE)	The PRGTE, which is among the priorities of the NAPA of the Republic of Senegal, was designed to create the necessary conditions for the implementation of adaptive measures to cope with climate change, articulated around the management of ecosystems in the Niayes and Casamance through three effects: (i) implementation of information management systems to identify and monitor the effects of climate change on ecosystems for effective forecasting, readiness and decision-making; Reducing climate change risks by adopting ecosystem management-based adaptation options in the two targeted areas (the Niayes and Casamance), including the adoption of resilient land and ecosystem management practices in a context of climate change; and Building individual, family, and community capacity to better spread awareness of climate change responses and provide strong support for adaptation efforts.	2016-2020	the Niayes and Casamance Lands	NON	DEFCCS	GEF Grant	4,100,000
						UNDP Senegal	500,000
						Government	800,000
						Government in kind	200,000
						Co-financing	
						ANACIM	3,500,000
						UNDP Senegal	2,000,000
						Government	7,000,000
						Total	18,100,000

Ecosystem-based adaptation (eba) for resilient natural resources and agro-pastoral communities in the ferlo biosphere reserve and plateau of Thies	Project objective: Promote Ecosystem-Based Adaptation (EbA) in the Ferlo Biosphere Reserve (FBR), and in the Plateau and city of Thies to strengthen the resilience of biodiversity, ecosystem services and agropastoral communities to the impact of increasing climate change, and the associated risks of annual droughts and floods.	2022	Ferlo and Thies	NO	Senegalese Agency for the Reforestation of the Great Green Wall (ASERGMV)	GEF Grant UNDP Co-financing IUCN PDEPS (in kind) DGPPE (in kind) ASERGMV (in kind) PUDC (in kind) IUCN (in kind) Total co-financing Total project	\$529,1826 US\$500,000 \$3,657,707 \$32,000,000 \$5,903,187 \$500,000 \$100,000 \$300,000 \$10,003,187 \$19,452,720
	Rainwater Management and Climate Change Adaptation Project (PROGEPI)	2012-2020	Saint Louis, Dakar, Pikine, Guédiawaye, and Rufisque	NO	IDA/Senegal Government/Nordic Development Fund (FND)	Municipal Development Agency (ADM)	US\$121.1 million
	Rainwater Management and Climate Change Adaptation Project (PROGEPII)	2021-	Saint Louis, Mbour, and Thiès - Municipal City, Mama Dior City, Ainoumadi, Darou Rakhmane, Sant-Yalla, and Santé neighborhoods	YES	IDA/Senegal Government/Nordic Development Fund (FND)	Municipal Development Agency (ADM)	US\$318,100,000 (169 billion CFA francs)
	Agriculture and Livestock Competitiveness Project (PCAE)	2020-2025	Peanut growing area (agriculture sector) and all regions for livestock farming	NO	MAER-SA (Ministry of Agriculture, Rural Equipment and Food Sovereignty) and MEPA (Ministry of Livestock and	World Bank/IFAD/State of Senegal	Total: US\$210,000,000, including US\$150,000,000 from the World Bank (loan)

	livestock products throughout the country.				Animal Production)		60,000,000 Senegalese government + \$26,500,000 IFAD
Project for the eco-sustainable intensification of agriculture in the Niayes (PIESAN)	Overall objective: To contribute to achieving food security and rural development in Senegal through the adoption and strengthening of sustainable and profitable agriculture in the Niayes eco-geographical zone, taking gender into account.	2022-2025	Regions of Dakar, Thiès, Louga, and Saint Louis	NO	Ministry of Agriculture and Livestock	Government of Italy and State of Senegal	US\$419,695 (€360,000 (grants) and US\$116,582.048 (€100,000,000 aid credit)
Water valorization project for value chain development (PROVALE-CV2)-P-SN-A00-021- Phase 2	PROVALE-CV2 is structured around three main components: (i) Component A: Development of climate-resilient and sustainable agricultural infrastructure; (ii) Component B: Promotion of integrated and job-creating value chains; and (iii) Component C: Project management.	2025-2029	Niayes, Groundnut Basin and Casamance regions, comprising nine administrative regions: Louga, Thiès, Fatick, Kaffrine, Diourbel, Ziguinchor, Sédhiou and Kolda	YES	AfDB	Ministry of Agriculture and Livestock	US\$58,291,024 (€50 million)
RASTATT/Saint Louis partnership project	Climate Partnership between Saint Louis and Rastatt: implementation of projects to address climate change developed between the two municipalities. Measures selected for 2023: greening of city centers, development of photovoltaic installations, and flood protection measures in both the Rhine floodplains and the mangroves.	Since 2014 -	Saint Louis	NO	Saint Louis Town Hall	NatureFreunde Rastatt e.V. Klimabündnis rastatt	

Project to restore the ecological and economic functions of Lake Guiers (PREFELAG)	Restore optimal conditions for the functioning of Lake Guiers and refill the Ndaël Special Bird Reserve, a Ramsar site listed in the Montreux Register Specific objectives: • Improve the hydraulicity of the axes and increase water availability in the lake system; • Restore the ecological and economic functions of the Ndaël Special Bird Reserve; • Strengthen water resource management capacities in the system • Improve the living conditions of beneficiary populations	2014-2019	Saint Louis and Louga regions	NO	Office des Lacs et Cours d'Eau (OLAC)	AfDB/GEF/Senegalese government	13.9 billion CFA francs (21 million euros; 24.5 million US dollars) AfDB: 11.192 billion (17.09 million euros; 19.92 million US dollars) GEF: 0.639 billion (0.97 million euros; 1.130,846 US dollars) Senegalese government: 2.111 billion (3.22 million euros; 3.75 million US dollars)
Support program for municipalities and urban areas in Senegal (PACASEN)	PACASEN is structured around two outcome areas: (1) strengthening the financial viability of local authorities; (2) improving the performance of co-pilots in managing public investment for the provision of local services	2018 - 2026	Cities of Dakar, Pikine, Guédiawaye, Rufisque, and Thiès (124 pilot local authorities)	NO	World Bank/AFD/State of Senegal	Municipal Development Agency (ADM)	US\$370 million
Project to support the integration of rural youth (AGRI-JEUNES TEKKI NDAWNI)	The objective is to promote the socio-professional inclusion of young people in family farms and profitable activities that generate decent and sustainable income and jobs in the agro-sylvo-pastoral and fisheries value chains.	2020- 2025	Eight project intervention regions (Thiès, Louga, Diourbel, Kaolack, Fatick, Kaffrine, Ziguinchor, and Sédhio, representing four agroecological zones in Senegal:	NO	Ministry of Agriculture and Rural Equipment (MAER).	IFAD, African Development Bank, GCF	Total cost: US\$100.04 million IFAD: \$40.07 million Co-financing: AfDB: \$10.74 million Green Climate Fund: US\$21.96 million

			the Niayes, the peanut basin, the sylvopastoral zone, and the lower and middle Casamance .				Green Climate Fund: USD 3.59 million
DELTA program food security, economic development, and sustainable management of rural areas	The objectives to be achieved are: (i) food security; (ii) economic development; (iii) sustainable management of rural areas; (iv) increased and diversified agropastoral production.	2021 - XX	Louga and Saint Louis	NO	The Delta Land Development and Exploitation Company (SAED)	AFD	30 billion CFA francs, 459 million euros (535 million US dollars)
Harmonize national and subnational adaptation planning in Senegal	The ultimate goal of the project is to integrate climate change adaptation into national, sectoral, and subnational development planning. A prerequisite for achieving this long-term objective is to overcome barriers to subnational actors' participation in national adaptation planning and, at the national level, to ensure that policies and resource allocation support adaptation actions.	2023-2027	All regions of Senegal	YES	UNDP	GCF	US\$2,612,945
Project to support the establishment of resilient development hubs and the preservation of biodiversity	This project aims to strengthen the resilience of smallholder farmers and promote sustainable natural resource management practices and the protection/enhancement of biological diversity in the regions of Fatick, Kaffrine, and Saint Louis in Senegal	2024-2027	Fatick, Kaffrine and Saint Louis in Senegal	YES	UNDP	Belgium	4 million euros (US\$4,663,282)
Green Climate Finance Facility for Fostering Climate-Smart Agriculture in Senegal	The project aims to bolster CRA investments across the agriculture value chain in Senegal by improving access to credit and enabling traditional financial	2025-2030		NO	LBA	GCF/AFD/KfW/EIB	GCF : USD 27,365,654

	and microfinance institutions to build a credible track record in funding them.						Co financing : USD 29,205,607 2025-2030
Senegal River Valley. Resilience and Community Development Project (PRDC/VFS)	The project aims to improve subregional integration and the socioeconomic and climate resilience of targeted communities in the Senegal River Valley (Mauritania and Senegal).	2025-2029	Targeted communities in the Senegal River Valley (Mauritania and Senegal)	Yes	Ministry of Community Development, National Solidarity, and Social and Territorial Equity (MDCSNEST)	IDA/ World Bank	IDA: USD 150,000,000
Naatangué Integrated Family and Village Farm Scaling-up Project	The project aims to strengthen food security while promoting rural job creation, particularly for young people and women, and ensuring the preservation of ecosystems	2025-2028	All regions	Yes	Ministry of Agriculture	GCF	GCF: USD 9,000,000
Regional and/or multi-country projects							
Project to improve the resilience of ecosystems and communities to climate change along the GMV route (PAREC)	Objective: Contribute to strengthening mitigation and increasing the resilience of ecosystems and communities, particularly women and young people, to climate change	2024-2029	3 administrative regions: Louga, Matam and Tambacounda 6 departments: Bakel, Kanel, Kébémér, Louga, Linguère and Matam; and eighteen municipalities at the eco-geographical level (: Niayes, sylvopastoral and center-east)	YES	Senegalese Agency for Reforestation and the Great Green Wall (ASERGMV)	Canadian Cooperation/FAO	US\$18.2 million

			Total area: 20,395 km² Population: 400,000 inhabitants (15% of the total population of all department s in the project area)				
Food security and agriculture: accelerated adaptation (SAGA-PHASE I)	The SAGA project is an interdisciplinary and multi-stakeholder project that aims to strengthen adaptation planning capacities for food security and nutrition in Senegal and Haiti, two of the countries most vulnerable to climate change.	2019-2023	Niayes, groundnut basin, Kolda, Louga, Thiès, Casamance, Senegal River 6 department s covered in Haiti	NO	FAO	Government of Quebec (Ministry of International Relations and Francophonie (MRIF))	5,000,000
Food security and agriculture: accelerated adaptation (SAGA- Phase 2)	Accelerate the implementation of agricultural adaptation in three countries (Senegal, Côte d'Ivoire, Haiti) vulnerable to the challenges posed by climate change	2023	Senegal: Niayes, groundnut basin, Kolda, Louga, Thiès, Casamance, Senegal River Côte d'Ivoire and Haiti	YES	FAO	Government of Quebec (Ministry of International Relations and La Francophonie (MRIF))	US\$5 million
Scaling up climate ambition on land use and agriculture through nationally determined contributions and national adaptation plans (SCALA) Program (SCALA, phase I)	SCALA supports over twenty countries in Africa, Asia and Latin America to build adaptive capacity and reduce greenhouse gas emissions in order to meet targets set out in their National Adaptation Plans (NAPs) and nationally determined contributions (NDCs), as well as contribute to the Sustainable	2021–2025 Phase I	Project implemented in 12 countries: Argentina, Cambodia, Colombia, Costa Rica, Côte d'Ivoire, Egypt, Ethiopia, Mongolia, Nepal, Senegal, Thailand,	NO	UNDP/FAO	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUV), through the International Climate Initiative	US\$23,316,410 (€20 million)

	Development Goals (SDGs).		and Uganda.				
Scaling up climate ambition on land use and agriculture through nationally determined contributions and national adaptation plans (SCALA) program (SCALA, phase II)	SCALA supports over twenty countries in Africa, Asia and Latin America to build adaptive capacity and reduce greenhouse gas emissions in order to meet targets set out in their National Adaptation Plans (NAPs) and nationally determined contributions (NDCs), as well as contribute to the Sustainable Development Goals (SDGs).	2025-2028	Project implemented in 12 countries: Argentina, Cambodia, Colombia, Costa Rica, Côte d'Ivoire, Egypt, Ethiopia, Mongolia, Nepal, Senegal, Thailand, and Uganda.	YES	UNDP/FAO	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUV), through the International Climate Initiative	US\$6,994,923 (€6 million)
Life with water project under Building resilience and adaptation to climate extremes and disasters programme (BRACED)	The project aims to strengthen the resilience of populations, local authorities and national authorities to urban flooding in Senegal, as well as to establish effective prevention and response mechanisms in line with its motto 'Living with water.' Establishment of smart infrastructure: A smart rainwater management (collection and treatment) system will enable rainwater to be recovered and reused through a drainage system based on an innovative urban space management concept combining urban greening and gardening, thus converting floodwater into a public service or asset. Implementation of contingency plans and emergency plans	2014-2018.	Ten municipalities in the Dakar region	NO	DFID	CRES, Enda Energie, and Innovation Environment Development in Africa (IED Afrique)	

	against flooding; and capacity building and knowledge dissemination						
Integrated Water Resources Management Project (IWRMP) (Phase II)	Overall objective: multisectoral regional project to strengthen integration among OMVS member states through the development of multipurpose uses of the Senegal River basin's resources.	2014-2021	OMVS member countries Senegal: NDombo Thiago, Hamady, Ounaré, Orkadiéré, Dioulol, Wendou Bosséabé, Bardial	NO	Ministry of Water and Sanitation	Kingdom of the Netherlands (Trust Fund III)	US\$235,134,371 (132.3 billion CFA francs)

61. To be effective, the promotion of an integrated approach for the preservation of resources in the Niayes and the control of flood risks will require sustained coordination between the actors: i) horizontal coordination between various public actors in charge of agriculture, the environment, health, transport infrastructure, private stakeholders, ii) vertical between local levels where dialogue will be essential for the definition of solutions and then to enhance these approaches at other scales or in other vulnerable communities. The programme will therefore have an institutional dimension for the proper coordination of the various actors, for the Niayes or Dakar area, and to enhance the achievements of the programme in terms of the implementation of the national policy (NAP, NDC, IWRM, etc.). The proposed project will ensure that lessons learned from baseline projects are considered in the design and implementation phases and will seek to identify possible collaborations and synergies with these projects during the PPG phase (see table 3).

Table 3: Baseline projects and synergies with the proposed project

Baseline projects	Synergies/complementaries with the project
Project 2 of the program to strengthen resilience to food and nutrition insecurity in the Sahel - P2-P2RS, African Development Bank/ CILSS (2024-2029) ; US\$58.22 million	This project aims to improve food and nutrition security by (i) increasing, on a sustainable and resilient basis, agro-forestry-pastoral productivity and production; ii) increasing income from agro-forestry-pastoral and fisheries value chains; and iii) strengthening the adaptive capacities of populations through better climate risk management and contributing to climate change mitigation. The proposed project will seek synergy and lessons learned from this project, in particular for component 2. There is significant potential for the two projects to share lessons learned on value chain development and training. More detailed alignment will be explored at PPG. More detailed collaboration/alignment will be explored at PPG.
Strengthening Community Climate Resilience through EbA- 2025- Global EbA funding- US\$250,000	This project aims to respond to the urgent need to strengthen flood resilience in Thiès. Like the LDCF proposed project, this project will integrate EbA measures and guiding principles into flood management in the LDCF proposed zone. There is significant potential for the two projects to share lessons learned best practices of NbS in flood management. More detailed alignment will be explored at PPG.

Flood control project – Pikine Irrégulier Sud (PIS-2) ; GCF/AFD/State of Senegal	This project aims to reduce vulnerability of the Pikine area to flood and unsanitary stagnant water through the implementation of flood prevention and waste management. As selected sites are not designated, activities under this project may be complemented by the LDCF activities in particular in terms of capacity building and communication and promotion of EbA initiatives to address flood management at local level.
Strengthening the management of the niayes and casamance lands and ecosystems in a context of climate change - republic of senegal (prgte); 2016-2020 ; 18,100,000, GEF, UNDP, ANACIM, Government of Senegal.	The PRGTE was designed to create the necessary conditions for the implementation of adaptive measures to cope with climate change, articulated around the management of ecosystems in the Niayes and Casamance. The LDCF proposed project will use best practices and lessons learned in information systems and ecosystems management from this project for its activities design during the PPG phase.
Ecosystem-based adaptation (eba) for resilient natural resources and agro-pastoral communities in the ferlo biosphere reserve and plateau of Thies; 2022 -2027; GEF, IUCN, UNDP	This project aims to EbA in the Ferlo Biosphere Reserve (FBR), and in the Plateau and the city of Thiès. Lessons learned from this program will be relevant for component 2. There is significant potential for the two projects to share lessons learned ecosystems management and best practices and training under increasing climate change, and the associated risks of droughts and floods. More detailed alignment will be explored at PPG.
Water valorization project for value chain development (PROVALE-CV2)-P-SN-A00-021- Phase 2 ; 2025-2029 ; AfDB ; US\$58,291,024 (€50 million)	The PROVALE-CV2 project aims to valorize water for the development of climate resilient agriculture practices. In addition, the project will promote integrated and job-creating value-chains.
RASTATT/Saint Louis partnership project ; Since 2014 ; NatureFreunde Rastatt e.V. Klimabündnis Rastatt	The RASTATT/Saint Louis partnership project aims to address climate change issues. Lessons learned on greening city centers and flood protection measures will be discussed during the PPG phase. There is significant potential for the two projects to collaborate to share lessons learned on integrated urban planning and rainwater management. More detailed alignment will be explored at PPG
Support program for municipalities and urban areas in Senegal (PACASEN) ; 2018 - ; World Bank/AFD/State of Senegal ; US\$370 million	The project aims 1) strengthening the financial viability of local authorities; (2) improving the performance of co-pilots in managing public investment for the provision of local services. The two projects will explore synergies and complementarities search for financial sustainability of decentralized public entities. Discussion will be planned during the PPG phase for collaboration/alignment.
Project to support the integration of rural youth (AGRI-JEUNES TEKKEI NDAWNI), 2019 ; IFAD, African Development Bank, GCF ; Total cost: US\$100.04 million IFAD: \$40.07 million Co-financing: AfDB: \$10.74 million Green Climate Fund: US\$21.96 million Green Climate Fund: USD 3.59 million	AGRI-JEUNES TEKKEI NDAWNI project aims to promote the socio-professional inclusion of young people in family farms and profitable activities that generate decent and sustainable income and jobs in the agro-sylvo pastoral and fisheries. There is potential for collaboration for the two projects under component 2 related to diversification of livelihoods and value chains targeted for youth. Discussion will be planned during the PPG phase for collaboration/alignment.
Harmonize national and subnational adaptation planning in Senegal ; 2023-2027 ; GCF ; US\$2,612,945	This project aims to integrate climate change adaptation into national, sectoral and subnational development planning. There is potential for the two projects to collaborate to share lessons learned on best practices for adaptation planning at decentralized levels. More detailed collaboration/alignment will be explored at PPG.

Project to support the establishment of resilient development hubs and the preservation of biodiversity ; 2024-2027 ; Belgium ; 4 million euros (US\$4,663,282)	This project aims to strengthen the resilience of smallholder farmers and promote sustainable natural resource management practices and the protection/enhancement of biological diversity in the regions. The two projects will have potential to collaborate to share lessons learned on best practices in natural resource management. More detailed collaboration/alignment will be explored at PPG.
Project to improve the resilience of ecosystems and communities to climate change along the GMV route (PAREC) ; 2024-2029 ; Canadian Cooperation/FAO; US\$18.2 million	The project aims to strengthen mitigation and increase the resilience of ecosystems and communities, particularly women and young people, to climate change. There is potential for collaboration for the two projects under component 2 related to diversification of livelihoods and value chains targeted for women and youth as well as best practices for ecosystems adaptation. Discussion will be planned during the PPG phase for collaboration/alignment.
Food security and agriculture: accelerated adaptation (SAGA-Phase 2)	The project aims to strengthen adaptation planning capacities for food security and nutrition in Senegal and Haiti, two of the countries most vulnerable to climate change. There is potential for collaboration for the two projects under component 2 on adaptation planning training. In addition, the LDC project will benefit from vulnerability studies undertaken by the project. Discussion will be planned during the PPG phase for collaboration/alignment.
Scaling up climate ambition on land use and agriculture through nationally determined contributions and national adaptation plans (scala) program (scala, phase ii); 2025-2028 ; german federal ministry for the environment, nature conservation and nuclear safety (bmuv), through the international climate initiative ; us\$6,994,923	The project aims to strengthen adaptation planning capacities for food security and nutrition in Senegal and Haiti, two of the countries most vulnerable to climate change. There is potential for collaboration for the two projects under component 2 on integration of adaptation into national policies (NAPs, NDCs, SDGs), and training. In addition, the LDC project will benefit from training on adaptive capacity project and on-going financial assessment of NBS business models. Discussion will be planned during the PPG phase for collaboration/alignment.
Finance Facility for Fostering Climate-Smart Agriculture in Senegal 2025-2030, GCF : USD 27,365,654 Co financing : USD 29,205,607	The project aims to bolster CRA investments across the agriculture value chain in Senegal by improving access to credit and enabling traditional financial and microfinance institutions to build a credible track record in funding them. There is potential for the two projects to collaborate to share lessons learned on best practices for access to credit. This project may help in identifying eligible CRA investment and attract additional finance flows for SMEs or farmers. More detailed collaboration/alignment will be explored at PPG.

[1] PGIIS activité 1.1

[2] <https://cgspace.cgiar.org/server/api/core/bitstreams/76464603-92f0-4ccb-a41b-9dd70a5f0190/content>; <https://geosenegal.gouv.sn/zones-ecogeographiques-du-senegal>

[3] Diop Aimée, Hyacinthe Sabou, Cheikh Diop, Elysée Ntiranyibagira, Honoré Dacosta et Bienvenu Sambou, 2018, Dynamique d'occupation du sol des zones humides urbanisées de Dakar (Sénégal) de 1942 à 2014 ; <https://doi.org/10.4000/vertigo.20120>

[4] GIZ, KfW, 2022, Climate risk profile : Senegal ; https://www.pik-potsdam.de/en/institute/departments/climate-resilience/projects/project-pages/agrica/crp_senegal_en_20220602

[5] Ministère de l'eau et de l'assainissement, AFD, Fonds vert pour le Climat, 2022, Projet de gestion intégrée des inondations au Sénégal (PGIIS), Activité 1 : Tâche 1.1 -Etat des Lieux

[6] AFD, 2017, Socio-physical Vulnerability to Flooding in Senegal, Technical Report N°25, February 2017

https://undp-my.sharepoint.com/personal/pensiri_sattapan_undp_org/Documents/CCA%20GPA/0.%20SUBMISSIONS/10290%20-%20Senegal/2.%20PIF27Oct/GEFID12082_PIMS10290_PIF%20Senegal%20-%202027Oct25.docx - ftnref7¹⁰

<https://www.banquemonddiale.org/fr/country/senegal/overview>

https://undp-my.sharepoint.com/personal/pensiri_sattapan_undp_org/Documents/CCA%20GPA/0.%20SUBMISSIONS/10290%20-%20Senegal/2.%20PIF27Oct/GEFID12082_PIMS10290_PIF%20Senegal%20-%202027Oct25.docx - ftnref8¹¹ Banque Mondiale Group,

2024, Rapport sur la situation économique: saisir l'opportunité, Juin 2024

https://undp-my.sharepoint.com/personal/pensiri_sattapan_undp_org/Documents/CCA%20GPA/0.%20SUBMISSIONS/10290%20-%20Senegal/2.%20PIF27Oct/GEFID12082_PIMS10290_PIF%20Senegal%20-%202027Oct25.docx - ftnref9¹² Federal Ministry for

economic and Development, GIZ, KfW, 2022, Climate risk profile, Senegal https://www.pik-potsdam.de/en/institute/departments/climate-resilience/projects/project-pages/agrica/crp_senegal_en_20220602

https://undp-my.sharepoint.com/personal/pensiri_sattapan_undp_org/Documents/CCA%20GPA/0.%20SUBMISSIONS/10290%20-%20Senegal/2.%20PIF27Oct/GEFID12082_PIMS10290_PIF%20Senegal%20-%202027Oct25.docx - ftnref10¹³ AFD, 2017, Socio-

physical Vulnerability to Flooding in Senegal, Technical Report N°25, February 2017

[11] GEF, 2021, Ecosystem-Based Adaptation (EbA) for resilient Natural Resources and Agro-Pastoral Communities in the ferlo Biophère Reserve and Plateau of Thiès in Senegal, PRODOC

[12] <https://climateknowledgeportal.worldbank.org/country/senegal/climate-data-historical>; World Bank, GFDRR, 2021, Climate risk and Adaptation Country Profile ; https://climateknowledgeportal.worldbank.org/sites/default/files/2018-10/wb_gfdr_r_climate_change_country_profile_for_SEN.pdf; <https://dicf.unepgrid.ch/senegal/climate-change#section-impacts>

[13] CSE, 2020, rapport sur l'état de l'environnement au Sénégal, 2020

[14] WMO (World Meteorological Organization). 2024. State of the Global Climate 2023. WMO, Geneva.

[15] <https://thinkhazard.org/fr/report/217-senegal>

[16] PNA inondations, 2022

[17] World Bank, 2024, CCDR, Senegal

[18] World Bank Group, 2024, Country Climate and Development report (CCDR), Senegal

[19] Ministère de l'environnement et du développement durable, 2022, Rapport d'analyse de la vulnérabilité approfondie aux changements climatiques : secteur inondation, PNA FEM

[20] USAID, 2024, Senegal, Climate change country profile

[21] Feed the future, climate-Smart Agriculture in Senegal ; https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/SENEGAL_CSA_Profile.pdf

[22] GIZ, KfW, 2022, Climate risk Profile : Senegal ; https://www.pik-potsdam.de/en/institute/departments/climate-resilience/projects/project-pages/agrica/crp_senegal_en_20220602

[23] The SSPs are climate change scenarios of projected socioeconomic global changes up to 2100 as defined in the

Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report on climate change in 2021. There are

five SSPs, with SSP1 (sustainability) and SSP5 (fossil-fueled development) being the two extremes. They are combined with radiative forcing scenarios and SSP1-2.6 corresponds to a low GHG emissions world (CO₂ emissions cut to net zero around 2075) and SSP5-8.5 corresponds to very high GHG emissions (CO₂ emissions triple by 2075). All data are from the World Bank Climate Change Knowledge Portal, consulted in April 2024.

[24] CSE, 2020, Rapport sur l'état de l'environnement au Sénégal

[25] CSE, 2020, rapport sur l'état de l'environnement au Sénégal

[48] Women promotion groups

[49] Economic Interest Groups

[50] IUCN, 2016, Des solutions fondées sur la nature pour lutter contre les changements climatiques ; WWF, 2021, des solutions fondées sur la nature en milieu urbain : les villes montrent la voie.

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

B1. Project's Theory of change

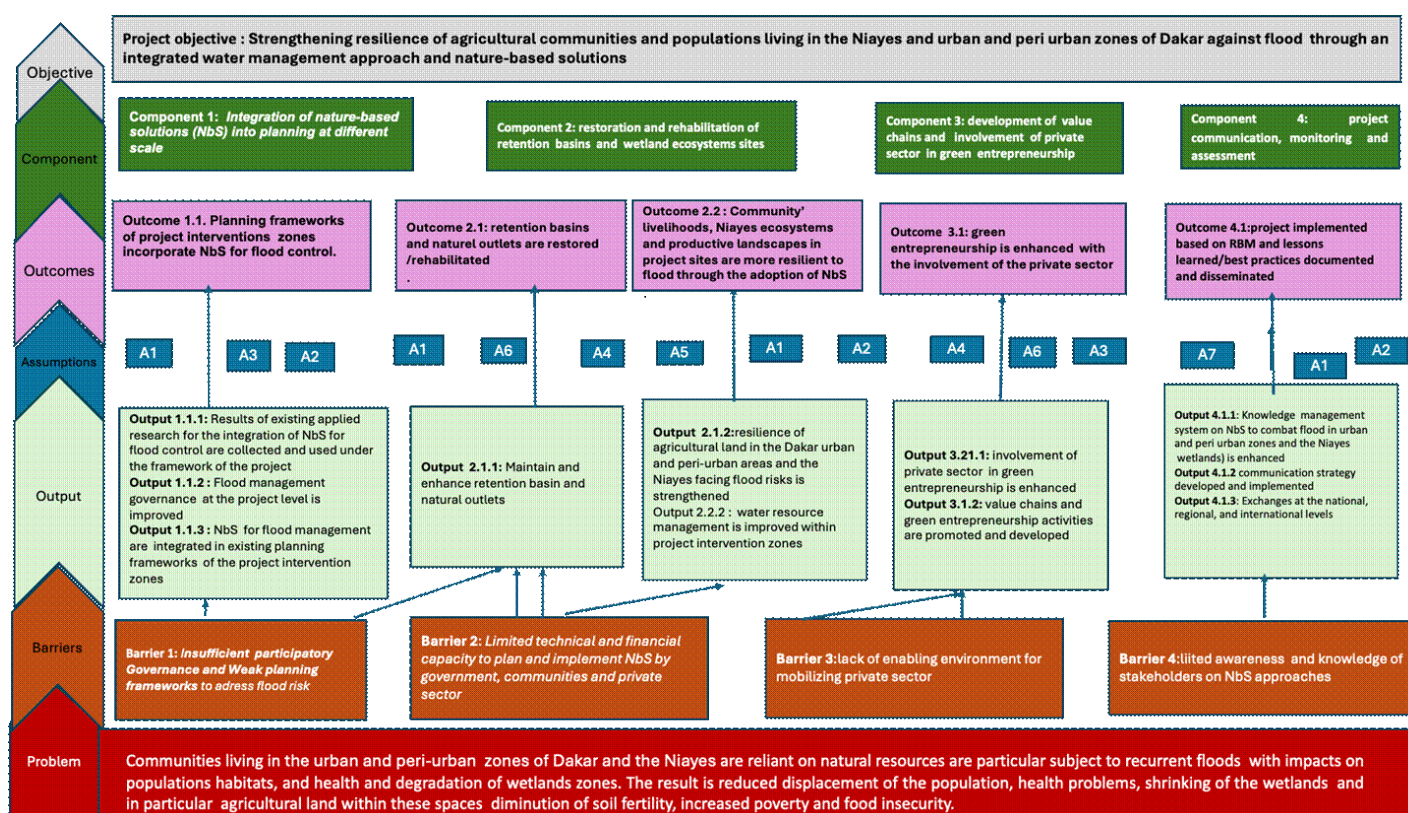


Figure 2: Theory of change

Assumptions

Assumptions

A1: Willingness of national and sub-national governments to agree to cooperate

A2: Willingness of national and sub-national governments to adopt regulatory framework and maintain information platform

A3: Willingness of national and sub national governments to adopt NbS solutions for Flood management

A4: Willingness of stakeholder to proactively participate and invest in NbS solutions and sustainable livelihoods

A5: Financing mobilized and sustainable markets for sustainable livelihood products are available and linked to target communities

A6: stakeholders 'buy-in adopt appropriate NbS solutions at local level

A7: Public awareness raised for the target audience

B2. Project's Components

1. **The Overall objective of the project is** Strengthening resilience of agricultural communities and populations living in the Niayes and urban and peri urban zones of Dakar against flood through an integrated water management approach and nature-based solutions.

Specific objectives

- Strengthening the availability of water for the development of agroecology
 - Promote sustainable rainwater harvesting practices for better flood management.
 - Promote integrated approach for flood control through nature-based solutions
 - Promote livelihoods solutions through nature-based solutions
2. The project will systematically strengthen the gender dimension by ensuring that all components are designed and implemented in a **gender-responsive and inclusive manner**, recognizing the differentiated needs, roles, and capacities of women, men, and gender-diverse individuals in the context of climate resilience and livelihoods.

3. Component 1: Integration of nature-based solutions (NbS) into planning at different scale

Numerous experiences show that the (re)integration of ecosystem services in urban environments can improve the functioning of these environments, particularly in terms of the health aspects of semi-closed systems such as urban areas. The integration of ecosystem services into urban planning can be seen as an additional factor to be taken into account in urban planning^{[1]⁵³}.

During the PIF phase, stakeholders identified the following gaps:

- Hydrological and climate data are fragmented, difficult to access, and underutilized for local planning.
- Watershed governance remains poorly structured, despite the need for inter-municipal coordination to manage flood risks.
- Regulatory tools and urban planning documents do not yet sufficiently integrate NbS or water management issues.

This component aims to fill these gaps through a more participatory and gender sensitive approach.

4. Outcome 1.1. : Planning frameworks at local level explicitly incorporate NbS for flood control.

This outcome will aim to demonstrate the importance and relevance of nature-based solutions (NbS) in flood control and the strengthening of intersectoral coordination (urban planning, environment, water management, etc.), as well as the need for explicit integration of NbS into planning frameworks (urban development plans and land use plans (POS, SDAU)). In addition, to the integration of NbS into planning documents, this outcome will strengthen the capacities of key actors (government staff, members of the coordination committees (*Comité local Coordination du projet* - CLCP) and associations for local and collective management AGCI (association de gestion Communautaire et institutionnelle)).

5. Output 1.1.1: Results of existing applied research for the integration of NbS for flood control are collected and used under the framework of the project

As mentioned earlier, for urban flood management, NbS (such as wetland restoration) offer good value for money compared to grey infrastructure alone, as they also provide co-benefits. Under this project, the innovative development strategy suggested aims to promote the use of floodwater by transferring water from high-risk areas (urban and peri urban zones of Dakar) to areas experiencing water shortages (some areas of the Niayes). Rain-runoff and rain-runoff models developed by the PGIIS project provide national-scale outputs and prioritize areas at risk but are not intended to manage or define flood management policies at the municipal or regional level. Many research studies are undertaken in Senegal to address the issue of integrating nature-based solutions (NbS) into flood prevention, combining scientific experiments and community-based approaches at local level^{[2]⁵⁴}. Particular attention will be paid to identifying NbS performance indicators (effectiveness, ecological, social, and economic co-benefits). The LDCF project will build on the results of these studies and in particular, the proposed project will collaborate and identify best practices to develop a decision-making tool for stakeholders in the field. In particular, the LDCF will build on results of research studies undertaken under the *Strengthening Community Climate Resilience through EbA project*^{[3]⁵⁵} which is being implemented in Thiès. Indeed, national and international experts are testing ecosystem-based adaptation strategies to strengthen urban resilience and reduce vulnerability to flooding, with the integration of NbS into local urban and agricultural practices. Thus, the LDCF project will be able to scale up the results of this research and extend research to Dakar and other areas of the Niayes not covered by the ongoing research. Further discussions will be held during the PPG with the *Strengthening Community Climate Resilience through EbA project* team in order to clarify the various activities involved under this output 1.1.1 based on experience and lessons learnt from that project.

6. Output 1.1.2 : Flood management governance at the project site level is improved

The project will intervene in flood-prone areas in 10 retention basin sites in urban and peri-urban areas of Dakar and 5 sites in the Niayes. The objective of this output is to establish integrated participatory gender sensitive management approach to ensure the sustainability of project activities. In order to achieve this, the project will support the creation of five (5) coordination committees (*Comité local Coordination du projet* - CLCP) in the communes (urban and peri urban) where retention basins have been selected and each of the watersheds in which the selected wetlands sites are situated. The primary function of the CLCP will not be to take over the roles of existing water-related agencies, but rather to strengthen coordination, planning, policy setting and monitoring of each project sites activities at local (site) level. In collaboration with the Ministry of environment, the project team will engage with local stakeholders (e.g., government, authorities at the level of communes, regional state services, water users, civil society, non-governmental organizations, business and individuals) that play important roles in the planning and management of the water resources management and are concerned by flood impacts to establish a framework for these stakeholders to come together, share information and develop agreed upon strategies to maintain and manage the watershed, the project will work with local stakeholders to create CLCP that are representative of various types of stakeholders, including communities. The process undertaken will build on the positive experiences of PGIIS and PROGEF projects, which have also worked to improve flood management. In particular, the project will build on lessons learnt from COLIGEP (Local Stormwater Management Initiative Committees) set up by the PROGEF's project. These COLIGEP are local committees created to plan, coordinate, and implement community initiatives to combat flooding, ensure the sustainable management and preservation of drainage structures, raise awareness and mobilize the population, and participate in the monitoring and maintenance of infrastructure built as part of PROGEF. Thus, the project through the engagement of international and national expertise will also accompany the process to elaborate guiding principles and the official mandate and objectives of the CLCP. The CLCP's priority actions should be consistent with the guidelines and strategies defined at the national level to strengthen

flood risk management. These CCLP will organize two meetings annually to advance their objectives. Participation of women, youth and people with disabilities will be ensured in order to reinforce their involvement as they are the most vulnerable to the effect of floods.

In addition, fifteen (15) AGCI (association de gestion Communautaire et institutionnelle) will be created at the level of each selected sites to raise the resilience of the project sites. Indeed, past experience shows that many retention basins are abandoned due to lack of maintenance or clarity on institutional responsibility. The approach centers on the participatory elaboration of a vision, management objectives and rules (including zoning) for resource use, which are formalized through a local convention (*Convention locale*) and the creation of associations for local and collective management (*Associations de Gestion Communautaire et institutionnelle* - AGCI) which will bring together local authorities, users, and community representatives..., with a maintenance budget and ecosystem monitoring tools. Similar to the creation of CLCP, the establishment of the AGCI will be built on the experience of the *COMités de bassins* set up in the framework of the PROGEP project. These committees were responsible for the participatory and integrated management of water resources at the watershed level, including monitoring infrastructure, maintenance, and mobilizing the relevant stakeholders. They were set up by municipal councils and integrated as advisory or operational bodies of local authorities, in accordance with decentralization and sanitation laws. Each basin committee was established by municipal decree after consultation and a general assembly, which gives it official status within the municipality. Their mission was part of the stormwater sanitation master plan, which is mandatory for all municipalities under the sanitation code. The creation of the AGCI could follow the same process. As AGCI are intended to be representational bodies, this will involve engaging with a broad and inclusive array of stakeholders to explain the concept of an AGCI and the legalities of such a system. It will also involve building on the consultation process launched during project development to address any further questions or concerns stakeholders may have. The project (through field agents) will support the AGCI in their efforts to establish local surveillance and monitoring teams at each site.

The CLCP will be responsible for overseeing all project operations at the level of each municipality or identified watershed, while the AGCI is responsible for implementation at each project site.

The LDCF project will provide trainings to the CLCP and AGCI members on key concepts of integrated watershed/wetland management, and the vulnerability of these resources to climate change and anthropogenic pressures. This training will aim to build the capacity of CCPL and AGCI members to communicate effectively on these topics and fulfil their mandate.

In addition to the training courses, the project will promote an active dialogue with partners to identify opportunities for institutionalize long-term protection of wetlands, using legal means or incentives. It will include closely examining the results of this project to assess whether it is successfully expanding sustainable systems for decentralized natural resource management, and what more should and can be done to establish a legal framework and incentives that promotes long term protection. Under this output, the project will ensure participation of most vulnerable representative (including women) in decision making committees and activities

7. Output 1.1.3 NbS for flood management are integrated in existing planning frameworks of the project intervention zones

This output aims to integrate of **Nature-Based Solutions (NbS)** into existing **regulatory and strategic planning frameworks** of the project intervention zones through participatory gender sensitive approach. The following activities may be proposed:

(1) Develop, in consultation with urban planning authorities, a guide or methodological framework for integrating ecosystem services into urban development plans and land use plans (POS, SDAU), based on the results of the project

(2) support the revision of local urban plans in target municipalities to explicitly include retention/NbS restoration areas, in order to institutionalize these measures.

The integration of NbS into the planning frameworks may be related to (i) NbS requirements (ex. Include vegetated buffer zones along watercourses, Prohibit or limit artificialization in flood-prone areas; Increase *permeable surfaces/ground cover*) and /or (ii) adaptation of land use rules to promote NbS (ex. Classification of Flood zones as “protected natural areas”; Inclusion of green areas etc.;

Besides, during the PIF process, at the local level, consideration of the cross-cutting effects of climate change, particularly flooding, is reflected in the principle of inter-municipal cooperation, which takes the form of agreements and joint activities to address the effects of climate change (e.g., the cities of Saint Louis, Louga, etc.). Therefore, the LDCF project will support the principle of inter-municipal cooperation in the project zones to address risks related to flood in a more integrated manner.

8. Component 2 : restoration and rehabilitation of retention basins and wetlands ecosystems sites through NbS to combat flooding in urban and peri-urban areas of Dakar and the Niayes

This project component 2 aims to protect the population of the urban and peri urban of Dakar and maintain or improve the values and functions of the selected wetlands through NbS against floods. Ten (10) retention basins sites in the urban and peri-urban Dakar and five (5) sites in the Niayes will be selected during the PPG phase of project using a participatory process that took into consideration a series of criteria related to: physical properties (e.g. surface area, wetland type); ecological, hydrological, social and economic values; anthropogenic and climate change threats; land issues and stakeholder engagement. The retention basins in the urban and peri-urban Dakar and the selected sites in the Niayes will vary in type and size.

This component will mainly consist of rehabilitation and restoration of flood-prone sites through soft solutions, particularly green engineering (output 2.1.1.), innovative rainwater harvesting techniques for use in agricultural areas (output 2.2.2).

9. Outcome 2.1. retention basins in the peri-urban and urban areas of Dakar and natural outlets (*natural reservoirs*) in the Niayes are restored or rehabilitated through integrated participatory approaches

Under this outcome, priority actions will be developed through assessments/feasibility studies. Appropriate sites restoration, maintenance and management strategies will be designed and implemented to increase resilience of the populations and ecosystems against floods.

10. Output 2.1.1 : Maintain and enhance the role of retention basins as reservoirs and rainwater catchments through nature-based solutions in urban and peri-urban areas of Dakar and the Niayes.

In order to better understand the effects of CC on the hydrological behaviour of drainage basins in the Dakar region and the Niayes, the project will support diagnostic assessments studies including feasible study to demonstrate technical and economic justification for identified initiatives. The **feasibility study** will aim to quantify the volume of water that can be stored in restored flood expansion areas without increasing flood risks in high-risk areas and to assess improvements in the functioning of wetlands in the Niayes. The study will propose and highlight the value of nature-based solutions (NbS) for water resource protection, with a focus on

- The preservation, restoration, and creation of functional wetlands and the hydromorphological restoration of watercourses that help regulate flooding and protect water resources during droughts.
- The revegetation of the watershed (planting hedges, revegetating slopes, etc.) helps stabilize the soil and thus slow runoff.
- vegetation (landscaped riverbanks, creation of wetlands, etc.) and the de-impermeabilization of cities, which help reduce flood risks by promoting rainwater infiltration into the soil and limiting runoff

As examples, the following measures (non-exhaustive list) may be considered depending on their feasibility:

Development of green hydraulics to combat runoff in urban areas[

- *increase permeable surfaces/ground cover and create/restore vegetated surfaces: increase permeable surfaces/ground cover* allows for better rainwater infiltration (for example, in schoolyards or parking lots).
 - Vegetating retention basins by relying on ecosystems with benefits for biodiversity
 - *Switch from a rainwater network to rainwater infiltration as close as possible to where it falls:* This makes it possible to create vegetated waterways such as ditches or swales to slow down runoff and drain water while allowing it to percolate into the groundwater
 - *Create rain gardens:* A rain garden is a temporary storage facility that collects rainwater and allows it to infiltrate the soil. It usually takes the form of a depression in the ground or an outlet (at the end of a gutter, for example) that collects excess water
- **Improving the natural upstream/downstream flow of watercourses**
 - How to clear the natural path of watercourses. Based on the DGPI rainfall-runoff model and the layout of watercourses, develop and clear the network in areas where possible
 - **Restore the functioning of wetlands to reinforce their buffer role:** restore degraded areas, (re)vegetate banks with local plants suitable for wetlands

Based on the results of the assessment /feasibility studies on suitable NbS measures, with the support of the project, the CCLP will develop and implement plan of priority actions at project site level and a series of workshops that will validate the NbSs to support restoration and maintenance and management of selected sites. The project will support the establishment of a tracking system in collaboration with CCPL to assess whether each CCPL is able to progress its plan of actions and fulfil its intended role. This process will aim to create and reinforce accountability.

The project plans to restore 10 degraded retention basins urban and peri urban zones of Dakar and five degraded naturel outlets in the Niayes. Under this output, the project plans de rehabilitated around 500 km of degraded watercourse, 5,000 ha of degraded land within Dakar and peri-urban Dakar, and 10,000 ha of degraded wetlands in the Niayes. Invasion of Typha is observable within the Niayes. Attention will be paid to avoid such invasive plants. 10,000 hectares wetlands ecosystems, 5,000 ha in urban and peri urban and 10,000 ha of agriculture land within the Niayes,

The project will adopt a highly participatory approach, actively involving local residents and inhabitants from the preliminary study stages onwards. Local stakeholders (fishing federation, farmers associations, women and youth associations, local elected officials, residents' representatives, etc.) will be invited to the steering committees for the feasibility study and will participate in the selection of the final scenario. They will also be kept informed of the progress of the project on an ongoing basis. Populations will be involved as much as possible in the restoration and maintenance work. Priority will be given to women and youth .

11. **Outcome 2.2 : Community' livelihoods, natural ecosystems and productive landscapes in project sites are more resilient to flood through the adoption of NbS practices**
12. **Output 2.2.1 : resilience of agricultural land in the Dakar urban and peri-urban areas and the Niayes facing flood risks is strengthened**

Agriculture and in particular market gardening is the main income-generating activity of the communities living in the Niayes. Numerous studies analyzing land use in the Niayes show strong pressure on land in urban and peri-urban areas of Dakar and the Niayes, where the space occupied by market gardens is shrinking to the detriment of buildings, industrial activities, and infrastructures. Currently, there are no land tenure mechanisms to protect agricultural areas in urban planning documents at the municipal level or at the level of wetland sites (e.g., Technopole Development Plan).

The aim of output 1.2.1 is to find solutions to maintain agricultural land in urban and peri-urban areas of Dakar and the Niayes recognizing they are contributing to the mitigation of flood risk in these areas. Given the very significant land issues governing these

areas, it is necessary for all stakeholders to participate in identifying and responding to their needs while ensuring the survival of these areas in both environmental and economic terms.

Innovative solutions will be discussed and implemented with the various stakeholders and local authorities concerned, in particular through the CCPL and with the support of the project. Discussions could be held with the wetlands management department and the CCPL to improve the value of wetlands, including:

- Incorporate **protected agricultural zoning** into urban planning and development documents for existing Niayes sites (e.g., technopole development document).
- Support **alternative economic models** (e.g., integrated fish farming, agro ecotourism): Introduction of an effective and efficient fish culture techniques, construction of earthen ponds and training on Fish culture Techniques and fishing skills. The proposed interventions under this component provide innovations to small scale fishers, including women and young groups, to build resilience livelihood systems through modern aquaculture techniques. Ecotourism intends to contribute to the conservation of the natural environment and will include birdwatching and wildlife safaris, hiking and trekking, walking trails etc. The project will provide training for local eco guides.
- Establish rules (including zoning) to be applied across the defined management areas for each project sites and regroup said rules under local conventions.
- Promote climate-resilient agricultural practices: such as conservation agriculture, crop rotation, organic fertilizers and integrated pest management to enhance soil health and reduce environmental impact. The development and/or distribution of climate-resilient crop varieties—those that are tolerant to drought, heat, salinity, and flooding— and organic fertilizers production will ensure stable yields under unpredictable weather patterns. Agroforestry and contour farming, also play a critical role in slowing water runoff and reducing soil erosion during floods.

Promoting climate-resilient agricultural practices directly addresses the increased frequency and severity of flooding by introducing a range of adaptive strategies aimed at reducing vulnerability and enhancing recovery. These efforts are supported through capacity-building initiatives, farmer training, and policies that promote sustainable land use, infrastructure investment, and financial tools like crop insurance, all of which contribute to minimizing flood-related agricultural losses. The project will ensure that women and most vulnerable are equal beneficiaries.

The project plans to preserve and restore 10,000 ha agricultural land areas. In addition, in order to preserve the resilience of these agricultural areas and reduce poor agricultural practices, various soil protection and conservation measures will be implemented. (i) reforestation, re-vegetation and assisted natural regeneration (ANR) of arid and semi-arid lands and degraded ecosystems with climate resilient plant species that provide goods for consumption and/or marketing; (ii) restoration of soil and vegetation cover, to preserve adaptive ecosystem services and (iii) sustainable land management measures engaging local communities, including with the adoption of climate- resilient crop varieties, demarcating multi-stage production plots by defensive quickset hedges, the use of organic fertilizers, sustainable NTFP harvesting practices, methods for improved processing, packaging, storage and marketing practices for transformed products. These measures will be implemented as part of outcome 3.1.

13. Output 2.2.2 : water resource management is improved within project intervention zones

During the PIF phase, producers reported suffering from water quality, and groundwater depletion, mainly due to uncontrolled extraction (e.g., mini drilling, etc.) and pollution (nearby mining industry), particularly in the Thies region. The proliferation of boreholes for agricultural, urban, and mining use has caused an unprecedented drop in the water table of about 7 meters in 50 years.

Assessment / feasibility study will be conducted during year one of the implementation phase of the project to identify best practices in innovative rainwater management system based on NbS measures that will be integrated into the landscape and provides ecological added value. Thus, within the framework of this output, the project aims to consider flooding as an opportunity and will develop reflection on how to use excess water to enable its use and recharge the water table in crop areas, particularly during the dry season.

There are currently several best practices and exemplary innovations in rainwater harvesting (nature-based solutions) such as green roofs and blue-green roofs; sponge cities; vegetated basins, rain gardens, and multifunctional squares; green infrastructure and permeable pavements; urban wetlands; adapted and regenerated traditional techniques; innovative high-tech systems (IRSS); natural filtration and ecological reuse.

Best practices often combine several approaches—porous urban coating, gardens, retention basins, smart technology, and shared uses—to maximize urban resilience, biodiversity, water quality, efficiency, and social value. They rely either on technological innovation or on the revival of traditional knowledge adapted to the local environment. Example: Combining traditional half-moons with soil moisture sensors to control planting and irrigation.

The feasibility study will seek to identify the most suitable innovative technologies to be implemented, taking into account the climate context, cost constraints (e.g., low-cost systems or systems inspired by local know-how), maintenance, and sustainability (clearly organized community or municipal maintenance) and use for agricultural irrigation.

As part of this study, land tenure and gender issues will be taken into consideration to ensure the buy-in of the entire population of the sites concerned.

14. Component 3: Development of value chains and involvement of private sector in green entrepreneurship

This component 3 aims to strengthen climate resilient value chains, promote private sector investment in sustainable and climate-resilient value chains and support local entrepreneurs and MSEs to produce goods and services based on the sustainable use of natural resources. The project will promote sustainable practices which are adapted to climate variability while providing a significant financial return on investment: in several production systems: agriculture and livestock and fisheries, in order to promote maintenance and diversification of income generating activities. The project will also support the development of other income generating activities that are linked to wetlands but can be managed without a negative impact to wetland resources, such as ecotourism. The component will include significant activities aimed at building the capacity of local communities, increase their capacities to access green banking products and in particular vulnerable groups within these communities, in sustainable Natural resource management (NRM).

15. Outcome 3.1. Green entrepreneurship is enhanced with the involvement of the private sector.

The activities under this outcome will build on lessons learnt from the “*Ecosystem-based Adaptation (EbA) for resilient natural resources and agro-pastoral communities in the Ferlo Biosphere Reserve and Plateau of Thies*” project for its experience in increasing private sector investment and the SCALA programme (*Scaling up Climate Ambition on Land Use and Agriculture through Nationally Determined Contributions and National Adaptation Plans Programme*) and that developed the following activities that will be of high interest to the LDCF project. i) studies on climate-smart market gardening techniques in the Niayes zone have been carried out, with plans to conduct profitability studies to raise awareness of SMEs and farmers on business rationale, ii) facilitate access to credit for market gardeners or related M362s iii) by the time this project starts, these SCALA products on financial assessment will all be available and pilot projects will have been carried out, iv) the timing of the LDCF project is compatible with the LBA/GCF credit lines which will search for eligible investor in climate smart practice to implement their credit lines

16. Output 3.1.1 Involvement of Private sector investment in green entrepreneurship activities is enhanced

This output aims to enhance engagement of the private sector as well as the micro-finance sector into green entrepreneurship activities. Indeed, private sector is one of the main actors to fill the adaptation finance gap in developing countries. In our context, the private sector definition is wide: from individual farmer to goods providers, including cooperatives and SMEs such as input or equipment retailers, agrifood processors, etc. However, the involvement of the private sector in climate change adaptation is essential but often hampered by a lack of clear economic incentives and uncomplete business rational visibility. As there has not been a systematic analysis of the NbS opportunities and subsequently little promotion by competent national institutions on a market relevance dimension, there has been limited investment from international and national private sector in natural resources-based enterprises in Senegal. At the same time, banks are trying to develop their green finance products as a mean to expand their offer, but with difficulties in reaching eligible criteria. To address this gap, the project will support innovative financing mechanisms to attract private

investment in adaptation actions such as specific capacity building tailored to harness existing and upcoming green credit line activities or credit facilities, such as the one proposed by LBA.

In addition, activities under this outcome aims to encourage micro-finance sector to make effort with specific derisking measures for micro-finance and micro-insurance products on one hand, and to bring together MFI and local entrepreneurs to establish business deals and hedge their risks associated with the climate change impacts on their activities. Initial consultations with private sector entities were conducted and will be expanded upon during the PPG to promote involvement of private sector in the green entrepreneurship activities, in particular at SME scale (more suitable for banking activities) while small entrepreneurs/cooperatives are more relevant for MFIs. Women and youth entrepreneurs will particularly be targeted. The LDCF project will build **on experiences and lessons learned** from the “*Ecosystem-based Adaptation (EbA) for resilient natural resources and agro-pastoral communities in the Ferlo Biosphere Reserve and Plateau of Thies*” project that under its component 3 aims to promote and increase private sector investment in natural resources as well as on recent works which have mapped private stakeholders in the target value chain (SCALA programme) and business development options (medium scale fertiliser production, efficient irrigation) and barriers.

In order to enhance the participation and investment of the private sector, the LDCF project will :

Identify, analyze and develop opportunities for innovative financing mechanisms to attract private investments such as *Public-Private Partnerships* (PPP), *negotiation of subsidized loans*, payment mechanisms for ecosystem services (PES)^{[4]⁵⁶}, encourage start-ups and technology companies to develop solutions for adaptation conducive to the adoption of green technologies and the resilience to climate change and of ecosystems in project areas. The project will engage with a range of microfinance institutions— commercial banks, rural banks, microfinance institutions, and other relevant financial actors to co-design tailored financial products that suit the needs and realities of smallholder farmers and/or develop the capacity building activities needed to access existing products. These packages may include: seasonal credit with grace periods aligned with cropping cycles, group-based lending schemes with reduced collateral requirements, insurance-linked credit for climate-related risks as already developed by CNASS, low-interest loans, flexible repayment schedules, low-interest financing for inputs, irrigation systems, and small-scale infrastructure etc... The co-development process will involve participatory stakeholder consultations to ensure products are farmer-friendly and gender-responsive. All detailed will be discussed during the PPG phase. At PIF stage, La Banque Agricole BA has demonstrated interest in participating to the project. However more discussion will be undertaken during the PPG phase to come up with specific products and complementary products. Matching grants will be in particular explored for vulnerable beneficiaries as they can offer a flexible alternative to guarantee needs and provide demonstrative example of climate smart investment

- Introduction of green equipment for the agricultural value chains targeted by the project in the project zone with the overall consideration that material for high profitable activities should be combined with loan products;
- Identify what partnerships are necessary to accelerate private investment to foster the emergence and promotion of innovative enterprises in the project areas and ease their access or compliance to financing documentation requirements;
- Development of partnerships to accelerate private investment to foster the emergence and promotion of innovative enterprises in the project areas;
- Strengthening of technical and business management capacities of human capital in the project's intervention areas building on existing stakeholders such as cooperatives or farmers unions (in particular as for administrative capacity development to submit solid loan requests and disseminate existing opportunities to support NBS-grounded agriculture practices such as agroecology);
- *This activity will then combine incentives, capacity building and harness existing financing opportunities to accelerate the uptake of green investment for NbS with a good return on investment profile. This activity will furthermore benefit the current development of the National green taxonomy and provide hands-on applications.*

17. Component 4 Project communication and knowledge sharing

18. This component aims to ensure that communication on the project is well coordinated to support the achievement of results, their uptake and scaling up. The component will establish a national knowledge management and communication mechanism that ensures lessons learned, best practices, and innovations are systematically captured, analyzed, and disseminated at local, national, and global levels. It will also foster participatory and gender-sensitive community engagement to ensure that traditional knowledge, community needs, and locally led innovations

are integrated into project activities and inform future initiatives. In addition, under this component, and activities and productions, the project will capture good practices in advancing women's empowerment and gender equality,

19. Outcome 4.1 Project implemented based on RBM, and lessons learned/best practices documented and disseminated

20. Output 4.1.1 : knowledge management system on NbS to combat floods in urban and peri-urban zones and the Niayes (wetlands) ecosystems is enhanced

This component aims at improving the knowledge base and access to information on NbS to combat floods in urban and peri urban zones and wetlands of the Niayes. The project team will prepare a technical guide on NbS to address floods , a practical tool for water stakeholders intended for managers dedicated to plant engineering in peri-urban and urban areas and in wetlands in the Senegalese context. The project's achievements could lead to new collaborations and projects to promote plant engineering in Senegal and the sub-region.

21. Output 4.1.2 Communication strategy developed and implemented

As part of the PGIIS project, the need to raise awareness and improve **communication on flood risks** was highlighted, involving the media (print, digital, television, radio) and community networks, which are the main sources of information for people, organizations, and projects involved in flood management.

Based on the above, the project will develop and implement a communication strategy that will support the project's objective. The strategy will target numerous stakeholders who will have to change their behaviors to achieve project results, including local communities and various levels of administration. The strategy will be developed in coordination with activities proposed under other components.

It will consider a variety of means and tools to share information and communicate on issues of natural resource management and climate change. The strategy will also consider how to assure the impacts and the lessons learned from this project can be used to scale up and institutionalize successful measures and best practices developed during this project.

As part of this communication strategy, the project will launch a national awareness campaign on residual flood risks and nature-based solutions, in collaboration with community radio stations, schools, and social media.

A variety of **communication** tools will be used: local press, brochures, public meetings, visits by local schoolchildren.

The objectives of this campaign will be to:

- Maintain long-term awareness of the residual risk around the structures: the population must be aware that flooding is still possible in the event of heavy rain.
- Strengthen the capacity of local actors to respond to urban flooding
- Improve local actors' understanding of effective methods for strengthening resilience to urban flooding

As part of this campaign, attention will be paid to gender issues and specifically targeting the most vulnerable. Communication will be in particular emphasized towards inhabitants of target areas to raise awareness on the interlinkage between urban, wetlands and agroecology practice for ensuring a more resilient and quality living space.

22. Output 4.1.3 : Exchanges at the national, regional, and international levels.

This output will involve strengthening South-South exchanges by actively participating in resilient cities networks (ICLEI, Resilient Cities Network) and organizing a national forum dedicated to NbS and integrated flood management.

Component 5- Monitoring and Evaluation

23. Monitoring and assessment activities under this component will allow the project to be implemented successfully using an adaptive management approach and effective project execution, as well as to monitor positive results that lead to impact on the ground.

24. Outcome 5.1 Monitoring and Evaluation plan finalized with data collection, reflection and reporting on time to aid in results-based decision-making and adaptive management.

25. Under this outcome, the project will implement an effective M&E system to determine the extent to which the project is: (i) on track in terms of use of resources efficiently, and (ii) the project has achieved the expected outcomes and had the desired impact effectively. The project team will develop a monitoring plan for project implementation (logical framework, evaluations, etc.). The M&E system will ensure that project results are properly monitored during the implementation through a performance framework, regular monitoring activities and evaluations. This monitoring exercise will include the ESMF as well as GAP indicators monitoring. Indeed, The project will implement a robust -informed gender responsive Monitoring and Evaluation plan that collects both gender and sex-disaggregated data with gender sensitive collection methods and will include gender specific indicators to record progress in gender mainstreaming efforts and women's empowerment. All Partner reports will include information on the implementation of the gender mainstreaming plan. The project team, in close relation with *Direction du changement climatique, de la Transition et des financements verts* (DCCTEFV), UNDP and technical partners, will establish and implement data collection tools and processing protocols based on the M&E framework of the project. The tools developed under this output will also aim to categorize, document, report and promote lessons learned at national and international levels.

26. Output 5.1.1 Project monitored regularly at all levels through multi-source knowledge collection (for annual work plans, results framework, project progress reports, core indicators)

M&E data will be collected and reported through methods identified as most appropriate for Technical Partners to support monitoring at all levels. The following reports will be provided by Impact and Accelerator Partners: Annual Work Plan and Budget; Bi-annual Project Progress Report; Quarterly Financial Report; Annual adaptive management workshop; and all partners will participate in independent, external Mid-term and Terminal Evaluations of the project.

Incremental Cost Reasoning

27. This project is built on lessons by other previous interventions in the project areas and on flood management. The project will build on the experiences and lessons learned of other projects that have worked to establish DNRM in other geographic areas and integrate the knowledge of best practices for wetland management and sustainable adaptation of production practices and flood management attained through other projects working in these thematic areas.

28. As explained in section A.8, the baseline projects particularly do not create synergies between urban and peri urban zones of Dakar and the Niayes. Therefore, the project will bring value added in addressing response to address climate change stressors together with anthropogenic stressors in wetland areas, which are an important part of the resource base upon which local communities depend. These wetlands also play a significant role in the provisioning of multiple services (e.g., microclimate, water and food provisioning) and preserving biodiversity. Without the specific response proposed by this LDCF project and its ecosystem-based approach to building resilience, infrastructure development would likely continue to be the main response to the impacts of climate variability and change, including desertification, within the area of project intervention.
29. Another value added of the project to the overall portfolio of work on flood management and wetlands management in Senegal, where the response to climate change has been largely at national level, the focus on local level with local stakeholders is an incentive for the ownership of the process. In addition, choosing the NbS as solutions for flood management will provide an important learning opportunity for strategic approaches that can be replicated in other sites.
30. Component 1. The development of local planning documents are limited by the access to hydrological and climate data. Therefore, the LDCF intervention seeks to address these gaps. By building institutional capacity and integrating climate adaptation into local level, the project will provide local stakeholders with the opportunity to develop integrated flood risk management that will fits their needs. Indeed, under the ACGI framework, local stakeholders will be able to water issues in relation to climate change. Again, this component will aim to raise ownership of local stakeholders.
31. Component 2 addresses the challenges faced by local governments, primarily due to limited institutional and technical capacity for implementing flood management activities. Additionally promote NbS concept in flood management process is fairly new in Senegal—under this component Under this component, decentralized governance structures will be established and have their mandates officially recognized per the legal framework . This provides an important framework to develop a series of management tools and implement priority actions that are critical to pro-actively manage resources in the face of climate variability and social changes (e.g., demographic growth, urbanization). With the creation of local stakeholders management structures (CCPL and AGCI), the project will call for extensive consultations and capacities building activities to ensure ownership of the local stakeholders. Besides, vulnerable groups will be involved and be empowered to undertake this responsibility.
32. Component 3 highlights that, without LDCF support, livelihoods opportunities will be unsustainable with no resilience benefit for the populations. Therefore, adaptation and diversification of income-generating activities through NbS solutions are compatible with the sustainable use of wetland ecosystems and biodiversity. LDCF support will advance the adoption of NbS at the local level, promoting climate-resilient livelihood options within communities, with an emphasis on sustainable market linkages, value chains, and community enterprises. In addition, a better understanding of flood management, ecosystems services degradation and the effects of CC will raise for local communities.
33. Component 4 emphasizes that, without LDCF investment, the lack of access to and availability of information on sustainable NbS solutions and financing will persist. As a result, without LDCF intervention, a lack of awareness and understanding of NbS continues to prevail at the community level as well as among sub- national government authorities, private sector entities, and other land-use actors. The LDCF's intervention will address these gaps by enhancing access to information on sustainable adaptation solutions and disseminating lessons learned.

Stakeholder Engagement & GESI

34. The project will engage a broad spectrum of stakeholders throughout its preparation, implementation, and dissemination phases. These stakeholders include national ministries, decentralized agencies at communal level, UN and international development agencies, civil society organizations, the private sector, academic institutions, community groups, and marginalized groups. This inclusive engagement ensures diverse perspectives, equitable participation, and the promotion of gender equality, enriching the project's overall impact. Special attention will be given to ensuring that women and youth, particularly from vulnerable communities, are actively involved in decision-making processes and

benefit equitably from the project's outcomes. The potential roles of these stakeholders are detailed in the table below, while the gender empowerment related aspects will be further developed during the PPG phase.

35. The Ministry of Environment and Ecological Transition (METE Ministère de l'Environnement et de la Transition Ecologique) Through the Climate change, Transition, and green finance Directorate (Direction du Changement climatique, de la Transition et des financements verts (DCCTEFV)) will serve as the Implementing Partner, leading the project at the national and sub-national levels. This includes coordinating consultations, advising on project design and government co-financing, and managing project execution. The project will focus on 10 sites in urban and peri urban Dakar and the Niayes , where women, youth and marginalized groups (including people with disabilities) are most affected by climate change, ensuring that they are directly involved in and benefit from the project. Furthermore, the project emphasizes the importance of gender-responsive stakeholder empowerment through collaborative decision-making and capacity-building initiatives. By establishing transparent communication channels and feedback mechanisms, the project aims to align with stakeholders' evolving needs and foster shared success. Detailed strategies for stakeholder and gender empowerment will be developed during the PPG phase and included in the Stakeholder Analysis & Engagement Plan, and Gender Action Plan. Initial consultations have commenced and will continue throughout the project. Stakeholders, including those with traditional knowledge and women's groups, will play a crucial role in sustainable practices, especially with regards to NbS application and sustainable livelihood options. Engagement with the private sector, will be promoted to develop green businesses. Universities, academic institutions, and civil society organizations will contribute to scientific research, technical innovation, and Monitoring, Evaluation, and Learning (MEL).

Table 4: Indicative roles of identified key stakeholder groups during project implementation

Stakeholder	Potential role in project or other forms of engagement
Ministry of Environment and Ecological Transition (METE Ministère de l'Environnement et de la Transition Ecologique)	Responsible for the project implementation and establish linkages with other Ministries • Provide technical direction • Support establishment of CCLP and AGCI • Outreach with other ministerial departments , public institutions, academic or research institutions, NGOs, etc • Replication and institutional sustainability • Beneficiaries of capacity building activities
CC transition and green finance Directorate (Direction du Changement climatique, de la Transition et des financements verts (DCCTEFV))	• As National Project Director, will assume leadership in project development and implementation at project sites, as well as monitoring and evaluation of all activities
Others METE directorate (Direction des Parcs Nationaux (DPN), Aires Marines Protégées (AMP)...) ANACIM	• Will provide technical advice • Provisioning of Technical support or being beneficiaries of capacity building activities • Define agenda for and represent different sectors within the project activities according to national priorities • Support establishment of CCLP • Participate in CCLP
Other ministerial departments and other public institutions including Ministère agriculture, Ministère de l'urbanisme, Ministère de l'hydraulique et de l'assainissement (DGPRE), DGPI...) ANACIM	• Will provide technical

	• Provisioning of Technical support or being beneficiaries of capacity building activities • Define agenda for and represent different sectors within the project activities according to national priorities • Support establishment of CCLP • Participate in CCLP
Decentralized state departments (ARD, DRDR etc..)	• Set regional and local agenda and priorities • Recognize official mandate of CCLP and AGCI • Beneficiaries of capacity building activities
Decentralized Authorities (Mairies, communes, collectivités locales etc...)	• Set regional and local agenda and priorities • Recognize official mandate of CCBV and ALGRN • Beneficiaries of capacity building activities
Academic or research institutions (IED, CSE...)	• Members of committee of stakeholders to oversee the establishment and management of the wetland information system • Sources of knowledge on NbS and best practices , wetlands management and urban planning • Provisioning of technical support
Banks (ex. LBA)	• Partnership with the project team in order to set up credit schemes for small producers in the frame of the project. The project could facilitate investment in innovative techniques or for highly vulnerable beneficiaries through risk management mechanisms (such as matching grants, guarantees, etc.)
Non-governmental organizations	• Source of knowledge • Participants in committee of stakeholders to oversee the establishment and sustainable management of the wetland information system • Provisioning of Technical support or being beneficiaries of capacity building activities (i.e., trainings, exchange visits)
Urban and peri urban population of the project sites	• Key local stakeholders • Representatives on AGCI • Active participants in negotiations to establish rules for Sustainable flood management • Sources of knowledge • Based on their needs, beneficiaries of capacity building activities (i.e., sensitization on sustainable flood management)
Farmer organisations, cooperatives	• Key local stakeholders • Representatives on AGCI • Active participants in negotiations to establish rules for natural resource use • Sources of knowledge • Responsible for adhering to regulations on natural resource use and implementation of adapted production practices

	Based on their needs, beneficiaries of capacity building activities (i.e., trainings (including sensitization on sustainable flood management, exchange visits, small grants)
Community- based organizations	- Specific roles to be defined at project inception, based on identified needs - Represent community members interests in the project - Mobilizing community members to implement activities - Specific to each organization, they will be responsible for adhering to regulations on natural resource use and implementation of adapted production practices - Based on their needs, beneficiaries of capacity building activities (i.e., trainings, equipment, small grants)
Individual stakeholders	- Specific roles to be defined at project inception, based on identified needs - Based on their needs (as identified through stakeholder consultation, value chain analyses, etc.), beneficiaries of capacity building activities (i.e., trainings, equipment, small grants)
Other ongoing or planned projects	- Sources of information on experiences and lessons learned - Potential opportunities for collaboration to maximize impacts, replication and sustainability - Potential source of co-financing

Adaptation benefits

36. Predicted floods in urban and peri-urban zone of Dakar and degradation of the Niayes wetlands will reduce livelihoods capacity of the communities unless adaptation measures including innovative NbS approaches are undertaken. The project addresses the vulnerability of local communities in urban and peri urban zones of Dakar and the Niayes to climate change. This region is particularly vulnerable to floods. Recurrent floods for decades in the project zone is the result of heavy rains and uncontrolled urbanization. Increasing permeable surface/ground cover in urban and peri urban zones and restoring wetlands and land degradation is therefore fundamental for reducing the effects of climate change and negative impacts on local community livelihoods. Sustainable management of Floods through NbS is also cost-effective. In addition, ecosystems services for air regulation, water regulation, erosion control, waste treatment, pollination, biological control, food production and recreation will be restored. Populations living in urban and peri urban in flood prone zones are among the most vulnerable and live in a poor service environment (insufficient drainage infrastructure, poor discharge of solid waste). The extensive benefits that can be provided by this project ensure that the cost of investment will be far outweighed by the development and adaptation benefits gained.
37. The project area will be affected by an increased frequency, intensity and increased occurrence of floods which will place increased strain on already the Niayes wetlands and local communities living in these ecosystems. The project will increase climate-resilient sustainable development by reducing the impacts of climate-induced flooding in urban and peri-urban areas. This project will demonstrate NbS for avoided flood losses in the project zone that will affect a paradigm shift in urban flood management. The project will effect this paradigm shift by: i) strengthening technical capacity of government for flood-resilient development, the use of urban NbS and embedding Flood management in existing planning and frameworks; ii) demonstrating the multiple benefits of integrated flood management and urban NbS interventions for flood management; iii) establishing knowledge management practices and strengthening coordination mechanisms to enable the future adaptive management of urban areas to reduce flood impacts under climate change conditions; and iv) identifying sustainable financing options for integrated flood management.
38. In addition, the LDCF project will result in tangible adaptation benefits. Local communities in urban and peri-urban zones and the Niayes are directly reliant on these ecosystems for their livelihoods. The maintenance of these ecosystems is not only vital for the survival of local

communities but for regulating climatic conditions and buffering communities from extreme climatic events. The specific adaptation benefits of the LDCF project include: i) reduction of ecosystem vulnerability; ii) decreased erosion; iii) maintenance of ecosystem services including forage for agriculture; iv) protection of habitats for biodiversity; and iv) the provision of alternative livelihood options empowering women e.g. non-timber forest products. With NbS at the core of the project, the project will not only generate adaptation benefits, but will provide mitigation through carbon sequestration, the sustainable use of natural resources.

Innovation, Scaling-Up, and Global Environmental Benefits (GEBs)

39. The project aims to achieve sustainable flood management and strengthening the availability of water resources for the development of agroecology while simultaneously contributing to the national economy and poverty reduction. More specifically, the project will seek to address (i) Degradation of wetlands ecosystems (through restoration of ecosystems services; (ii) scarcity and declining quality of water resource for agriculture activities; (iii) Declining of agriculture lands within wetlands; (iv) Declining soil fertility, (v) sustainable flood management approach through NbS initiatives, and (vi) Deterioration in the livelihoods of local populations, particularly women and youth. The project is also anchored with Global Biodiversity Framework (GBF) in relation to its targets: (i) reduce threats to biodiversity, (ii) meeting people's needs through sustainable use and benefit-sharing and (iii) setting implementation and integration tools and solutions.

40. The project is dedicated to promoting innovation in GESI-responsive ecosystem-based adaptation, with the goal of driving systemic change, enhancing environmental resilience, and improving community livelihoods. This strategy involves the active participation of a diverse range of stakeholders, particularly small farmers, women and youth, local populations, and marginalized groups, to foster innovative local adaptation efforts and generate co-benefits for mitigation. Key innovations include:

- Integrated approach for flood control through nature-based solutions: NbS measures will be identified wetlands to be preserved or managed to maximize ecosystem services for flood control in consultation with vulnerable communities, municipal services and institutions in charge of civil security and infrastructure. And in addition, NbS will be integrated into urban planning
- Sustainable rainwater harvesting practices for better flood management: supporting shared management mechanisms of water resources and the search for activities that will enable each sector to reduce their consumption and facilitate the infiltration of surface water In the urban or peri-urban flood zones of Dakar
- **Comité Coordination local du projet - CCLP** in each of the selected sites : these committees aim to strengthen coordination, planning, policy setting and monitoring of each project sites activities at local (site) level. These committees will strengthen coordination among the related sectors ensuring a more cohesive and holistic approach to climate adaptation.
- **Establishment of** multi-stakeholder associations - **AGCI (association de gestion communautaire et institutionnelle)** at project sites : these associations will involve engaging with a broad and inclusive array of stakeholders Natural to better understand Resource Management (DNRM) framework and to address any further questions or concerns stakeholders may during project development/implementation. These associations will strengthen coordination among the different sectors towards a more integrated approach Flood ecosystem management within project sites.
- **Strengthen flood governance at the project site level:** establish integrated management of the project sites in order to ensure the sustainability of project activities and to conduct consultations through the user system under the AGCI framework.
- Enhancing climate adaptation and mitigation: The project will maximize climate adaptation impacts and achieve mitigation co-benefits by piloting GESI-responsive NbS initiatives in target districts, with a focus on integrated watershed management and strategies to enhance community livelihood resilience.
- Leveraging sustainable financing: By enabling responsible value chains at the landscape level, the project will leverage sustainable financing NbS initiatives, contributing to the resilience of local livelihoods.

Meaningful stakeholder engagement: The project will foster enhanced stakeholder engagement and collaboration, promoting cross-sectoral coordination across different jurisdictions. Development of partnerships with the banking system

to facilitate the scaling up of best practices and structure a banking offering tailored to sustainable agriculture in the Niayes region.

41. The project will have the following co-benefits

- **Economic co-benefits:** The wetland and urban retention basins covered in the project will likely generate different values due to differences in site biophysical characteristics and use of services by communities around them. NbS intervention that will be proposed for this project will have net positive economic impacts because of their low cost and high potential for reducing expected economic losses caused by flooding.
- **Environmental co-benefits:** The proposed project will use an ecosystem-based approach to urban flood management, focusing on the rehabilitation of Niayes wetland ecosystems to maximise the provision of ecosystem services. This approach will catalyse several environmental co-benefits, as listed below.:
 - *Biodiversity and Conservation* — The rehabilitation of wetland and urban stream ecosystems will improve biodiversity in urban and peri-urban areas. This will include providing suitable habitat for a range of aquatic and terrestrial animals which are of both environmental and social importance, such as fish and migratory birds. The development of wetland and stream management plans and models will ensure that biodiversity is protected and maintained over the long term. In addition, restoring habitats will improve the ecosystem services provided to local communities — such as the use of streams for fishing resources — subsequently contributing to improved livelihoods.
 - *Water quantity management* — The restoration of vegetation in wetland and urban ecosystems will reduce runoff and increase groundwater infiltration during intense rainfall events. This will not only reduce flood impacts but will also increase groundwater availability during dry periods and reduce the amount of water discharged into urban waterways.
 - *Water quality management* — Restored wetland ecosystems will act as natural filters, treating urban effluent through processes of retention, absorption and chemical re-composition. Furthermore, urban ecosystems will capture sediment, thereby improving the quality of water entering urban waterways and reducing siltation.
 - *Natural resource availability* — Improved aquatic biodiversity and ecosystem health will increase fish yields for urban residents supplementing their food and livelihoods with fishing. Fish is an important source of protein in the country. Communities, even in urban and peri-urban areas, are dependent on ecosystem services for medicines, herbs, and wild food such as snails from wetlands.
- **Social co-benefits:** Several social co-benefits will be derived from project interventions, increasing the liveability of urban areas in Senegal as follows:
 - *Health benefits* — Several health risks are connected to people's exposure to urban waterways and flood waters, including the transmission of water- and vector-borne diseases that result from contaminated water resources. NbS interventions will reduce these risks to urban residents by improving water quality as well as reducing the extent of flooding.
 - *Cultural values* — Increased habitat area will strengthen traditional livelihoods dependent on natural resources. Livelihoods that will particularly benefit from NbS interventions include traditional smallholder farming, fishing and livestock grazing. Reductions in flood impacts will also safeguard traditional agricultural practices in flood-prone areas
 - *Social cohesion* — Coordinated land use within communities increases social cohesion and improves the management of land and natural resources. Participatory land-use planning with community representatives and other stakeholders will be undertaken during the development of wetland and stream management plans. Such planning will leverage communities' existing knowledge and practices, support village governance and encourage community involvement in monitoring and management of land use activities.
 - *Job creation* — wetland and urban retention basins rehabilitation work and the maintenance of urban NbS interventions in general will create sustainable jobs for local communities. In addition to the direct social benefits mentioned above, promoting the establishment of urban green spaces in future development has the potential to catalyse positive social change. Such spaces have been shown to improve psychological well-being and social cohesion.

- **Gender-sensitive development impact:** Women are particularly vulnerable to flood impacts, considering their role as primary caregivers. In response to this vulnerability, proposed project activities will be undertaken in a gender-sensitive manner and will directly contribute to alleviating existing gender inequalities. This will be achieved in part through two primary pathways, described below.
 - *Inequalities in employment* — Women have been identified as being less likely to secure formal employment than men. For this reason, contractors undertaking project design, construction and maintenance activities will be required to demonstrate compliance with the proposed project's Gender Action Plan (GAP).
 - *Increased climate awareness* — The awareness-raising campaign will include the National Women's Union as a primary partner. In this way, FEM funds will be used to raise women's awareness of climate change impacts and flooding. The campaign will also recommend a diversification of women's livelihoods as they are frequently dependent on gardening in the project zone.

Knowledge Management

42. The LDCF investment includes provisions for "Knowledge Management (K/M)." The project will develop a robust K/M mechanism to facilitate collaboration and learning among diverse stakeholders, including policymakers, practitioners, researchers, community-based organizations, and the private sector. This system will ensure effective dissemination of the knowledge gained during the project, helping stakeholders monitor progress and make informed decisions. The K/M mechanism will promote adaptive learning, enhancing stakeholders' ability to respond to evolving conditions. It will foster collaboration through knowledge-sharing networks and platforms, addressing climate-related challenges collectively. Lessons learned and experiences from knowledge exchanges will refine project interventions and support scaling-up efforts, ensuring that the project's impact extends beyond its immediate scope.

Policy Strengthening and Coherence

43. The project proposes an innovative adaptation approach that, on the one hand, capitalizes on the lessons learned from its previous GEF-funded projects in the area. The project, while drawing on these good practices, will propose new nature-based solutions to contribute to the management of flood problems and the development of smart agriculture. In addition, the project will put in place local flood management unit that will enable to address the recurrent flood management issue in a more sustainable way.

[1] Anna Balez et Juliette Reunkrilerk, « Écosystèmes et territoires urbains : impossible conciliation ? », Développement durable et territoires [En ligne], Vol. 4, n°2 | Juillet 2013, mis en ligne le 16 juillet 2013, URL : <http://journals.openedition.org/developpementdurable/9853> ; DOI : 10.4000/developpementdurable.9853

[2] [Nature-based Solutions as a Path to Coastal Resilience in West Africa: Launching the NbS Inventory and Impact Study | WACA](#) ; [Strengthening Community Resilience to Flood Risks through Ecosystem-Based Adaptation in Thiès, Senegal - Global EbA Fund](#) ; [Senegal: Fighting erosion with Nature-Based Solutions | PreventionWeb](#) ; [Measuring and strengthening resilience to floods in Senegal - Zurich Climate Resilience Alliance](#) ;

[3] <https://globalebafund.org/fr/projet/renforcer-la-resilience-des-communautes-aux-risques-dinondation-grace-a-une-adaptation-ecosystemique-a-thies-au-senegal/>

[4] Principle: The private sector pays for services provided by resilient ecosystems (e.g forests that protect a company's watersheds)

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

No - GEF agency will not play an execution role.

The project will build on existing baseline activities and investments from project partners, while also establishing new partnerships and strengthening existing ones to ensure the sustainability of its outcomes. The project will actively seek co-financing opportunities and collaborate with potential implementation partners. It will also draw insights from related initiatives to improve its strategies. Several key initiatives (Table 3 under section A.8 baseline projects) have been identified for partnership development, and additional ones will be explored during the PPG phase. This collaborative approach is designed to enhance impact, facilitate knowledge exchange, and support the long-term sustainability of the project's results.

Overall implementation Arrangement

1. The Climate change, Transition, and green finance Directorate (Direction du Changement climatique, de la Transition et des financements verts (DCCTEFV)) within the Ministry of Environment and Ecological Transition (METE Ministère de l'Environnement et de la Transition Ecologique), will have overall responsibility for the execution and technical accountability of the project. The DCCTEFV will act as the lead executing agency and will be responsible for the day-to-day management of the project's results, in full compliance with all the terms and conditions of the Operational Partnership Agreement signed with the UNDP. The DCCTEFV will be designated as the National Project Director (NPD) and will chair the Monitoring and Steering Committee (MSC), which will be the main governing body of the project. This MSC will be made up of representatives of the METE and other METE directorates (e.g. DAMP, DPN), Other ministerial departments and other public institutions including Ministère agriculture, Ministère de l'urbanisme, Ministère de l'hydraulique et de l'assainissement (DGPPE), DGPI, ONAS, OLAC, ADM, protection Civile); ANACIM; OLAC, ADM and decentralized state departments (ARD, DRDR etc...), decentralized authorities from designated beneficiary project sites (Mairies, communes, collectivités locales), academic or research Institutions (IED, CSE...), traditional and religious authorities,) and other community associations to be identified, representatives of NGOs active in the project area and partners, and the private sector. The DCCTEFV as the implementing entity of the Project , will sign partnership agreement with each partner institution in order to increase ownership and accountability towards the project results.

Planned Cooperation with Other Relevant Projects and Initiatives

2. The project will build on existing baseline activities and investments from project partners, while also establishing new partnerships and strengthening existing ones to ensure the sustainability of its outcomes. The project will actively seek co-financing opportunities and collaborate with potential implementation partners. It will also draw insights from related initiatives to improve its strategies. Several key initiatives (Table 3 under section A.8 baseline projects) have been identified for partnership development, and additional ones will be explored during the PPG phase. This collaborative approach is designed to enhance impact, facilitate knowledge exchange, and support the long-term sustainability of the project's results.

Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

LDCF true	SCCF-B (Window B) on technology transfer false	SCCF-A (Window-A) on climate Change adaptation false
Is this project LDCF SCCF challenge program? false		
This Project involves at least one small island developing State(SIDS). false		
This Project involves at least one fragile and conflict affected state. false		

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

true

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

true

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
false	false	false

This Project has an urban focus.

true

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

false

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

Agriculture	0.00%
Nature-based management	80.00%
Climate information services	0.00%
Coastal zone management	0.00%
Water resources management	20.00%
Disaster risk management	0.00%
Other infrastructure	0.00%
Tourism	0.00%
Health	0.00%
Other (Please specify comments)	0.00%
Total	100.00%

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

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
false	true	true	false
Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity	
true	false	false	

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	362,882	181,441.00	181,441.00	50.00%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	25,000.00 0.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	15.00			

CORE INDICATOR 4 Number of people trained or with awareness raised	2,000	1,000.00	1,000.00	50.00%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience	200.00			

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Substantial	The project involves areas prone to climate hazards, including recurrent flooding in particular in urban and peri urban zones. Proposed project activities, including the restoration of targeted ecosystems (Outcome 1) and the implementation of sustainable livelihood and income-generating activities (Outcome 2) are vulnerable to the effects of climate change. Mitigation: Project activities that are particularly sensitive to climate conditions will be carefully scheduled considering weather forecasts. This risk will be assessed as part of an Environment Safeguard Management Framework during the PPG to help determine appropriate management measures for this risk (e.g. ESIA).
Environmental and Social	Substantial	Environmental risks: , Unintended adverse effects on local biodiversity and ecosystems - may be moderate and should be considered during the PPG phase. Social risks: Peri-urbanization poses problems of coexistence between stakeholders and land uses in the project zone , therefore social conflicts use of resources is judged substantial The risk on Communities Health and safety is judged substantial du to disruptions during implementation of field activities and long-term exposure to health and safety risks for local communities. Gender and vulnerable populations exclusion: There is a risk that because of existing marginalization dynamics locally, the project excludes most of vulnerable populations (women and youth in particular) living in the peri-urban and urban zone of Dakar from the project activities. Women and youth may not be fully involved in the project's activities and vulnerable populations may not be willing to engage in entrepreneurship. Mitigation • As far as invasive alien plant (IAPS) are concerned, The ProDoc will promote the use of native species and locally adapted crop cultivars, with absolutely no introduction of Invasive Alien Species. • All activities of the project under component 3 will have a strong focus on women and youth with the prioritization of support for project development provided for this category of the population and gender-equity awareness activities will be provided. • Awareness raising and specific incentives through micro-finance institutions will be necessary to attract investment and entrepreneurship. During the PPG phase, a detailed Environmental and Social Screening

		Procedure (SESP) will be completed, and an Environmental and Social Management Framework (ESMF) will be developed which will be one of the key outputs of the PPG. This ESMF will provide an analysis of anticipated/potential risks and impacts and will outline steps for further assessment and mitigation measures which may need to be developed under implementation. In addition, a Gender Assessment and Action Plan (GAAP) to ensure project interventions are gender-responsive and inclusive of all minority groups.
Political and Governance	Moderate	Political instability: project actors will not be able to fully perform their role, which may hamper or slow down the implementation of the activities. Governance: The institutional context governing flood management in Senegal is fragmented with many overlaps, In addition, at local level, communities and local institutions are fully involved in existing initiatives. Mitigation: • Capacity building activities will be organized for partners to enable them to adapt to changes to project environment and risks. Moreover, the UN is actively engaged in supporting the dialogue at the national and regional level. • Extensive capacity building to local institutions and communities on flood management through NbS will be undertaken.

INNOVATION

Institutional and Policy	Moderate	Context: Senegal's flood management policies are fragmented across ministries (Environment, Urban Planning, Agriculture, Water, etc.), with weak horizontal integration and limited municipal enforcement capacity. There is a risk that innovative NbS are not formally mainstreamed into planning frameworks or are undermined by shifting political priorities or weak coordination. Mitigation: • Support multi-stakeholder governance platforms linking municipal, regional, and national actors. • Align project interventions with the NAP, NDC, and existing flood management plans (PROGEP, DGPI frameworks). • Capacity-building for municipal authorities to integrate NbS into local development plans. • Policy dialogue to embed NbS in land-use and urban planning legislation.
Technological	Moderate	Context: The project proposes innovative NbS technologies (e.g., wetland rehabilitation with specific plant species, rainwater harvesting, permeable urban surfaces, and CRA value chains). These approaches are relatively new in urban Dakar and the Niayes, and their performance in flood-prone, highly urbanized contexts is untested. Risks include technology failure, poor adaptation to local hydrological conditions, or lack of technical know-how. Mitigation: • Conduct pilots and feasibility studies before scaling up. • Combine NbS with traditional "grey" infrastructure where appropriate to reduce risk. • Provide technical training and establish demonstration sites to build local capacity.
Financial and Business Model	Substantial	Context: The project relies on scaling NbS and green entrepreneurship models, including smallholder market gardening, ecotourism, and biodiversity-based value chains. However, private-sector engagement in NbS is still weak in Senegal, with limited enabling conditions, financing

		instruments, and capacity among SMEs/GPFs/GIEs. There is a risk that innovative business models may fail to attract sustainable investment, limiting replication. Mitigation: • Provide capacity-building on business planning, financial literacy, and value chain development for community groups. • Pilot blended-finance approaches and explore links with climate finance facilities (e.g., Green Climate Fund, national climate funds). • De-risk private sector participation through targeted grants and technical assistance.
EXECUTION		
Capacity	Moderate	Lack of coordination among different national/ subnational government institutions agriculture, risk prevention, water management.) Mitigation: • The project will fully engage targeted institutions and local communities for the implementation of the landscape restoration activities, which is essential to the long-term sustainability of the LDCF investment.
Fiduciary	Moderate	Financial sustainability: Project activities and in particular green enterprises based on nature-based solutions may not be financially sustained after the end of the project. Mitigation: • The sustainability of the project will be guaranteed by a multi-level capacity development approach, in which not only the system level but also organizational and individual capacities are developed. The involvement of the private sector in local public-private partnerships will also attract private investment for the strengthening of sustainable value chains • Training and capacity-building activities developed under the project will ensure that local community members are upskilled to maintain project equipment and infrastructure beyond the project life cycle. • Activities relating to flood management will be monitored by local committees to ensure the sustainability of the project • Activities relating to enhanced livelihood opportunities, value chain-development and technical assistance will support the sustainable maintenance of restored and managed ecosystems and increase income. This impact will contribute to the sustainability of the project interventions in the long-term.
Stakeholder	Moderate	Insufficient community ownership and involvement: the implementation of effective Nature -based solutions for flood management needs a participatory approach Mitigation: • Technical capacities will be provided to project beneficiaries to maintain introduced equipment, infrastructure and practices • Strong stakeholder engagement and transparent governance frameworks are essential. Elaboration of a stakeholder engagement plan (SEP) that will establish a framework for stakeholder engagement and consultation throughout the life cycle of the project.
Other		N/A
Overall Risk Rating	Substantial	The overall risk rating for the project on account of climate and environmental and social risks.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

C.1 Alignment to GEF-8 PROGRAMMING STRATEGIES

1. The proposed LDCF project is aligned with GEF-8 programming themes, the project is fully aligned with the GEF-8 LDCF focal areas and strategic directions, particularly in the following ways:
2. **Scaling up finance and investments:** The project promotes the larger-scale development of agroecological practices resilient to climate change and that have significant added value to connect them to rural finance actors (banks, microfinance). The programme would support capacity building, business linkages and possible derisking measures to promote entrepreneurship and banking attractiveness. It also supports institutional frameworks to mainstream NbS into national and local planning, creating enabling conditions for future financing from domestic and international sources. The targeted investments would cover various links in the market gardening value chain, including the production of adapted inputs and association with small-scale livestock farming, to facilitate the inclusion of young or female entrepreneurs. By supporting income-generating activities and improving access to markets, the project builds the foundation for longer-term, self-sustaining investments in climate adaptation.
3. **Whole-of-society approach:** The project emphasizes shared management mechanisms of water resources and inclusive engagement of most vulnerable populations (targeting women, youth, and other marginalized groups through gender-responsive planning, participatory governance structures (e.g., coordination committees (*Comité local Coordination du projet - CLCP*) & *AGCI (association de gestion communautaire et institutionnelle)*). It adopts Free, Prior and Informed Consent (FPIC), ensures 50% female and 30% of youth participation in the project set up committees, and promotes decentralized flood management in the Urban and peri-urban Dakar and the Niayes reflecting a strong commitment to leaving no one behind. In addition, this integrated approach to address flooding issue in peri-urban areas, between agricultural constraints and housing constraints, also demonstrates an innovative approach.
4. **Resilience through ecosystem-based adaptation and NbS:** The core of the project focuses on the preservation of ecosystems in the Niayes and the control of flood risks through NbS to increase resilience of the populations and the wetlands, including resilient agro ecological practices, preservation and management of wetlands (maximise ecosystem services for flood control), creation of buffer zones protection, and urban planning integrating NbS and IWRM planning at local level. These actions directly align with the LDCF objective to enhance the resilience of vulnerable ecosystems and populations through ecosystem-based adaptation approaches.
5. **Strengthening capacity and knowledge for long-term impact:** By embedding knowledge management, peer learning, and adaptive capacity building across components, the project ensures that adaptation results are sustained and scaled. It integrates NbS into urban planning frameworks and supports institutional capacity at national and local levels, aligning with the LDCF priority on capacity development and institutional strengthening.
6. The project aims to strengthen resilience in urban and peri urban Daka and the Niayes by integrating GESI-responsive Nature based Solutions (NbS) solutions in Flood management and IRWM. This aligns directly with the GEF LDCF strategies, particularly by focusing on preservation and management of wetlands in order to maximise ecosystem services for flood control. The project contributes to Theme 1 by promoting climate-smart agriculture and sustainable financing, which will help increase food security and enhance local resilience. It also aligns with Theme 2 through the restoration and rehabilitation of 10,000 hectares wetlands ecosystems, 5,000 ha in urban and peri urban and 10,000 ha of agriculture land within the Niayes, improving therefore water conservation, and reducing climate risks (flood in particular). In alignment with Theme 3, the project will also establish and implement NbS measures within urban and peri urban prone flood zones and integration of NbS into urban planning and IRWM and flood management. Lastly, the establishment of robust monitoring and evaluation procedures, which include a Grievance Redress Mechanism and various safeguard plans to manage environmental and social risks will be developed during the PPG phase.

C.2 ALIGNEMENT TO COUNTRY/REGIONAL STRATEGIES

7. This project is aligned with Senegal's Nationally Determined Contribution (NDC, 2020) and sectoral adaptation plans for the agriculture and flood management sector. It will place particular emphasis on vulnerabilities noted in the health sector. In addition, the project will align with identified sectoral policies such of water and sanitation management, risk disaster management as shown in the table below.

Table 5: List of national strategies

Policy	Description	Project's alignment/linkages
The Emerging Senegal Plan (PSE)	An ambitious vision of economic well-being, broken down into a ten-year strategy and five-year priority action plans (PAP II 2019-2023). The PSE focuses on wealth and job creation, strengthening governance, and developing strategic sectors that have a significant impact on improving the well-being of the population, particularly through the protection of vulnerable groups and the guarantee of universal access to essential basic services.	The proposed project is consistent with the PSE, to which it contributes by helping to achieve its objectives, in particular by supporting the country's sustainable development goals through ecosystem restoration, climate resilience.
Sectoral Policy Letter for Agricultural Development (LPSDA) 2019–2023	Agricultural development is based on: 'Building a productive, competitive, diversified, and sustainable agriculture. The overall objective pursued by the LPSDA for the period 2019-2023 is to make Senegalese agriculture productive, competitive, diversified, and sustainable, in order to provide stable agricultural incomes for stakeholders and drive economic and social development. To achieve the overall objective, four specific objectives have been identified, namely: (i) increasing agricultural production and productivity; (ii) diversifying agricultural crops and production systems; (iii) strengthening agricultural services; and (iv) improving governance in the sector.	The proposed project will contribute to the LPSDA by Increasing agricultural productivity through sustainable practices and diversified income sources; The approach uses by the proposed project by Building resilience to climate change by promoting climate-smart agriculture and agroforestry; and Supporting the development of sustainable livelihoods and green entrepreneurship in rural communities, complies with LPSDA

National Strategy for Food Security and Resilience (SNSAR) 2015-2035	The national food security and resilience strategy has the following objectives: • Establish an appropriate framework for coordinating the currently scattered interventions in the area of food security and resilience by providing the State and stakeholders with a tool for coordinating and managing the policy defined in this framework; • Set out the main strategic guidelines and priorities for food security and resilience, and build interventions around a set of coordinated initiatives combining immediate and direct implementation actions (rapid response approach) with medium- and long-term actions (sustainable development approach); • Take into account the dimension of protecting the livelihoods of rural populations by strengthening their productive capacities and resilience to shocks.	The proposed project will contribute significantly to National Strategy for Food Security and Resilience (SNSAR) by: Increasing agricultural productivity through sustainable practices and diversified income sources; The proposed project will have an impact on enhancing food and nutritional security by improving the availability and diversity of food through NbS. By strengthening resilience to climate change for the flood prone areas populations and wetland ecosystems by promoting climate-smart agriculture and agroforestry; and Supporting the development of sustainable livelihoods and green entrepreneurship in urban and peri urban Dakar and the Niayes.
Senegal's Forest Policy (2005-2025)	The objective of Senegal's forest policy is to contribute significantly to poverty reduction through the conservation and sustainable management of forest potential, in particular through the coherent implementation of decentralization and cooperation policies within the framework of local and international agreements and subregional partnerships. Senegal's Forest Policy follows on from the Senegal Forest Action Plan (PAFS), which is an extension of the 1982 Forest Development Master Plan.	The project will comply with forest policy, in particular through the preservation of natural resources.
The Sector Development Policy Letter (LPSD) for the water and sanitation sector	Sanitation Sector aims to contribute to the achievement of the sustainable development goals by 2030, namely universal access to drinking water and sanitation. Among the four strategic orientations (OS) defined by the LPSD is 'sustainable improvement of the environment and living conditions through the development of access to sanitation services by seeking to promote the value chain approach and involving all stakeholders, including the private sector' (SO4). The specific objective of SO4 is 'to improve, by 2025, sustainable and secure access to. sanitation by implementing the investments and services necessary to ensure adequate management of wastewater, excreta, and stormwater.	The project's intervention is fully in line with the objectives of the LPSD. Indeed, the overall impact of the project will be to improve the living conditions of the urban and peri urban populations including sanitation and water management context.
The Livestock Development Policy Letter (LPDE)	Alongside agriculture, the livestock sub-sector is the second pillar of the country's social and economic fabric, due to its current and expected impact on growth and poverty reduction. The overall objective of livestock policy is to maximize the wealth creation potential of this sub-sector.	The proposed project will contribute to the LPDE by improving animal production through sustainable practices; Building resilience of ecosystem services will contribute the objectives of LPDE.

	The following four sectoral objectives have been identified Improve animal production; Secure livestock farming; Improve marketing conditions ; Strengthen the institutional framework.	
The Fisheries Development Policy Letter and the Operational Plan for Aquaculture Development	The strategic objectives assigned to the sub-sector in the sectoral policy letter on fisheries and aquaculture are: (i) Ensure sustainable management and restoration of fishery resources; (ii) Meet domestic demand for fishery products; (iii) Enhance the value of fishery resources and modernize small-scale fishing; (iv) Promote the professionalization and qualification of sector stakeholders; (v) Improve the financing system for fishing and aquaculture activities. To achieve these objectives, an 'Action Plan for the Development of Fisheries and an Operational Plan for the Development of Aquaculture' have been drawn up around the following main priorities: - Sustainable management and restoration of fishery resources: - Adjustment of sea fishing capacity; - Promotion and marketing of fishery products; - Enhancement of the seabed	The proposed project will contribute to the LPDE by ensuring sustainable management and restoration of fishery resources in wetland ecosystems.
National Wetlands Management Policy (PNZH)	The overall objective of the PNZH is to contribute to the sustainable management of wetlands with a view to achieving food security, economic growth, and improving the living environment and standard of living of the population. The six (6) strategic priorities are: Improving knowledge of wetlands for sustainable conservation and use; Restoration and sustainable conservation of wetlands; Improving sustainable uses of wetlands; - Improving governance and synergy of actions; Strengthening individual, institutional, and systemic capacities of stakeholders; Sustainable valuation of wetland resources and functions	The proposed project will contribute to the PNZH in restoring biodiversity, targeting mainly wetlands, to compensate for the low productivity of traditional farming systems in arid areas. The project will strengthen stakeholders capacities in wetland ecosystem restoration.
Tourism development policy	The main priorities are promoting Senegal as a tourist destination and developing new tourist areas. Seaside tourism plays a key role, with the establishment of SAPCO and the development of tourist sites along the coast, such as Saly, Mbodiène, Somone, and Cap Skirring, in addition to new facilities currently under construction along the entire coast. These facilities have ended up disfiguring the landscape, as they are	The proposed project will contribute to the Tourism development policy by developing and restoring new tourist areas in a sustainable way through restoration of ecosystem services.

	located directly on the seafront with private beaches and associated infrastructure and facilities. Furthermore, there is little respect for safety rules in terms of risk management and natural disasters. No landscape measures are often taken to ensure the conservation of resources and the landscape, with urban planning often taking precedence over everything else.	
The National Strategy for Gender Equality and Equity (SNEEG)	This strategy aims to make Senegal an emerging country, free from discrimination, where men and women have the same opportunities to participate in its development and enjoy the benefits of its growth. The consideration of vulnerable individuals and groups in the implementation of project activities is fully in line with Senegal's gender strategy, which attaches paramount importance to improving the socio-economic conditions of poor and disadvantaged population groups.	The proposed project will contribute to the SNEEG throughout the project cycle. Thus, most vulnerable populations will be involved in all the project activities. In particular, the proposed project will ensure participation of most vulnerable representatives within the established committees and under component 2 (livelihoods, value chain and green entrepreneurship through NbS).
The National Waste Management Program (PNGD)	defined as a federative mechanism for the interventions necessary for integrated and sustainable solid waste management. The overall objective is to support local authorities in improving their living environment.	The project will indirectly address the issue of waste management, which is a major concern for the municipalities covered by the project. Indeed, the sites of the basins are often used by the population as garbage dumps.
National Health Development Plan 2009-2018	The National Health Development Plan 2009-2018 is based on the vision of a Senegal where all individuals, households and communities have universal access to quality promotional, preventive, curative, and rehabilitative health services without any form of exclusion and where they are guaranteed a level of health that is economically and socially productive. The implementation of this plan is part of the achievement of national and international health objectives, particularly the PRSP and MDG targets. More specifically, the objectives are: (i) to reduce the burden maternal and child morbidity and mortality; (ii) Improve the performance of the sector in disease prevention and control; (iii) Sustainably strengthen the health system; (iv) Improving governance in the health sector.	The proposed project aligns with and supports the objectives of the Senegal National Health Policy by: Improving environmental health through better water quality, reduced waste, and restore ecosystems services; Enhancing food security and nutrition by promoting diversified, nutritious food sources and sustainable farming.
Environmental policy		
The National Sustainable Development Strategy (SNDD)	Its objective is to ensure consistency between policies, strategies, and programs, and to promote better synergy between various actions. This strategy is divided into six major areas, including the promotion of balanced and harmonious development and the strengthening of measures, policies, and actions that can contribute to the achievement of the Sustainable Development Goals (SDGs).	The project is in line with the SNDD and promotes sustainable development in its area of intervention.
National Climate Change Adaptation Plan (PANA)	Senegal's National Climate Change Adaptation Plan (PANA) was developed in 2006 by the Ministry of Environment and Nature Protection. It was developed following an analysis of sectors vulnerable to climate change, as part of a participatory process within a multidisciplinary team, the PANA identified four priority programs relating to: (i) the development of agroforestry; (ii) the rational use of water; (iii) coastal	The proposed project will significantly contribute to Senegal's National Adaptation Programme of Action (NAPA) by: Restoring ecosystems through nature-based solutions like reforestation and river basin restoration; Empowering local communities to manage and restore their natural resources in a sustainable manner; Strengthening the capacity of national and local institutions to integrate nature-based solutions into environmental governance.

	protection coastal protection; and (iv) public awareness and education.	
The Nationally Determined Contribution (NDC)	the NDC's main objective is to build on the achievements of the Intended Nationally Determined Contribution (INDC) regarding GHG emission reduction commitments and update them, in line with the country's commitment under the Paris Agreement, by responding to the need to update the data used in the preparation of the NDC and by taking priority adaptation measures. The NDC is part of Senegal's development plans and sectoral programs for the sustainable management of natural and environmental resources.	The project is fully in line with the objectives of the NDC. Thus the project will contribute to NDC through Enhancing climate resilience through ecosystem restoration, sustainable water management, and climate-resilient farming practices; Mitigating climate change by promoting carbon sequestration, reducing deforestation, and implementing low-carbon livelihood options; Building capacity for stakeholders at the local and national levels to implement climate change strategies effectively; Promoting gender equality and social inclusion by ensuring that vulnerable groups are engaged in climate adaptation efforts.
National Adaptation plan for agriculture (NAP)	The overall objective of the NAP-Agriculture is to increase resilience and adaptive capacity to the impacts of climate change by facilitating the coherent and sustainable integration of adaptation into policies, programs, development planning, and budgeting in the agriculture sector. The specific objectives of the NAP are: 1. Improve the resilience of production systems; 2. Generate knowledge for risk management and vulnerability in the sector; 3. Strengthen governance and strategic steering of adaptation in the sector.	The project is fully in line with the objectives of the NAP agriculture, in particular under component 2. Thus, the project will contribute to NAP agriculture through climate-resilient farming practices; and implementing low-carbon livelihood options; Building capacity for stakeholders at the local and national levels to implement climate change strategies effectively;
The National Program for the Prevention and Reduction of Major Risks and Natural Disaster Management (2012-2022),	led by the Civil Protection Directorate (DPC), aims to provide a sustainable solution to recurring flooding in certain areas of the country.	The project contributes to the achievement of this program's objectives through its 'disaster risk prevention and reduction' component.
The Master Plan for Urban Development in Dakar and its Surroundings - Horizon 2035:	Among other areas, the plan covers the sanitation network and urban risk and disaster management, including flooding, with the specific objectives of 'preventing flood damage through non-structural and structural measures.' This plan proposes both flood prevention and urban restructuring measures for better land use. In terms of environmental management, the plan recommends the following mitigation measures: i) - maintaining watersheds in their natural state to ensure the recharge of surface and groundwater; ii) - developing natural areas within urban centers to preserve biodiversity.	the project is fully consistent with the Master Plan for Urban Development in Dakar and its Surroundings - Horizon 2035 and contributes to the achievement of its objectives through its Flood management and ecosystems preservation through NbS.
The Strategy and Action Plan for Biodiversity Conservation	As part of the implementation of the international convention on biodiversity conservation, Senegal has developed a Strategy and Action Plan for Biodiversity Conservation, adopted in 1998, with the common objective of restoring the essential balances needed to ensure sustainable development for the country.	The proposed project will contribute significantly to the Strategy and Action Plan for Biodiversity conservation. In its implementation, the proposed project will need to take into account 'biodiversity conservation,' which is one of the strategic objectives of the Biodiversity Conservation Action Plan. The project will support the restoration and conservation of ecosystems; Promoting sustainable NbS practices that integrate biodiversity conservation into Flood management and agriculture activities.
The National Strategy for Adaptation to Climate Change (SNMO)	This is part of the program of activities developed by Senegal since the 1992 Rio conference and aims to strengthen the resilience and adaptive capacity of populations to climate change.	By intervening in areas prone to flooding, the project is fully in line with the SNMO's guidelines and objectives.

The Master Plan for the Development and Protection of the Niayes and Green Areas of Dakar (PDAS)	the Master Plan for the Development and Protection of the Niayes and Green Areas of Dakar (PDAS), has the following objectives: Develop green corridors connecting different facilities; Preserve and enhance the depression ecosystem of the Niayes and green areas; develop and strengthen urban agriculture; integrate authorized construction. in green areas; develop outdoor green spaces (parks, planted areas, esplanades, pedestrian streets , , etc.); establish a pedestrian and bicycle network with landscaping and accompanying green links; restore natural ventilation conditions ventilation conditions from the coastal fringes towards the city; enhance and expand wooded and landscaped areas.	The proposed project will significantly contribute to the PDAS by enhancing ecosystem services, developing NbS practices for flood management and rainwater collection in urban and peri urban Dakar and the Niayes. The Proposed project will also strengthen institutional capacity for climate governance and ensuring the integration of NbS into urban planning and project sites.
The 2010 Priority Action Program for Flood Prevention (PAPI)	The overall objective of the program is to find effective and sustainable solutions to flooding problems throughout the country and particularly in the Dakar region. The specific objectives of the program are to: - establish an effective institutional framework for flood management; - update existing studies and carry out additional studies; - provide adequate rainwater drainage systems in areas that lack them; - rehabilitate and reinforce existing sanitation facilities; - strengthen alternative sanitation techniques (retention basins); - develop natural storage areas for runoff water; - make sufficient financial resources available to stakeholders; - raise awareness among the population about the proper use of existing facilities and about the need to implement and flood risk; - relocate populations living in flooded areas to resettlement sites; - demolish illegal structures; - develop, secure, and prohibit the reoccupation of vacated sites.	The proposed project will contribute to the PAPI by developing and implementing sustainable mechanism for flood management through NbS in urban and peri urban Dakar and the Niayes. In addition, the proposed project will strengthen local stakeholders capacities in flood management at local level

8. Senegal is a signatory a large range of international and regional agreements. Among them, the most relevant international and regional agreements to the proposed LDCF project include in the Table below:

Table 6: International and regional agreements

Title	Relevance to the project	Date of ratification by Senegal
United Nations Framework Convention on Climate Change (UNFCCC) signed in June 1992	The project activities will increase the resilience of populations to the effects of climate change.	Ratified on June 14, 1994
Convention on Biological Diversity signed in June 1992	The project activities will preserve /increase biodiversity of the Niayes ecosystems	Ratified on June 14, 1994
Convention on Wetlands of International Importance, especially as Waterfowl Habitat, known as the 'RAMSAR Convention.' A Protocol amending this Convention was adopted and entered into force on October 1, 1986.	Activities must take into account the preservation of natural resources in The Niayes	Adopted and entered into force on October 1, 1986
Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters	Project activities will increase the resilience of populations to floods	Adopted on January 22, 2005
African Convention on the Protection of Natural Resources, adopted in Algiers on March 15, 1968, revised in Maputo in 2003	The project will preserve natural resources in The Niayes	Ratified in 1971
Convention concerning the Protection of the World Cultural and Natural Heritage adopted in Paris on November 16, 1972	World Cultural and Natural Heritage Convention adopted in Paris on November 16, 1972. The project does not cross any specific cultural heritage sites. However, in the event of accidental discovery of any remains, the national procedure must be followed.	February 13, 1976
African Charter on Human and Peoples' Rights signed in Nairobi, Kenya, on June 21, 1981	The project, which has the potential to generate jobs during the construction phase, will respect the right of populations to live in a healthy environment and will recommend measures to prohibit all forms of exploitation and degradation of human beings, including slavery, human trafficking, physical or mental torture, and cruel, inhuman or degrading treatment or punishment.	Ratified on August 13, 1982.
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.	With the implementation of the project, the use of chemicals for the maintenance and upkeep of structures in the operational phase will take this convention into account.	Ratified on July 20, 2001
Stockholm Convention on the Protection of Human Health and the Environment from Persistent Organic Pollutants (POPs)	Organic waste from construction work (demolition, excavation, digging, etc.) must be treated in a specific manner.	Ratified on May 28, 2003
International Labor Organization (ILO) Convention No. 155 concerning Occupational Safety and Health	The project will ensure the application of legislative provisions relating to occupational safety and health and promote exchanges between the various actors in the workplace.	March 1, 2021
International Labor Organization (ILO) Convention No. 161 concerning occupational health services	Construction companies must establish occupational health services for all workers, including those in the public sector, through adequate provisions and measures appropriate to the specific risks.	01.03.2021 The convention will enter into force for Senegal on 01.03.2022
The Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography, adopted in 1989. (May 25, 2000, ratified on October 31, 2003), Article 1 of which commits States Parties to prohibit the sale of children, child prostitution, and child pornography.	The proposed project will take measures to prevent trafficking in persons, especially women and children.	October 31, 2003
The African Charter on the Rights and Welfare of the Child, adopted in Addis Ababa in July 1990	The proposed project will take measures to prevent trafficking in persons, especially women and children.	Ratified on September 29, 1996. Ratified.
The Protocol establishing an African Court as an organ for the promotion and protection of human rights and the rights of peoples	The proposed project will take measures to prevent trafficking in persons, especially women and children.	Adopted on June 10, 1998, entered into force on January 25, 2004

The Solemn Declaration on Equality between Men and Women in Africa, of the African Union of July 8, 2004.	The proposed project will take measures to prevent trafficking in persons, especially women and children.	Adopted on June 10, 1998, entered into force on January 25, 2004
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9. The project will mainly impact on the SDGs 1, 2, 5, 7, 13, 15 and 17. All of the project's objectives contribute to poverty reduction and improve the livelihood of beneficiaries' populations. Through its integrated approach, the project will take gender into account in its implementation. In addition, the gender-related commitments deemed relevant are related to the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol), equal pay protections, and eliminating violence against women and girls. The Maputo Protocol enshrines comprehensive rights and the equality of women in the Law.
10. The project contributes to the Kumming-Montreal Global Biodiversity Framework through **Target 2 (restore 30% of degraded ecosystems (terrestrial, inland water, coastal, marine))** with the restoration of 10,000 hectares of degraded wetland ecosystem in the Niayes. This directly supports the goal to restore at least 30% of degraded ecosystems globally. It also contributes to **Target 11 (Restore and enhance nature's contributions to people)**, enhancing ecosystem services such as water filtration and flood regulation. In addition, the project contribute to target 10 (Sustainable use of biodiversity in agriculture, forestry, and fisheries), target 20 (Strengthen capacity-building, technology transfer, and innovation) and target 23 (Gender equality and the role of women and youth in biodiversity) through the rehabilitation of the ecosystems and gender-responsive approaches.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

1. During the PIF phase, a field mission was organized from 7 April to 18 April 2025 for stakeholder consultations in order to (1) present the main project orientations and different development phases of the PIF; (2) and (3) collect data /information related to the project in the potential project zone. The first phase Interviews have been undertaken in Dakar, followed from 7 to 10 April, followed by a field mission from 10 to 16 April in Thiès, Saint and Louga (see table 7 field mission interviews).

Table 7: Field mission interviews

Date (year 2025)	Location	Institutions	Observation
April ,7–10	Dakar		
		Central Ministries directorates	Flood Prevention and Management Directorate (DPGI); National Civil Aviation and Meteorology Agency (ANACIM) Ministry of Agriculture, Food Sovereignty and Livestock (Livestock Directorate); Directorate for Water Resources Management and Protection (DGPPE); National Parks Directorate; Ministry of Agriculture, Food Sovereignty and Livestock (Agriculture Directorate); Directorate General of Urban Planning and Architecture, Urban Planning and Regulation Division (Ministry of Urban Planning, Housing, and Public Hygiene)
		Decentralized Authorities	Mayor of Greater Dakar; BARGNY Town Hall
		Research Institutes	Innovations Environnement Développement (IED)
		Other projects	SAGA/SCALA
		International organizations	UNDP – Matam Office; FAO
		Credit institution	La Banque Agricole (LBA)
April 10–11	Thiès		
		Community/farmers' organizations	Union of Farmers' Groups of Niayes; Association of Market Gardeners' Unions of Niayes (AUMN);
		Decentralized state departments	Regional Development Agency (ARD); Regional Directorate for Rural Development (DRDR);
		Decentralized authorities	Mayor of Notto Gouye DIAMA; Mayor of Taiba NDIAYE
April 12–14	Saint-Louis		
		Decentralized state departments	Regional Directorate for Rural Development (DRDR); Regional Development Agency (ARD); <i>Regional Water and Forestry Inspectorate</i> (IREF); National Company for the Development and Exploitation of Land in the Senegal River Delta and the Senegal and Falémé River Valleys (SAED)
		Decentralized Authorities	Saint-Louis City Hall;
		Community/Farmers organizations	REFANI (Network of Women Farmers in the North);
April 15–16	Louga		
		Decentralized state departments	<i>Regional Water and Forestry Inspectorate</i> (IREF); Regional Rural Development Directorate (DRDR); Regional Development Agency (ARD)
		Decentralized Authorities	Louga Town Hall;
		Community/Farmers organizations	SOCOOPA POP PRO (women farmers' organization)
April, 17	Feedback Workshop		
April , 24			
	Visit sites	Peri-urban & Niayes sites	Keur Massar; Lac Rose; Technopole
		Research institute	Ecological Monitoring Center (CSE); DAMP
	WhatsApp	NGOs	ENDA PRONAT/DYTAES
April , 25			
	WhatsApp	NGOs	ENDA Energy

2. In addition, a wrap up workshop was organized with more than 30 participants to present the main results of the field mission on Thursday 17 April 2025 (see table 8 Feedback workshop).

Table 8: Feedback workshop participants

Type of stakeholder engaged	Stakeholder(s)
National Government	Ministry of environment and ecological transition (METE): directorate of climate change, ecological transition and green financing (DCCTEFV); directorate of environment and classified establishments (DREEC, thiès); directorate of water, forests, hunting and soil conservation (DEFCCS) Ministry of the interior and public security (MISP): directorate of civil protection; Ministry of infrastructure and land transport: directorate general of land transport (DGTT) Ministry of hydraulics and sanitation: directorate of flood prevention and management Ministry of livestock and animal production: directorate of livestock (DIREL) Ministry of hydraulics and sanitation: directorate of water resources management and planning National company for the development and Exploitation of Land in the Senegal River Delta and the Senegal and Falemé River Valleys (SAED), Saint Louis
Decentralized state entities	Directorate of Environment and Classified Establishments (DREEC, Thiès); Directorate of Scientific and Technical Research (Saint Louis);
Research institute	Senegalese Institute for Agricultural Research (ISRA); <i>National Council for Rural Consultation and Cooperation (CNCR)</i> (Thiès);
NGO/Private sector	La Banque Agricole (LBA); Association of West African Women (AFAO); DIRECT/DAKAR; SOCOPA (Louga); AMD (Louga)
Professional groups	Union of Farmers' Groups of Meckhé (UGPM)
Development agencies	Development Agency United Nations Development Program (UNDP); FAO
Decentralized authorities	Deputy Mayor of Louga; municipality of Bargny; Taiba Ndiaye Town Hall; Pikine;

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
UNDP	LDCF	Senegal	Climate Change	LDCF Country allocation	Grant	8,932,420.00	848,580.00	9,781,000.00
Total GEF Resources (\$)						8,932,420.00	848,580.00	9,781,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

200000

PPG Agency Fee (\$)

19000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNDP	LDCF	Senegal	Climate Change	LDCF Country allocation	Grant	200,000.00	19,000.00	219,000.00
Total PPG Amount (\$)						200,000.00	19,000.00	219,000.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources					0.00

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCA-1-1	LDCF	5,932,420.00	36000000
CCA-1-2	LDCF	1,500,000.00	6800000
CCA-1-3	LDCF	1,500,000.00	6800000
Total Project Cost		8,932,420.00	49,600,000.00

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP	Grant	Investment mobilized	2100000
GEF Agency	AfDB	Grant	Investment mobilized	29700000
GEF Agency	International Development Agency (IDA), World Bank	Public Investment	Investment mobilized	5000000
Donor Agency	GCF	Grant	Investment mobilized	800000
Recipient Country Government	GCF	Public Investment	Investment mobilized	5000000
Recipient Country Government	Senegalese Agency for reforestation and the Great Green Wall (ASERGMV) Government of Senegal	Public Investment	Investment mobilized	7000000
Total Co-financing				49,600,000.00

Describe how any "Investment Mobilized" was identified

UNDP: The co-financing will support the establishment of resilient development hubs and the preservation of biodiversity in, among others, the Saint Louis region, contributing to component 2 and component 3 of this initiative. In addition, the SCALA

phase II project implemented by UNDP will contribute to component 3 through technical assistance on resilient value chain development, private sector engagement and access to finance.

AfDB: The project PROVALE includes investments in climate-resilient and sustainable agricultural infrastructure and value chain interventions in support of component 2 and component 3 of the LDCF investment.

International Development Agency (IDA), World Bank: The Senegal River Valley Resilience and community Development funded by IDA will improve subregional integration and the socioeconomic and climate resilience of targeted communities, contributing to component 2 (60%) and component 3 (40%) of this LDC investment.

GCF: The Project "linking national and subnational adaptation planning in Senegal" funded by GCF will strengthen institutional coordination and governance for adaptation planning and adaptation finance, contributing to component 1 (50%), component 2 (25%) and component 3 (25%) of this LDCF investment.

GCF: Naatangué Integrated Family and Village Farm Scaling-up project funded by GCF will strengthen food security while promoting rural job creation particularly for young people and women and ensuring the preservation of ecosystems, contributing to component 2 (40%) and component 3 (60%) of this LDC investment.

Government of Senegal: The Project to improve the resilience of ecosystems and communities to climate change along the GMV route (PAREC) funded by the ASERGMV includes investment in gender-responsive good agricultural practices in the Louga administrative region and the Niayes specifically. It will contribute to component 2 of the LDCF investment.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

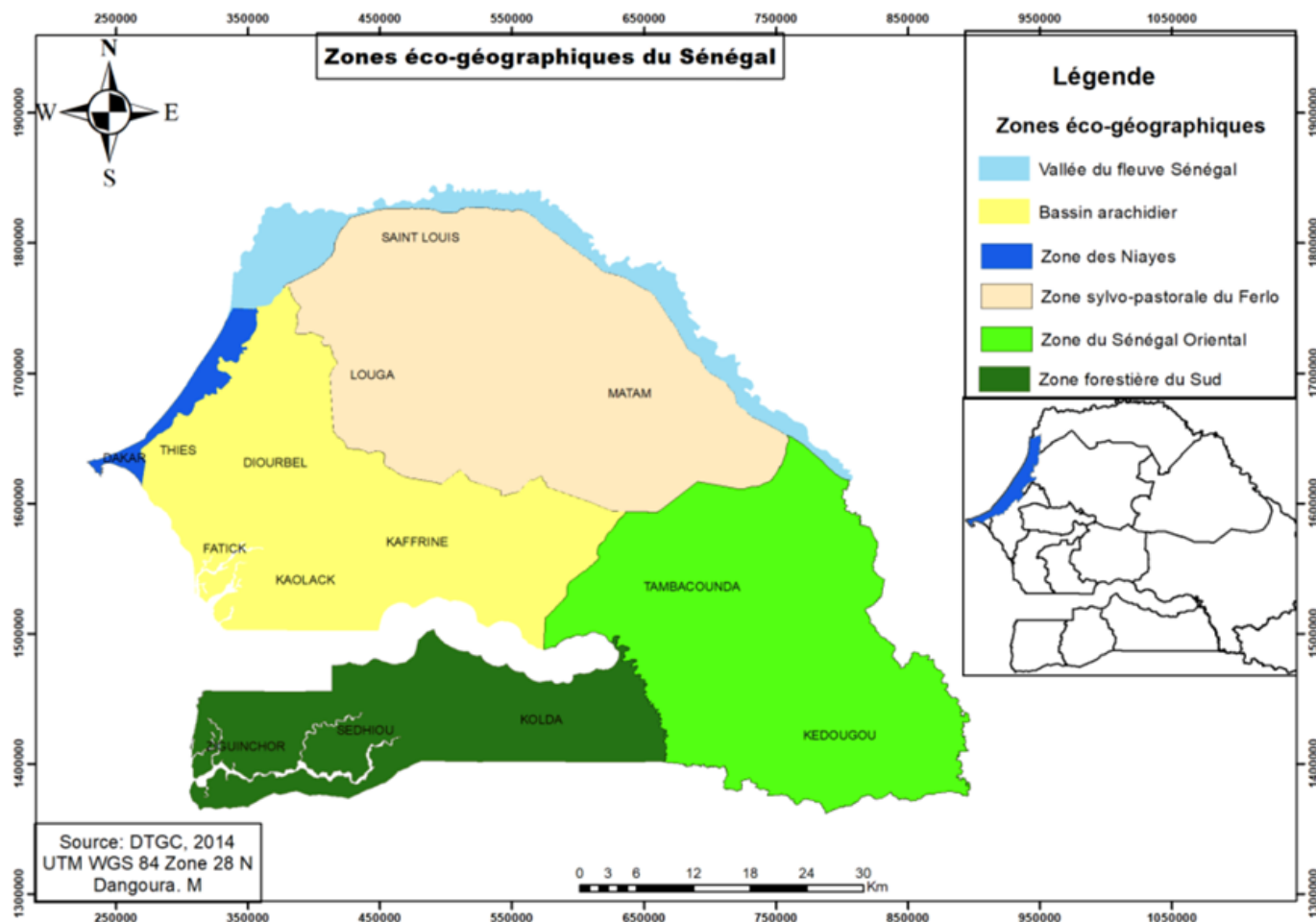
GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	UNDP	9/12/2025	Nancy Benett		nancy.bennet@undp.org
Project Coordinator	UNDP	9/12/2025	Julien Simery		julien.simery@undp.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Mr. Baba Drame	Directeur de l'Environnement et des Etablissements classes	Ministere de l'Environnement et du Developpement Durable	9/16/2025

ANNEX C: PROJECT LOCATION

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



Site	Geonames ID	Brief description
Dakar	2253354	Region
Thiès	2244802	Region
Saint-Louis	2246452	Region
Louga	2249221	Region

Coordinates

Geographical coordinates	in	decimal degrees	(WGS84)
Latitude	:		14.867
Longitude	:		-15.683
Geographical coordinates	in	degrees minutes seconds	(WGS84)
Latitude	:	14 52'	00"
Longitude	:	-15 41' 00"	

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

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ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	Principal Objective 2	Significant Objective 1	Significant Objective 1

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models	Transform policy and regulatory environments	Convene multi-stakeholder alliances	
	Strengthen institutional capacity/decision-making		
	Convene multi -stakeholder alliances		
Stakeholders			
		SMEs; individuals/Entrepreneurs (including women and youth)	
		Community based organizations, farmers, herders, fishermen, nurserymen ...	
		NGOs	
		Information dissemination	
		Partnership	
		Consultation	
		Participation	
	Communications	Awareness raising	
Capacity, Knowledge and Research	Capacity development		
	Enabling Activities		
	Knowledge Generation &Exchange	Knowledge management	
		capacity development;	
		Learning	
	Learning	Theory of change	
		Adaptative Management	
	Stakeholder Engagement Plan		
Gender Equality	Gender mainstreaming	Beneficiaries	
		Women groups	
		Sex-disaggregated indicators	
		Gender-sensitive indicators	
	Gender results areas	Access to benefits and services	
		Access and control over natural resources	
		Participation and leadership	
		Awareness raising	
Focal Area/Theme	Integrated programs	Food security in Sub-Sahara Africa	Resilience (climate and shocks)
			Agroecosystems
			Land and soil health

			Diversified Farming
			Smallholder Farming
			Small and Medium Enterprises
			Food value chain
			Gender dimensions
		Food systems, land use and restoration	Land and soil health
			Integrated land and water management
			Small and medium enterprises
			Landscape restoration
			Smallholder farmers
	Biodiversity	Protected areas and landscapes	Integrated landscapes
			Food value chains
		Mainstreaming	Terrestrial protected areas
			Community Based Natural resource management
			Tourism
	Forest	Forest and landscape restoration	
	Land Degradation	Sustainable land management	Restoration and rehabilitation of degraded lands
		Land degradation neutrality	Sustainable livelihoods
			Income generating activities
			Improved soil and water techniques
			Sustainable pasture management
	Climate Change	Climate Change Adaptation	Land productivity
			Least developed countries
			Climate resilience
			Nature-based Solution Adaptation
			Community-based adaptation
			Livelihoods