Part I: Project Information

GEF ID
11010

Project Type
MSP

Type of Trust Fund
LDCF

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

Project Title
Building smallholder farmers resilience through climate smart agriculture techniques in Oio and cacheu north regions in Guinea Bissau

Countries
Guinea-Bissau

Agency(ies)
BOAD

Other Executing Partner(s)
Ministry of Agriculture and Rural Development / Ministry of Environment and Biodiversity

Executing Partner Type
Government

GEF Focal Area
Climate Change

Sector
Mixed & Others

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Small Island Developing States, Ecosystem-based Adaptation, Climate finance, Climate resilience, Adaptation Tech Transfer, Livelihoods, Innovation, Least Developed Countries, Disaster risk management, Land Degradation, Sustainable Land Management, Improved Soil and Water Management Techniques, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Ecosystem Approach, Influencing models, Demonstrate innovative approache, Strengthen institutional capacity and decision-making, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Beneficiaries, Communications, Awareness Raising, Local Communities, Type of Engagement, Information Dissemination, Consultation, Participation, Gender Equality, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Access and control over natural resources, Access to benefits and services, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Enabling Activities

Rio Markers

Climate Change Mitigation

No Contribution 0

Climate Change Adaptation

Principal Objective 2

Biodiversity

Land Degradation

Submission Date

2/16/2023

Expected Implementation Start

6/3/2024

Expected Completion Date

6/30/2027

Duration

36In Months

Agency Fee($)

160,000.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCA-1	CCA-1 - Reduce Vulnerability and Increase Resilience through Innovation and Technology Transfer for Climate Change Adaptation	LDCF	1,400,000.00	6,000,000.00
CCA-2	CCA-2 - Mainstream Climate Change Adaptation and Resilience for Systemic Impact	LDCF	600,000.00	2,000,000.00
		Total Project Cost($)	**2,000,000.00**	**8,000,000.00**

B. Project description summary

Project Objective

Build smallholder farmers resilience through climate smart agriculture techniques

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Strengthening the agriculture resilience to climate change	Investment	1.1. Climate smart agriculture techniques implemented	1.1.1 Implementation of climate-smart agriculture techniques and technologies 1.1.2. Restoration of degraded agricultural land with an ecosystem-based adaptation approach	LDCF	1,560,000.00	7,000,000.00
2. Building Farmers? technical capacity to implement CSA?s techniques and technologies	Technical Assistance	2.1. CSA?s techniques and technologies implemented by Farmers' groups	2.1.1 Technical capacity building trainings on climate-smart agriculture techniques 2.1.2 : Provision of agroclimatic and meteorological information and early warnings for groups of farmers.	LDCF	200,000.00	200,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. Knowledge and lessons learned dissemination	Technical Assistance	3.1.CSA?s knowledge and lessons learned compiled and disseminated	3.1.1. Project monitoring and evaluation for lessons and knowledge compilation 3.1.2 Project knowledge and lessons learned dissemination 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plan	LDCF	100,000.00	250,000.00
			Sub Total ($)		**1,860,000.00**	**7,450,000.00**

Project Management Cost (PMC)		
LDCF	140,000.00	550,000.00
Sub Total($)	**140,000.00**	**550,000.00**
Total Project Cost($)	**2,000,000.00**	**8,000,000.00**

Please provide justification

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Planning	In-kind	Recurrent expenditures	100,000.00
GEF Agency	BOAD, through "Projet d?Appui ? l?Intensification de la Production Vivri?re" (PAIPV)	Loans	Investment mobilized	7,900,000.00
			Total Co-Financing($)	**8,000,000.00**

Describe how any "Investment Mobilized" was identified

Co-financing was identified during the implementation of the ?Projet d?appui ? l?Intensification de la Production Vivri?re ? PAIPV? implemented by GEF Agency, BOAD. Investment mobilization has been conducted as part of the project design through virtual meetings and physical meetings conducted by the BOAD with stakeholders in close collaboration with the Recipient Government agencies. It totals USD 8 million and includes: i) USD 100,000 as recurrent expenditures from the Ministry of Planning as the recipient country government; ii) USD 7,900,000 as a loan from the BOAD. A letter of notification of the co-financing by BOAD is included in Annex P to this project document.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
BOAD	LDCF	Guinea-Bissau	Climate Change	NA	2,000,000	160,000	2,160,000.00
			Total Grant Resources($)		**2,000,000.00**	**160,000.00**	**2,160,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

3,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
BOAD	LDCF	Guinea-Bissau	Climate Change	NA	50,000	3,750	**53,750.00**
			Total Project Costs($)		**50,000.00**	**3,750.00**	**53,750.00**

Please provide justification

The resources are needed to conduct part of the feasibility and ESIA studies, as well as the MSP formulation.

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). true

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

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

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

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This Project has an urban focus. false

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

Agriculture	**60.00%**
Natural resources management	**0.00%**
Climate information services	**10.00%**
Coastal zone management	**0.00%**
Water resources management	**30.00%**
Disaster risk management	**0.00%**
Other infrastructure	**0.00%**
Health	**0.00%**
Other (Please specify:)	**0.00%**
Total	**100%**

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

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

Core Indicators - LDCF

CORE INDICATOR 1

Total
Male
Female
% for Women
Total number of direct beneficiaries
9,800
6,370
3,430
35.00%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

250.00

CORE INDICATOR 3

Total no. of policies/plans that will mainstream climate resilience

7

CORE INDICATOR 4

Male

Female

% for Women

Total number of people trained

9,800

6,370

3,430

35.00%

To calculate the core indicators, please refer to Results Guidance

OBJECTIVE 1

Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaption

OUTCOME 1.1

Technologies and innovative solutions piloted or deployed to reduce climate-related risks and / or enhance resilience

View

OUTCOME 1.2

Innovative financial instruments and investment models enabled or introduced to enhance climate resilience

View

OBJECTIVE 2

Mainstream climate change adaption and resilience for systemic impact

OUTCOME 2.1

Strengthened cross-sectoral mechanisms to mainstream climate adaption and resilience

View

OUTCOME 2.2

Adaptation considerations mainstreamed into investments

View

OUTCOME 2.3

Institutional and human capacities strengthened to identify and implement adaptation measures

View

OBJECTIVE 3

Foster enabling conditions for effective and integrated climate change adaption

OUTCOME 3.1

Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.2

Increased ability of country to access and/or manage climate finance or other relevant, largescale, pragmatic investment, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.3

Institutional and human capacities strengthened to identify and implement adaptation measures as a support to NAP process and/or for enabling activities in response to COP guidance

View

Part II. Project Justification

1a. Project Description

A more complete and detailed description of the context has been formulated (1a. Project description; 1) Global environmental and/or adaptation issues, root causes and barriers that need to be addressed). Paragraphs related to gender equality, food security, political and institutional situation were added. These additional sections are considerations that are deemed important for defining the actions and intervention strategy in order to achieve the initiative's objectives and ensure sustainability of its impacts. The global environmental and/or adaptation issues, root causes and barriers remain the same as those described in the PIF, namely Guinea-Bissau's development context, climate change and vulnerability. The result is a deterioration of water and soil resources, the two production factors of the agricultural ecosystems valued by the small producers (M/F). Nevertheless, a fourth barrier was identified, namely the profound inequalities between men and women in terms of access to resources and sustainable ecosystem management mechanisms, accelerating social inequalities and exposing women and youth to increased poverty and food insecurity. Women and youth are important pillars of change and ownership. It is fundamental to be aware of their roles as vectors of development and improvement of their communities' living conditions. In addition to the risk of reinforcing it, not taking this barrier into account would compromise the achievement of the initiative's results. This barrier has been integrated in a transversal way into the alternative scenario to ensure the inclusion of vulnerable groups throughout the project by respecting and protecting their rights, strengthening their skills and capacities, and ensuring their participation in decision-making instances. Without inducing new components or outputs, the lifting of this barrier will be made possible by the integration of gender in all activities. This defines the intervention strategy and is ensured through the implementation of the gender action plan.

1.a.1. Global environmental and/or adaptation issues, root causes and barriers that need to be addressed

General context of Guinea-Bissau

The development context

Guinea-Bissau is one of the poorest countries in the world with an estimated population of 1.92 million in 2019 according to the World Bank. The population is projected to be 2.46 million in 2030; 3.56 million in 2050 and 5.71 million in 2100. The annual growth rate of the population is 2.4%. Despite the strong urbanization in recent years, about 56% of the population still lives in rural areas. In 2018, 47.7% of Bissau-Guineans lived below the poverty line, according to the World Bank [1]. The country's economy, food security and the livelihoods of rural communities are extremely vulnerable to the effects of climate change.

Socio-economic context

Socio-economic activities

The country's main socio-economic activities are based on the exploitation of agricultural, fisheries, forestry, livestock and mining resources. Agriculture is the main economic sector in Guinea-Bissau, employing 82% of the active population and generating 45% of GDP as well as the majority of export earnings. The cultivated area covers about 200,000 hectares out of a total arable area of 1,500,000 hectares, or 13.3% of the cultivable land. The agricultural sector is dominated by two (2) crops: rice, which is an ancestral traditional food crop, and cashew nuts, which is a cash crop that has only recently been developed. At the same time, a series of additional food crops are grown (millet, sorghum, maize, cassava, sweet potatoes and groundnuts) as well as fruit trees, including mango, citrus and banana.

Rice accounts for 75% of cereal production and is consumed by about 90% of households. National production covers only 47% of needs and is essentially intended for self-consumption. More than 60% of the rice produced in Guinea-Bissau comes from mangrove ecosystems, while plateau rice is grown in smaller proportions in the plains. The stagnation of mangrove rice production can be explained by the development of cashew nut cultivation, which is less labor intensive and more profitable in the short term; by the gradual erosion of traditional know-how; by the rural exodus of young people, which is significant in some areas; and by the degradation of land and facilities linked to poor practices, including the excessive use of chemical inputs and poor water management on the plains and cultivated areas. However, in the Cacheu and Oio regions, the strong cultural attachments of the Ballantes[1][1] farmers to rice cultivation have helped to maintain a significant rice production potential. Rice cultivation is closely linked to cashew cultivation. Rice campaigns are supported by income from the sale of cashew nuts to purchase production inputs and to pay for labor (rice perimeter development, plowing and harvesting). Over the past decade, the balance between these two crops has been compromised by the expansion of cashew monoculture, which has resulted in the clearing of land for new crops and the encroachment of land previously used for food crops.

However, income from cashew sales is dependent on external market prices and fluctuations in the value of the Central African franc (CFA) against the dollar. Moreover, for several consecutive years, cashew nut sales prices have been unfavorable. Food security is strongly negatively impacted by this situation. In addition, the lack of renewal of cashew trees will constitute a major obstacle to production in the absence of better management, while the occurrence of an epidemic could be catastrophic. New cashew orchards are not assisted by governmental services, leading commonly to orchards that do not respect minimum technical requirements such as spacing, which, in turn, reduces the productivity of the plantations. Besides that, it?s also common to see orchards near rice fields, which contributes strongly for the sedimentation of those fields. Low agricultural diversification also contributes to the vulnerability of communities and the national economy.

Women and young women actively participate in the implementation of agricultural activities, whether in rice growing through the establishment of nurseries, transplanting of rice seedlings in the plots, transport of the rice harvest to the village and its valorization (threshing and shelling); in market gardening, which they carry out entirely until the sale of products in local markets; in horticulture for the harvesting of cashew nuts together with men; for other activities such as salt farming. In the same way, young men participate in agricultural activities thanks to their labor force through the realization of development work on the cultivated perimeters (installation of ring dikes and secondary dikes, work group for the harvest of rice, etc.). However, women and youth are the main groups whose work is largely underestimated, which has a direct impact on their recognition and vulnerability.

The project will secure production systems and associated yields through the implementation of adapted climate-smart agricultural technologies and techniques. These sustainable technologies and techniques, based on an ecosystem approach, will enable the restoration of degraded land and the development of existing rice, tree and horticultural areas. To achieve this, studies and applied research will allow the acquisition of essential data, namely physical data (hydrological, hydraulic, pedological) coupled with agroclimatic and meteorological data of the intervention sites. The improvement of the resilience of small-scale producers (M/F) will be achieved through training, capacity building and advisory support; the provision and dissemination of climatic information (early warning system, basic

data, etc.) and agronomic information; and the provision of quality inputs (improved seeds, fertilizers and biological pesticides). The strengthening and support of existing community committees for the management of facilities and natural resources will ensure sustainability and contribute to community cohesion.

Gender equality

Although human rights are a concern in Guinea-Bissau, and despite a whole arsenal of legal and institutional frameworks, women still struggle to enjoy their rights. While the condition of promotion, access to resources and participation in the socio-economic development of communities is a principle taken into account by constitutional frameworks, they are sometimes controversial due to customary rights. Religious and customary constraints place women in a submissive position and limit their ability to claim their rights (education, training, access to resources and information, quality health care). Their possibility of exercising an economic activity to reduce financial dependence is restricted. In view of all these factors, many challenges remain to be undertaken.

It is a fact that women are more strongly affected by climate change due to their overrepresentation at risk; their high dependence on natural resources; the lack of protection of rights to these resources; their reduced mobility; and the influence of culture and their traditional role. These factors combine to directly limit food security, maternal and child health, and girls' education. It is also recognized that women are best equipped to foster resilience to climate change, both through their close connection to their environment and through their organization in the form of groups or community self-help.

This initiative considers the link between climate change adaptation, resilience and gender. Thus, the project will respond to the challenges through an accompaniment that will emphasize the right to access resources, a prerequisite for the empowerment of vulnerable groups. The absence of discrimination and inclusion will be the principles for the implementation of the action. The access of vulnerable groups to community decision-making and management instances will give rise to awareness-raising and support actions. Awareness-raising on organizational structuring and entrepreneurship will provide them with tools to enable them to undertake and develop the potential of their environment. The financial resources generated will allow the targets to meet their basic needs. The initiative will give a full place to women, young women and young men in accordance with their determining role in the agricultural field. These vulnerable targets will benefit from the development of cultivated areas, including market gardening sites; training activities in climate-smart agriculture; access to quality inputs; support for the processing and sale of products and support for the implementation of income-generating activities.

Food security and livelihoods

Numerous studies show that the country's current food situation is very precarious. Despite significant agricultural potential, Guinea-Bissau has high rates of food insecurity, importing up to 30 percent of its rice needs as a result of the sudden growth in cashew nut production (which has doubled in the last ten years). Poverty is the primary cause of food insecurity and is more prevalent in rural areas. The selling price of cashew nuts no longer allows small-scale farmers (M/F) to purchase sufficient production inputs or to buy sufficient food during an extended lean period. As of September 2019, 34.2 percent of the population in rural areas was food insecure, recording a substantial deterioration from 20 percent food insecurity in October 2017 and 30 percent food insecurity in September 2016[2][2]. The Oio region is particularly affected by food insecurity due to limited rainfall, poverty and low intrinsic soil fertility. According to the harmonized framework, during the period June-August 2021, 7.6 percent of the Guinea-Bissau population is in a food crisis situation. In the regions of Cacheu and Oio the percentage is 8%.

According to the World Bank, planning for climate-smart agriculture is one of the strategic solutions to combat food insecurity. As a pillar of this initiative, the implementation of climate-smart technologies and techniques will, through a trickle-down effect, enable the improvement of food security and livelihoods. Degraded lands will be rehabilitated and agricultural yields will be positively impacted by strengthening the resilience of agro-ecosystems. Agricultural diversification will be encouraged and adapted to soil, economic and social conditions. In addition, during the development of the cultivated perimeters, the implementation of climate-smart agriculture facilities, the working groups will benefit from the provision of quality shared meals.

Political and institutional situation

Guinea-Bissau has experienced successive political disturbances since independence in 1974. Continued political instability has worsened already precarious economic and social conditions. Government instability is reflected in a failure to define and implement policies. The use of the national territory for drug trafficking is felt in the public life of the country and the functioning of institutions. The second Poverty Reduction Strategy Paper (PRSP 2011-2015) highlights government instability, mismanagement of public funds, and structural constraints on the economy as the main problems. These are compounded by poor diversification of income sources, low availability of domestic resources, weak human capital, and an undynamic private sector. Institutional and human resource capacity development is part of the national strategy to address these endemic problems.

The project was formulated in consultation with the Ministries of Agriculture and Rural Development; and Environment and Biodiversity. These Ministries are the guarantors of its institutional implementation and provide internal human resources attached to the competent departments. The national institutes will be called upon to contribute through their sharing of knowledge and expertise for an adapted deployment of activities. Training on climate-smart agricultural techniques and technologies and climate change adaptation issues will also benefit local decision makers, extension workers and agricultural technicians. The creation of a network of technicians (M/F) specialized and dedicated to climate-smart techniques within the staff of the two ministries will have strong impacts at different scales. Qualified human resources will be available within the Ministries and the deconcentrated services and can be valorized in the future. This technical reinforcement should have a significant impact at the institutional level, particularly in the definition and operationalization of strategic plans for the agricultural and environmental sectors.

Environmental Context

The Republic of Guinea-Bissau is a coastal country in West Africa with an area of 36,120 km2. It is bordered by Senegal to the north, the Republic of Guinea-Conakry to the east and southeast and the Atlantic Ocean to the southwest and west. Its territory is composed of a continental part and an insular part, the Bijagos archipelago composed of eighty-eight (88) islands. The administrative division delimits eight (8) regions, including the region of Cacheu and the region of Oio located in the northeast of the national territory.

The climate

The climate is humid tropical with two annual seasons: a dry season from November to April and a rainy season from May to October. The average annual rainfall varies from 1,500 mm in the north to 2,000 mm in the south. The annual temperature under the influence of trade winds varies between 24 and 27?C. The average relative humidity is quite high (about 70%) and is mainly influenced by the wind regime, rainfall and the proximity of the coast.

The climate divides the country into three agro-ecological zones. The regions of Oio and Cacheu are located in the northeast, an area characterized by a Sudanese climate with two distinct seasons: the dry season from November to May and the rainy season from June to October. Annual rainfall varies from 1,200 to 1,500 mm and is distributed over 107 days. The evapotranspiration rate is 2,507 mm and the average annual temperature is 27.4?C;

Over the past 10 years, climate change has induced changes in various climate variables. The average annual precipitation has decreased during the and drought periods have increased, while the onset and duration of the rainy season are variable. At the same time, the intensity of rainfall is increasing. The impacts are significant on agriculture, which is the main source of income and subsistence for 82% of the Guinea-Bissau population. While, on its own, the decrease in rainfall is a real hindrance to the agricultural sector. For example, a minimum rainfall of 1,500 mm, spread over at least 120 days, is necessary for the mangrove rice system to function[3][3].

Water resources

Guinea-Bissau's terrain is not very rugged, and the average altitude does not exceed 40 m, except for the hills of Bo? in the southeast of the country, which reach 298 m. Two thirds of the total area of Guinea-Bissau is less than 50 m above sea level. At the same time, Guinea-Bissau has important water resources, including many rivers (Cacheu, Mansoa, Geba, Corubal, Rio Grande de Buba, Cumbij?, Tombali and Cacine rivers). A large part of the river system is in fact a tidal estuary with an important saltwater intrusion that reaches 175 km inside the continental shelf. Saltwater thus enters the aquifers, which can cause problems during the dry season if extraction exceeds aquifer replenishment. Due to tides, which can be up to six meters high, large areas of agricultural land and coastal ecosystems are subject to erosion and flooding, particularly during and after the rainy season. Drainage in the interior is problematic due to the limited permeability of many soils, which exacerbates the impact of flooding. There are few perennial freshwater streams, leading people to use groundwater during the dry season. The use of perennial rivers is very important for the population. In the context of climate change, the country is particularly vulnerable to sea level rise, coastal erosion, land salinization (marine intrusion) and decreasing freshwater inflows.

The initiative will contribute to the improvement of water management and use in agriculture through the deployment of appropriate technology and techniques in conjunction with training and awareness.

Soil resources

The available soil resources are conducive to agricultural development, particularly marine and continental hydromorphic soils for rice cultivation and lowland crops and ferrallitic soils for upland crops. In a context where the agricultural sector is one of the pillars for driving development, ensuring the subsistence of the population and ensuring food security, soil degradation is a major obstacle. Indeed, agricultural production is essentially based on small family farms for which soil and water resources represent the main production factors in addition to their labor force. Land degradation is increasingly felt, due to a combination of anthropogenic and climatic factors. The potential for improving agricultural practices is significant. Land degradation is induced by uncontrolled bush fires, destruction of mangroves for rice cultivation, excessive use of chemical fertilizers, and extensive monoculture of some crops, including cashew. Climate change has significantly increased the pre-existing vulnerability of production systems. The impacts are direct on both the population and economic and ecosystem assets.

The initiative will implement climate-smart agricultural technologies and techniques that will restore the balance of ecosystems. The regulation, support and production services will be rehabilitated and thus allow, respectively, an increase in resilience to climate change; the gradual return of the efficient functioning of the cultivated ecosystem so as to allow soil formation, water and nutrient cycling, resilience through biodiversity, etc.); the provision of natural resources that allow rural communities to live (wood, fish, access to water, etc.).

Vegetal resources

The predominant vegetation formations are tree and shrub savannahs, open and clear forests, as well as a small portion of sub-humid forests in the south of the country. Among the predominant vegetation formations in Guinea-Bissau, we can also highlight the mangroves, which cover 9% of the national territory and constitute an extremely rich and dynamic ecosystem. This ecosystem offers many services to the communities through its functions of production and regulation, but also of support. A real buffer between the sea and the land, the mangrove allows the prevention of erosion, the prevention of floods (limitation of wave effects), the protection against salinization of the land. The forest resources of Guinea-Bissau are subject to great vulnerability to climate change and anthropogenic actions. However, a large part of the population depends directly or indirectly on forest resources for their livelihoods, and they actively participate in the emission of CO2. Overexploitation occurs through rapid deforestation for expansion of agricultural land, including cashew plantations; logging; and bush fires. This contributes to suppressing the growth of plant formations and disrupting the agroforestry ecosystem, whose biodiversity is significantly reduced. In addition, bare, inherently poor soils, without adequate nutrient supply, hamper efforts to boost food production.

Climate-smart agricultural technologies and techniques are based on agroforestry ecosystems. The reintroduction of plant species allows for the establishment of windbreaks, the protection and supply of nutrients to the soil, and the fixation of riverbanks. Also, the management of natural resources will be supported and accompanied through existing community organizations such as management committees.

The global environmental and/or adaptation problems

Climate change impacts

From the point of view of the effects and impacts of climate change in Guinea-Bissau, the country can be divided into two main regions: the coastal zone and the interior (Figure 1). Inland, the climate is drier and more sensitive to temperature and precipitation anomalies due to climate change. These anomalies include a shortening of the rainy season and a decrease in temperatures during the "cool season" from three months (December to February) to only two months (December and January). Dusty winds are also expected to become more frequent in the countryside and affect agricultural production. Although climate change scenarios indicate a general trend of increasing average precipitation, phenomena such as longer droughts and increased incidence of forest fires are also expected anomalies. Flooding may also be an effect of climate change in the interior.

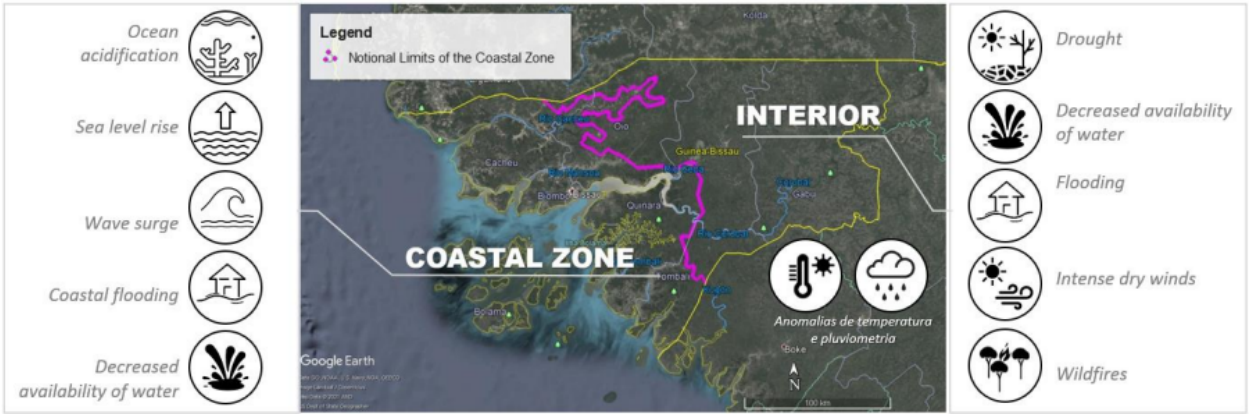

Figure 1. Climate change impacts in Guinea-Bissau

Future temperature and precipitation variations in Guinea-Bissau

The new climate scenarios predict significant changes in the climate of Guinea-Bissau. These scenarios consistently show an increase in daily mean temperature of up to +1.4?C for the period 2016-2045 and potentially up to +2.2?C by 2046-2075, under the low emission scenario (RCP4.5). Under the RCP8.5

(high emissions) scenario, the expected changes are even larger with temperature increases in the range of + 1.6?C to + 3.1?C for the period 2046 and 2075 (Figure 2).

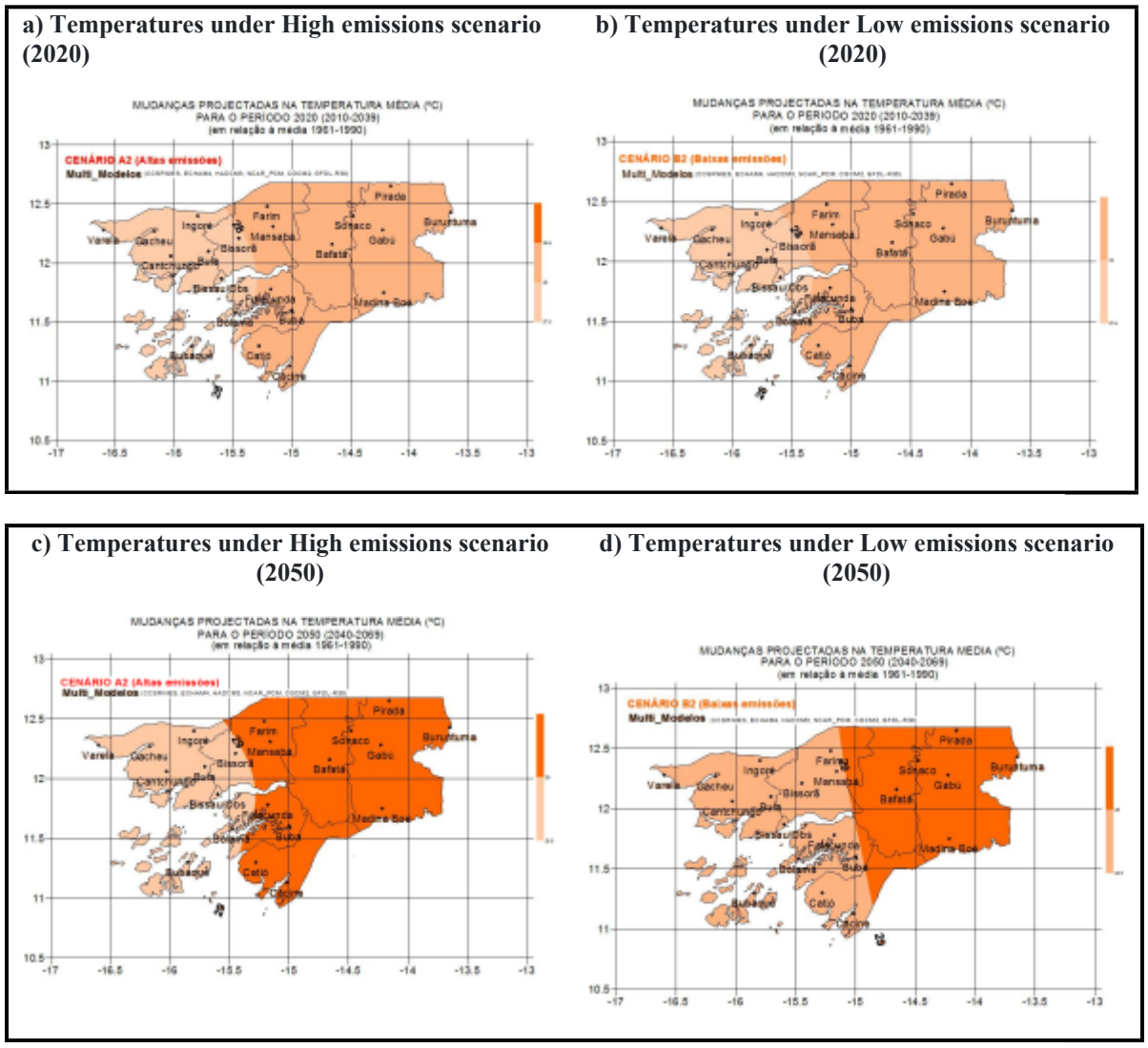

Figure 2. Projected average annual temperatures (?C) for 2020 and 2050, downscaled from multimodels

During the same period, annual precipitation would decrease in all parts of the territory by -6.4 mm in 2050 and 11.7 mm in 2100 compared to their current level (Figure 3). In summary, climate variability will remain a dominant aspect of the climate in Guinea-Bissau. Prediction of temperature increases as well as development of resilient planning for extreme drought events (especially in the eastern part of the country), flooding along the coastal zone, as well as uncertainty in precipitation levels will be necessary (TCN, 2021).

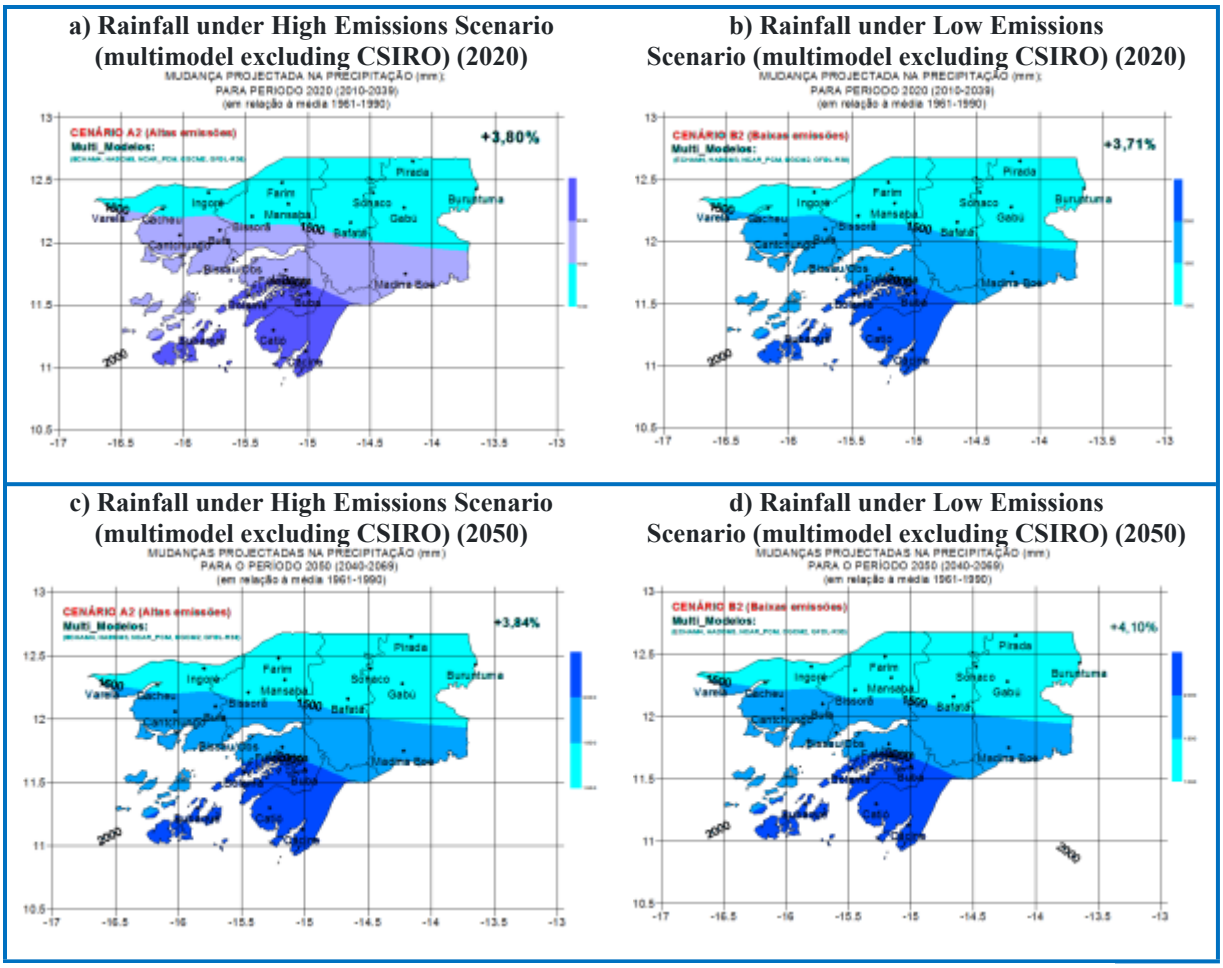

Figure 3. Projected average annual precipitation for 2020 and 2050, downscaled from multimodels

Several regions of Guinea-Bissau already face a significant poverty problem. These areas will instead be subject to increased food and nutrition insecurity and increased poverty. The supply of firewood, agricultural products, meat and fish to urban centers would become difficult and could lead to social tensions, a drop in producers' incomes, a loss of biodiversity, soil degradation and the disappearance of wetlands.

Guinea-Bissau's vulnerability to climate change

The latest scientific evidence from the IPCC assessment report and other studies confirms this assessment for the West African region and Guinea-Bissau in particular. Subsistence agriculture and food security are directly vulnerable due to current and future climatic and non-climatic stressors, such as lack of inputs (e.g., lack of irrigation or fertilizer use), infrastructure deficits, and poor services. Assessing maize yield data in Africa from 1961 to 2010, Shi and Tao (2014) found that a 1?C increase in average temperature reduces maize productivity by >10% for 8 African countries, including Guinea-Bissau. In addition, droughts tended to exacerbate these impacts: a 0.5 0.5 decrease in the normalized precipitation evapotranspiration index (PETI) resulted in >30% losses in 32 African countries, including Guinea-Bissau (Shi and Tao, 2014). Temperature increases can also reduce crop cycle length and create greater water stress for plants due to higher evapotranspiration demand.

Median future crop yield losses are estimated to average -13% for Guinea-Bissau, primarily due to a drier and warmer climate in northern West Africa. It is important to note that potentially positive feedback effects on crop yields due to a higher CO? fertilization effect may not contribute to greater

food security, as many West African crops (maize, millet, sorghum, except rice) are C4 crops that are less sensitive to higher CO? concentrations (Roudier et al., 2011). Another recent study predicts a decline in sorghum yields on the order of 16-20% by 2031-2060 as crop production is increasingly affected by rising temperatures (Sultan et al., 2014). Potential higher precipitation would have only a limited impact in these scenarios: already under a >2?C warming scenario any potentially positive effect on millet and sorghum yields would be negated (Thornton et al., 2014). Livestock are also extremely vulnerable to climate change: under a high-emissions RCP8.5 scenario, the net aerial primary productivity (APP) of Guinea-Bissau's pastures could decline by an average of 87.9% in the 2050s, relative to the 1971-1990 baseline period. Of all African countries, only The Gambia is expected to experience greater losses in APP, which are closely related to pasture profitability and productivity (Thornton et al., 2015). Global warming will also impact disease or pest incidence, as will damage to critical infrastructure (roads, storage, communication, electricity supply, etc.) and services (health, etc.), posing considerable additional risks to food security and agricultural production (Niang et al., 2014; Porter et al., 2014).

Other concerns include the impacts of climate change on biodiversity, health, civil conflict and economic costs in the region. Habitat loss, environmental degradation, and unsustainable agricultural practices are already affecting biodiversity and species in West Africa, but under increasing climate stress, amphibians in particular could become highly vulnerable in semi-arid Guinea-Bissau (Carr et al, 2014). Increased rainfall could make cholera more common in Africa, especially where it is already endemic (Niang et al., 2014); Guinea-Bissau is one such area. There may also be a link between climate change and political stability: Burke et al. (2009) find a significant relationship between the occurrence of armed conflict in sub-Saharan Africa and increasing temperatures. This implies that warmer years would also increase the likelihood of civil conflict. The 1998 coup in Guinea-Bissau was specifically mentioned in this context (Solow, 2013). Finally, the economic damage caused by climate change can be enormous for the national economy: according to a 2013 vulnerability assessment by Verisk Maplecroft (2013), Guinea-Bissau's economy is highly vulnerable to losses in economic output, ranking second in the world behind Bangladesh.

Forecasted changes in surface water resources

Guinea-Bissau's water resources remain vulnerable to the effects of climate change. Data indicate that rivers will experience a reduction in flow of more than 50% of the current average in some places. This reduction will be common to all regions of the country but will be most pronounced for those located on the 10th parallel north, which includes the headwaters of the Niger watershed. It is therefore expected that from 2050 to 2100, for the Niger watershed in Guinea-Bissau, the rate of decrease will increase from 16 to 28% at the 2.5?C sensitivity and from 23 to 54% at the 4.5?C sensitivity (Table 1). The main tributaries of the Niger watershed in Guinea-Bissau are experiencing phenomena related to the loss of vegetation cover and soil moisture, on the one hand, and increased water erosion by rainwater and the destruction of gallery forests, on the other hand.

Table 1: Projected Rate of Change (%) in Selected Streams

	2000	2025	2050	2075	2100
Streams and station			**sensitivity 1,5?C**		
Milo ; Kankan	-2,27	-8,24	-18,25	-30,42	-43,72
Niger; Kouroussa	-1,49	-5,32	-11,79	-20,18	-29,91
Niandan; Baro	-0,82	-2,90	-6,48	-11,22	-17,17
Konkour?; Pt T?l?m?l?	-1,51	-5,35	-11,77	-20,17	-29,89
Diani; Bac	-1,02	-3,44	-7,65	-13,27	-20,03
Streams and station			**sensitivity 2,5?C**		
Milo ; Kankan	-3,18	-11,60	-25,70	-41,79	-58,10
Niger; Kouroussa	-2,40	-7,86	-16,83	-28,28	-41,13
Niandan; Baro	-1,21	-4,45	-9,53	-16,30	-24,43

Konkour?; Pt T?l?m?l?	-2,40	-7,86	-16,79	-28,27	-41,12
Diani; Bac	-1,28	-4,85	-10,71	-18,75	-27,93
Streams and station			**sensitivity 4,5?C**		
Milo ; Kankan	-4,32	-15,86	-33,94	-54,46	-72,83
Niger; Kouroussa	-2,78	-10,79	-23,01	-38,26	-54,17
Niandan; Baro	-1,50	-5,66	-12,63	-21,96	-33,53
Konkour?; Pt T?l?m?l?	-2,80	-10,76	-23,00	-38,25	-54,18
Diani; Bac	-1,79	-6,76	-14,92	-25,77	-38,52

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Root causes

The main root causes have two origins: human actions and conditions, namely poverty and food insecurity, misuse of natural resources, deforestation, excessive use of fertilizers, poor agricultural and irrigation practices; and environmental causes such as salinization by marine intrusion, and climate variability/irregularity.

The social/human dimension

Poverty and food insecurity

More than two-thirds of the population live below the poverty line (less than US$1.90 per day). Many are chronically food insecure, with rates ranging from 11% to 51% of the population, depending on the year and region. A recent study by the World Food Program (WFP) highlights that Guinea-Bissau is characterized by widespread chronic malnutrition among children under five years of age, and more than 30% in the regions of Oio, Bafat?? and Gabu. A study reveals that only 29% of women and girls reach the minimum dietary diversity and that malnutrition among pregnant and lactating women and girls contributes to the increase in maternal and infant mortality. At the local level, cashew cultivation can compete with subsistence production, except in areas unsuitable for cashew cultivation, where mangrove rice prevails. This crop in turn competes with imported rice and makes it difficult to maintain strategic grain banks in the country, which poses food security problems. Shocks caused by irregular rainfall, as well as fluctuations in the prices of imported rice and cashew nuts, further exacerbate chronic food insecurity in Guinea-Bissau. Key economic sectors such as transportation, industry, infrastructure, water resources, health, and energy production are still largely underdeveloped in Guinea-Bissau. Investment in the productive sectors, human capital, and technology is insufficient. Climate change tends to seriously aggravate the pre-existing vulnerability in Guinea-Bissau, affecting both the population, economic and ecosystem assets. Climate change also makes it difficult to sustain development benefits in the country (CND, 2021).

Environmental factors

Land degradation

The landscape of Guinea-Bissau consists of low-lying coastal plains that give way inland to a savanna (deciduous forest) region in the east. Tree growth in the savanna forest is limited mainly to the proximity of (perennial) rivers and hills. Forest fires, induced by slash-and-burn agriculture as well as high temperatures and low rainfall, are common in the east, with an average density of 1.3-2.3 fires per km2 per year, but sometimes as high as 3.0-7.6 fires per km2 per year (World Bank, 2015). Land degradation is further exacerbated by salinization from marine intrusion as well as climate variability and/or irregularity. In addition, natural resource use, deforestation, excessive fertilizer use, and poor agricultural and irrigation practices further exacerbate land degradation and, consequently, the vulnerability of affected populations.

The barriers

The preferred solution is to strengthen the resilience of the agriculture sector in Cacheu and OIO regions to the adverse effects of climate through smart farming practices, ensuring food security, improved socio-economic outcomes for the population, and land restoration. This will involve an ecosystem approach, with restoration of surrounding areas, to provide an appropriate solution to the impacts of climate change on agricultural land. However, the resilience of the agriculture sector and the adoption of agricultural techniques for food security face the following barriers.

Barrier#1: Low technical and technological knowledge and capacity to adopt climate-smart agriculture. Although some traditional practices in terms of ecosystem restoration and protection exist and have been reintroduced, there is a need to adapt these practices to the projected impacts of climate change. However, data, models and lessons learned are limited in Guinea Bissau. Due to this lack of experience, producers are reluctant to adopt new practices; The Outputs 1.1.1. Implementation of Climate smart agriculture techniques and technologies at farmers? groups and cooperatives level, 1.1.2. Restoration of agriculture degraded lands with Ecosystem based adaption approach, 2.1.1 Technical capacity building trainings for farmers on climate-smart farming techniques, 2.1.2. Provisioning Agroclimatic and weather information and early warnings for farmers? groups climate-resilient decision making will contribute to remove this barrier.

Barrier#2: Limited technical support from the government to combat climate induced land degradation: Agricultural fields are increasingly exposed to drought and erosion due to climate change and harmful practices such as deforestation. The Outputs 2.1.1 Technical capacity building trainings for farmers on climate-smart farming techniques, 2.1.2. Provisioning Agroclimatic and weather information and early warnings for farmers? groups climate-resilient decision making, 3.1.2. Project knowledge and lessons learned, will contribute to remove this barrier.

Barrier#3: Unavailable, outdated or inaccessible climate information. Currently, reliable climate information is not available or widely disseminated. The meteorological network is scattered throughout the country and does not provide the level of detail necessary for the adoption of adaptive practices. In addition, the available information is not always disseminated in a way that is understandable to local communities - for example, most information is only available in French and is not translated into local languages. The Outputs 2.1.2. Provisioning Agroclimatic and weather information and early warnings for farmers? groups climate-resilient decision making, 3.1.1. Project monitoring and evaluation for lessons learned and knowledge compilation, 3.1.2. Project knowledge and lessons learned will take care of this barrier.

Barrier #4: Prevalence of gender inequalities and exclusion of the most vulnerable groups from access to information and resource management. In Guinea-Bissau, women, girls and youth are the most affected by the effects of climate change. Seawater intrusion and salinization of low-lying areas are reducing fertile land suitable for agriculture and causing pressures on resources, such as conflicts over land ownership. Access to productive land for women and youth is made even more difficult. The acceleration of the unsustainable exploitation of forest resources and the devastation of mangroves are other direct consequences of climate change. It is necessary to emphasize the impact of the effects of climate change on vulnerable groups who are traditionally excluded from decision-making spaces and from the construction of more sustainable alternatives for the use of natural resources. According to customary norms, the right to land ownership belongs to the man. It is he who decides on their use and generally the interests of women, girls and youth are not safeguarded in these decisions. In Guinea-Bissau, women are protagonists in the management of the environmental capital that surrounds them. From the collection of water for cooking and cleaning, the use of land to cultivate different crops and the raising of small animals, the use of wood and non-wood resources, marine resources, among others. They use and interact daily with natural resources and ecosystems. However, due to deep gender inequalities that are accentuated by structural, traditional and cultural factors, they are distanced from the processes of building more sustainable alternatives and face difficulties in accessing opportunities to acquire skills, training and information on climate change and more sustainable solutions. Several studies show that investing in women and girls creates ripple effects that

are felt throughout entire communities, and the frontline knowledge they possess is necessary for the dissemination of good agroecological practices.

1.a.2. The baseline scenario and any associated baseline projects

Climate change affects agriculture in Guinea Bissau and particularly in the regions of Oio and Cacheu where agriculture is practiced by 82% of the active population for family survival. The speculations developed are: (i) cereals, including rice, which is the main staple food of the population (rice is consumed by more than 90% of the population), corn, millet and sorghum. (ii) tubers; (iii) vegetables; and fruits. The project area faces drought, irregular rainfall and flooding. These phenomena, linked to climate change, affect agricultural production and aggravate food and livestock insecurity. According to the harmonized framework, food insecurity affects 8% of the population in Oio and Cacheu.

In response to this situation of recurrent food insecurity, a number of projects have been implemented and others are underway. Among the latter, we can mention:

- Project on Family Farming Diversification, Market Integration, Nutrition and Resilience to Climate Change in Guinea-Bissau; Co-funded by the International Fund for Agricultural Development, (IFAD), the Abu Dhabi Fund for Development, the Kuwait Fund for Arab Economic Development and the African Development Bank. The objective is to sustainably increase the income and food diversity of rural households in the eastern and northern regions of the country. The 6-year project (2019 - 2025) will take place in the regions of Bafat?, Cacheu, Gab? and Oio in Guinea Bissau. The number of beneficiaries is 26,000 households, approximately 287,000 people. The project is supported with a total of US$ 65,770,000. This project is not specifically within the area reserved for this project.

- The Emergency Food Security Project in Guinea-Bissau, the objective of which is to (i) support the increase in food production; and (ii) increase access to food for consumption by food-insecure households in Guinea-Bissau, financed by the World Bank to the tune of $15 million. Approved in 2020, it will end in 2023.

- Projet d?appui au d?marrage du projet d?appui a l?intensification de la production vivri?re (PAIPV) - Support project for the start-up of the food production intensification support Financed by BOAD for 10 millions USD. The overall objective of the Project is to contribute to improving food security and reducing poverty in the project area. It specifically aims to: i) intensify rice and market gardening production; ii) improve the development and marketing of targeted agricultural products; and iii) strengthen the management capacities of farmers' organizations. The main results expected from the first phase of the project are, among others: (i) 300 ha are developed for lowland rice cultivation; ii) 38 ha are developed for market gardening; iii) 588 tons of cereal seeds, 1,025 kilograms of market garden seeds, 200 tons of fertilizer, 4,000 liters of phytosanitary products are made available to farmers; (iv) 300 tons of husked rice are distributed to the most vulnerable households; v) 1,000 tons of paddy rice and 1,000 tons of additional market garden produce are produced annually; vi) 17 km of tracks are rehabilitated; vii) 5 agricultural input shops, 5 multifunctional shops and 5 seed shops are built; viii) 15 cereal mills are procured and ix) 10 rice hullers, 10 threshers, 2 winnowers, 2 destoners and 15 cereal mills are installed. The present project will complement this project with its activities. This BOAD?s project will serve as co-financing.

- The UNDP/GEF Sustainable Land Management (SLM) Project. With a total budget of less than $0.5 million, the long-term goal of the project is to contribute to the recovery of degraded lands through institutional and individual capacity building. It does so by integrating sustainable land management issues into national development strategies, supplementing the National Action Plan to Combat Desertification (PAN/LCD), strengthening, harmonizing and integrating institutional, technical, organizational and legal aspects in the SLM policy.

- The Rural and Agricultural Sector Rehabilitation Project (PRESAR) which is supported by the African Development Bank. One of PRESAR's three objectives is to build capacity in integrated natural resource management and land management at the village level.

It?s important also to stress a couple of projects that are directly connected with CSA, which have been implemented and/or are ongoing implementation:

- The ?Increased Resilience and Adaptation to Adverse Impacts of Climate Change in Guinea?s Vulnerable Coastal Zones? project, which was supported through the LDCF, November 2009, on a total amount of USD 5 150 000.

- The project ?Strengthening the resilience of vulnerable coastal areas and communities to climate change in Guinea-Bissau?, supported by Global Environment Facility Least Developed Country Fund Grant, USD 12 million, to develop strong institutions and policies needed to improve risk management in coastal zones, protect investments in coastal infrastructure and diffuse new technologies to strengthen resilience within coastal communities.

- In the context of extreme vulnerability of family farmers to climate change in the dry lands of East Guinea-Bissau, the country received USD 9 979 000 from the Adaptation Fund for a five-year (2017-2022) project implemented by the Banque Ouest Africaine de Developpement (West African Development Bank).

- The project ?Scaling up climate-smart agriculture in east Guinea-Bissau? seeks to strengthen practices and capacities in climate-smart agriculture in the project region and at institutional level. Through the project?s activities, food security and livelihoods are expected to be strengthened at household level while simultaneously increasing capacities in climate risk management and adaptation planning at all levels of governance. the country received USD 9 979 000 from the Adaptation Fund for a five-year (2017-2022) project implemented by the Banque Ouest Africaine de Developpement (West African Development Bank).

- Guinea-Bissau obtained a USD 4 million funding from the Global Environment Facility (GEF) through the support of the United Nations Development Programme (UNDP) to implement the project: ?Strengthening adaptive capacity & resilience to climate change in the agrarian & water sectors in Guinea-Bissau?. This UNDP-supported, GEF-LDCF funded project in Guinea- Bissau was designed to transform the country?s policy responses to climate change from that of ?reactive? measures, towards achieving more ?anticipatory? and

?deliberate? policy responses. An expected impact of this project is that the agrarian and water sectors will become more ?resilient? and thus more resistant to climatic pressures

The CSA still a new approach in the country, in spite of the above-mentioned initiatives, there still not strategic document in the country to guide and synergize the existing efforts or even to gather and disseminate information among development actors, private sector and with the different government branches.

1.a.3. Proposed alternative scenario with a brief description of expected results and project components

The LDCF-funded project will help agricultural producers adapt to the negative effects of climate change on their production. Crop exposure to droughts and floods will be reduced through climate-smart agriculture and restoration of degraded lands in the project area. Agricultural campaigns will be supported for the duration of the project to increase yields through the implementation of climate-smart agriculture, thereby reducing the risk of food insecurity for the beneficiaries. Meteorological services and information dissemination will be tailored to farmer?s needs for information as well as introduction of simple technologies that will allow farmers to autonomously measure and register the rain in order to guide their farming decisions. A mechanism for disseminating climate resilient agricultural practices will be established, based on community animation services aligned both with project implementation unit and the Ministry of Agriculture and Ministry of Environment, to disseminate these practices in the project area.

The project will consider the needs of the most vulnerable people, with a focus on women and youth to strengthen the role of these groups as problem solvers and not just as ?vulnerable? in responding to the adaptation of their communities to the effects of climate change. The collection of data disaggregated by sex, the training of women and young people, the strengthening of associations of women and young people in the project's beneficiary communities are some of the measures that the project will adopt to minimize inequalities, favoring women's empowerment and improving the adaptive capacity against the negative impacts of the climate crisis.

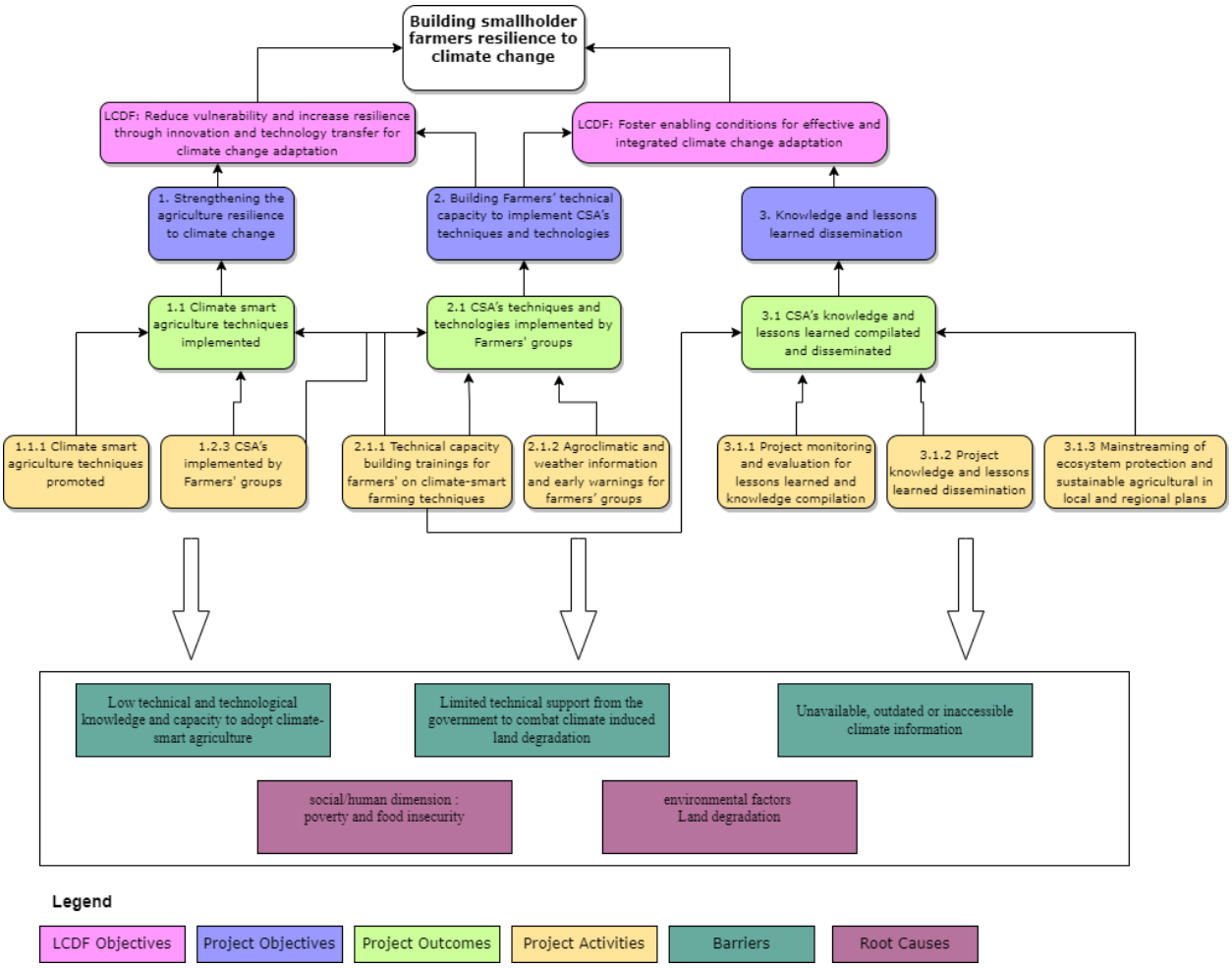

Figure 4: Theory of Change

Poverty, food insecurity and land degradation are key factors impacting smallholder farmers resilience to climate change. Additionally, 1) low technical and technological knowledge and capacity to adopt climate-smart agriculture, 2) limited technical support from the government to combat climate induced land degradation and 3) unavailable, outdated or inaccessible climate information severely impede progress in that area. The project directly targets these barriers and address the root causes of smalholder?s vulnerability and 4) deep gender inequalities in access to resources and sustainable ecosystem management mechanisms accelerate social inequalities, exposing women and youth to greater poverty and food insecurity.

The Barrier 1 is addressed by a combination of activities that will create a body of techniques and technologies to enhance the existing capabilities and knowledge on CSA at the farmers and institutional level. The Outputs 1.1.1 Implementation of climate-smart agriculture techniques and technologies, 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques and 2.1.2 Provision of agroclimatic and meteorological information and early warnings for groups of farmers will be the put into action to overcome this barrier. Detailed hydrological, hydraulic and soil studies within the areas of intervention will be important to characterize and guide decision on technologies and techniques that are better suited for the specific implementation zone. Therefore, the applicability of the proposed approach requires stakeholder consultation for the selection and prioritization of climate-smart agriculture techniques and technologies to be implemented in the intervention areas

The Barrier 2, consists on the lack of government capacity to combat climate induced land degradation, therefore the Output 1.1.2 Restoration of degraded agricultural land with an ecosystem-based adaptation approach, combined with training and experience exchange with other beneficiaries of CSA in the country will successfully contribute to overcome this second barrier.

The Barrier 3, will be addressed and overcome through the Output 2.1.2 Provision of agroclimatic and meteorological information and early warnings for groups of farmers. This activity will center in the farmers pluviometers, establishment and operationalization of local units for monitoring and managing climate risks within the villages of intervention and creation and dissemination of information media adapted to each target (radio broadcasts in local languages, reference agroclimatic calendar, quarterly newsletter, etc.). The design of a participatory and rigorous early warning system through applied research will be also an important activity to overcome this barrier.

The Barrier 4, will be achieved through the project's strategic approach to gender mainstreaming which aims to inhibit the constraints of women and girls in realizing their full potential in the fight against climate change. It will be a priority of the project to ensure that during the implementation of activities women are present, their views and concerns are taken into account and included in the interventions. This strategic approach will allow this vulnerable group to access opportunities to improve their skills, resilience and knowledge in building more sustainable alternatives for the use and management of ecosystem resources. Breaking this barrier is cross-cutting throughout the project and has been taken into account in the construction of gender indicators. Some results better show the objective mechanisms of their implementation, as for example the results: 1.1. Climate-smart techniques are promoted: the project's logical framework provides for the proportion of women members of local management committees, the number of climate-smart technologies and techniques implemented to reduce women's workload, the percentage of women who take ownership of the techniques implemented; 2.1. Climate-smart agriculture techniques and technologies are implemented by producer groups: the logical framework provides for 50% of women producers among the beneficiaries to be able to implement the agroecological techniques implemented; 2. 2.1.1 Capacity building trainings on climate-smart agricultural techniques: the logical framework foresees 60% of producers of which 40% are women, at the end of the project it increases to 50%; 2.1.2 Provision of agro-climatic and meteorological information and early warnings for farmers' groups: the logical framework foresees a proportion of 50% of women members of the local cells for monitoring and management of climate risks; 3.1. Knowledge and lessons learned in climate-smart agriculture are compiled and disseminated; 3.1.1 Monitoring and evaluation of the project for learning lessons and compiling knowledge: the logical framework foresees a proportion of 30% of women members and included in decision-making positions in local monitoring committees.

Thus, the three outcomes are approached in a combined and interlinked manner, with activities that influence more than one outcome and also through back powering between the outcomes and even activities to achieve the three project objectives/components: (i) strengthen the resilience of agriculture to climate change, (ii) strengthen the technical capacity of farmers to implement climate-smart agriculture techniques and technologies, (iii) dissemination of knowledge and lessons learned, thus contributing to poverty reduction, improvement of food security and reverse land degradation dynamic.

Based on the data produced by the M&E activity, a cost-effective approach will be implemented during the project.

More precisely, the cost-effective approach, based on the core indicators of the project, will determine the cost per direct beneficiaries, the cost per hectare managed for climate resilience, the cost par policies/plans mainstreaming climate resilience and the cost per people trained.

The M&E expert will be responsible for collecting and analyzing data from the field to verify that the project objectives are being met with the best use of the funding.

Component 1: Strengthening the agriculture resilience to climate change

This component will align with Guinea Bissau's priorities in its Nationally Determined Contribution (NDC) in terms of adaptation of vulnerable farmers to the adverse effects of climate change. It therefore aims to promote climate-smart techniques for sustainable land management. It will rely on a combination of traditional practices and innovative approaches to restore land and benefit farmers. Fully functioning ecosystems will improve water retention and reduce the impacts of floods and droughts on vulnerable agricultural lands. This component will have significant climate risk reduction, mitigation, and biodiversity co-benefits by restoring and preserving ecosystems that sequester CO2 and provide living environments for wildlife to thrive. Achieving this outcome will improve women's and youth access to productive land for horticulture and promote agricultural crop diversity. Women and youth will benefit from new skills in more environmentally sustainable agroecological techniques.

The Outcome 1.1. Climate smart agriculture techniques implemented, will contribute to implement the component 1. This outcome will be implemented through two outputs: 1.1.1 Implementation of climate-smart agriculture techniques and technologies and 1.1.2 Restoration of degraded agricultural land with an ecosystem-based adaptation approach.

Output 1.1.1 Implementation of climate-smart agriculture techniques and technologies

Considering that this project will be directly linked with PAIPV, which already planned to implement infrastructures to combat flooding and drought, such as micro water storage dams, the current project will focus on techniques and technologies that can complement the aforementioned infrastructures. Thus, having in mind CSA principles of integration of agriculture development and climate responsiveness, the project will take full advantage of water management combination with simple techniques to guarantee food production in a sustainable manner.

Many fields will require irrigation under conditions of high temperatures and insufficient water. The irrigation system in the country is classic type with open-air canals and thermic plants with fossil fuels. This system has shown its inefficiency through recorded water losses of between 40% and 50% and GHG Production. Evaporation due to the high temperatures currently experienced in the project area in connection with climate change, percolation to the underground, water diversion by other users, etc. are the sources of these water losses. Given that the project area is among the hottest in Guinea-Bissau, with an average maximum temperature of 35 degrees per day, thus favoring the evaporation of water from agricultural dams and open irrigation canals, financial resources of the LDCF will help promote water-saving technologies for irrigation. These losses may increase further due to climate projections predicting a rise in temperature in the coming decades. To limit the water losses and achieve water savings, the project aims to promote drip and California irrigation systems. These systems have an irrigation yield 90% and 85% respectively. These systems will therefore save between 35% and 50% of water. The solar pumps Kits will be installed for the supply of energy for irrigation needs. The kits will be composed of solar pumps, solar panels, inverter, regulator, elevated reservoirs, boosters, and connection accessories for pumping dimensioned to ensure the irrigation.

The technical characteristics of the structures, the construction details and the type of hydraulic infrastructure required for the development will be defined based on detailed hydrological and hydraulic studies that should be conducted in the beginning of the implementation, having into consideration the existing studies commissioned by PAIPV for the same beneficiary communities.

Under this output, the project shall also conduct the promotion of cropping and speculation systems that are resilient to climate change and adapted to the soil, economic and social conditions of the areas of intervention. For that, the horticulture lands defined by the community, must be subject to preliminary fast soil test to define potential sites. These sites will be studied in a detailed manner to understand what kind of soil they have, and which speculations are more suitable, before deciding on the final location of perimeters.

On a more organizational and administrative token, the operationalization of local committees for the implementation and management of climate-smart installations, techniques and technologies will be part as well of this Output. These committees will be created based on local existing organizations in the community (i.e. associations, cooperatives, youth organizations, etc.) due to sustainability/durability concerns after the project implementation period.

Output 1.1.2. Restoration of degraded agricultural land with an ecosystem-based adaptation approach

Based on the analysis of past and existing land use, restoration and protection practices will be introduced by the project, namely sills, agroforestry, assisted natural regeneration, zero-tillage, etc. Local communities will be involved in the identification and implementation of restoration activities, providing local employment to youth and especially women. These techniques will restore degraded areas, increase vegetation cover, and protect forests. These practices will be introduced in areas surrounding agricultural lands, to provide large-scale adaptive benefits. For instance, the regenerative techniques considered ? such as water and soil conservation works in cultivated fields, gabion thresholds, agroforestry, prohibition and assisted natural regeneration, zero-tillage, reforestation, planting in protected communal, village and community forests ? have common benefits advantages in terms of added values:

- simple technique requiring low levels of technical skills and easily mastered by farmers;
- relatively inexpensive technique.
- solid and stable infrastructure that can withstand the force of runoff water or water erosion;
- easily adaptable to any form of soil structure and landscape.
- fight against water erosion at the level of an entire watershed system;
- channels runoff water;
- allows the spreading of water.
- allows rapid restoration of soil fertility after 2 to 3 years.

Restoration of key surrounding ecosystems will provide important ecosystem services to farmers by increasing water recharge, reducing landslides and water runoff during floods, and increasing biodiversity.

Within the restoration activities, the project will incentivize and support the creation of a buffer zone to limit sedimentation of rice fields, as well as the reforestation of the mangrove to limit the intrusion of salt water. The success of this activity is sustained by the operationalization of local natural resource management committees, which will have the role of community animation and ensure the compliance of rules stablished to guaranty the durability of the project lead activities, even after the project implementation phase.

Component 2: Building Farmers? technical capacity to implement CSA?s techniques and technologies.

This component aims to promote climate-smart agriculture (CSA) techniques and technologies, adapted to the project's intervention areas, to reduce smallholder farmers' vulnerability to climate and enhance food security. Beneficiaries will be provided with practices and techniques for a comprehensive approach to climate change. These practices will build sustainable community resilience to the adverse effects of climate change, improve agricultural production and income of beneficiaries, and contribute to carbon sequestration and thus GHG mitigation.

The component will also build the capacity of local producers to access, understanding and use agro-climatic and meteorological information, and contribute to the production of local baseline data. Discussions with stakeholders during the initial phase of project implementation will help to identify the most promising value chains to be promoted. This component will be strongly related to component 1 and will build on land restoration.

The activities planned to achieve the outcomes of this component will have a strong gender impact and will contribute to reducing gender inequalities and building the capacity of women and youth to access opportunities to improve skills and knowledge about climate change. To ensure the adoption of AIC technologies and practices, issues of equal participation of men and women in planning, decision-making, and implementation must be properly addressed. In addition, the issue of empowering women and youth must be emphasized to ensure household resilience to climate change and climate-related shocks, as their contribution to household food insecurity and livelihoods is significant. In addition, technologies and practices that aim to integrate and improve crops, livestock, fisheries, and beekeeping must be considered from a gender perspective.

The project will be implemented through CSA?s techniques and technologies implemented by Farmers' groups which is the Outcome 2.1. This Outcome will be implemented through two outputs: 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques and 2.1.2 Provision of agroclimatic and meteorological information and early warnings for groups of farmers.

Output 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques

This output will consist of organizing training sessions on climate-smart agriculture techniques. These trainings will be organized for agricultural technicians and smallholder farmers (men, women and youth). During this activity, trainers will work with local authorities as key partners in the design and implementation of the project to ensure their buy-in and involvement in the sustainability and scaling up of practices. The commitment of local authorities and decentralized government officials will be ensured through the establishment of clear monitoring frameworks for the protection of restored ecosystems in the long term.

In addition, the project will establish local committees with beneficiary farmer groups for natural resource management. These committees will be constituted by champion farmers that will have the role of supporting other farmers in the proximity, translate to simple and practical language the knowledge obtained on CSA to their peers and finally assume the role of repository of knowledge and first and immediate level of support to farmers. Awareness-raising activities will be conducted with local communities to discuss the long-term benefits of ecosystem preservation for local agricultural production and food security. Discussions will focus on: the impacts of climate change; key ecosystems such as wetlands, savannahs and forests; their linkages to production systems; and the benefits they offer for climate change adaptation. The identified champion farmers from each community will play an important role in the organization of the awareness-raising activities. The composition of the committees will consider gender equality and the need to include women farmers, youth and community leaders. As a result, the role of these vulnerable groups will be strengthened in community decision-making spaces on natural resources.

Manuals/guides and training on good practices in water management, soil restoration, crop planning will be developed and made available to producer groups. These manuals/guides will include a gender approach with an emphasis on good practices and the role of women and youth in the use and

management of natural resources, particularly water, land management, and agricultural crop diversification.

Output 2.1.2 Provision of agroclimatic and meteorological information and early warnings for groups of farmers.

Access to real-time weather and climate information allows for better programming of agricultural activities and improves agricultural productivity and production. It significantly reduces the risk of agricultural investments being lost due to late and/or irregular rainfall. Therefore, it?s important to engage in training and capacity building of the technical staff of the National Institute of Meteorology in the production and use of analytical tools.

In addition, it is planned to acquire and install rainfall measurement kits and purchase direct-reading thermometers and anemometers to cover all the villages in the project area and to increase the density of the existing network. The extension of existing network allows to establish and operationalize local units for monitoring and managing climate risks within the villages of intervention. Furthermore, the project will be introducing farmer?s pluviometers, as a way to equipped them with the necessary tool to register the rainfall as a fundamental step for informed farming decision.

To eliminate information asymmetry, cell phone services are becoming an important means of providing farmers' groups with weather forecasts and market data. Taking advantage of the community animators, the project will support their access to this technology in order to ensure that they have updated, timely weather information and appropriated data to transmit to their peers, thus supporting farming decision as needed.

The gender dimension will be taken into account in the training and involvement of farmers, while information dissemination mechanisms accessible to the population, particularly women, will be deployed. Female leaders should be identified in the communities who could play the role of disseminating these practices to women's associations and female producers in general. The capacities of the beneficiary farmers will be strengthened to ensure the flow of information in both directions. The dissemination of weather information through cell phones will be reinforced by radio broadcasts in local languages. This activity will be implemented in collaboration with the meteorological services as well as the annual workshop to present monitoring data (meteorological data, early warning system) and concerted decision between stakeholders on adaptation measures.

Finally, the project will promote the design of a participatory and rigorous early warning system through applied research. This will be done by the collaboration of research students working on this subject under autonomous academic research agenda.

Component 3: Knowledge and lessons learned dissemination

The lessons learned will be of interest to the government, civil society and vulnerable populations, regional institutions and donors working in the climate change adaptation sector. In order to ensure the project's contribution to climate change adaptation and to improve current practices in Guinea-Bissau, the various project reports and studies will be used to formulate a comprehensive lesson learned document. This will contain, among other things: (i) the effectiveness and weaknesses of technologies and techniques, processes, financial management and use at the local level, water, soil, flora, fauna, environment, adaptation, productivity/income and mitigation indicators, etc. (ii) recommended best adaptation practices for local, national, and regional adaptation projects; and (iii) proposed solutions to address weaknesses identified during project identification, planning and implementation. This document will be the key knowledge base to share. Additionally, through these lessons learned, the project will seek to mainstream ecosystem protection and sustainable agricultural techniques in local and regional plans

The Outcome 3.1. CSA?s knowledge and lessons learned compilated and disseminated will implement the component 3 through the Output 3.1.1. Project monitoring and evaluation for lessons learned and knowledge compilation, and the Output 3.1.2.: Project knowledge and lessons learned dissemination

Output 3.1.1. Project monitoring and evaluation for lessons and knowledge compilation

The project will develop a program of close and ongoing monitoring of the physical investments made on the sites. The program will include network, structure monitoring and other interventions. This ongoing monitoring will be carried out by an M&E specialist, that will work in close collaboration with PAIPV head of M&E and with the support of the Ministry of Agriculture's decentralized services (Regional Directorate). These services will benefit from technical and material capacity building activities to carry out this monitoring program.

In addition, a project monitoring and evaluation system will be designed and implemented in accordance with LDCF (GEF) and BOAD requirements to monitor: (i) the rate of implementation of project activities, (ii) the progress of project financial data, (ii) regular and systematic recording and reporting of progress against planned project objectives through the creation of a database, and (iii) the assessment of the impact of project activities on the target group and the environment; (iv) collection of gender-disaggregated data and reporting system for each project component, (v) development of participatory tools to measure project performance, (vi) conduct of beneficiary surveys to measure effects/impacts (at the beginning, mid-term and end), (vii) recruitment of a gender mainstreaming consultant to support the Executive Entity, (viii) conduct of an annual analysis/evaluation of the project's technical, economic, and financial performance, (ix) mid-term evaluation, and (x) final evaluation.

Output 3.1.2 Project knowledge and lessons learned dissemination

A knowledge management strategy will be developed and will focus on the collection of data, results and lessons at project level, and their collation into accessible and open databases. Open data will be a key element in making the project results available to policy makers, development partners and civil society, who will also be able to add to the knowledge base. Knowledge will be made available to all stakeholders through the production and dissemination of information via fact sheets, policy briefs, press releases, scientific publications, databases on practices and awareness raising tools (documentaries, guided tours for development actors, etc.). All experiences will be capitalised and documented for future replication. A project website will be launched as a platform for information and knowledge exchange in the adaptation sector in relation to previous adaptation projects. Fact sheets on the status of smart agriculture and policy briefs will be published and made available to all practitioners and other stakeholders in the agricultural sector. The project can also contribute to providing other projects with relevant information on climate resilient agriculture. Complementary activities such as: (i) annual workshops bringing together community, departmental, regional and national stakeholders, the private sector, associations, NGOs, etc. to discuss opportunities and constraints, share experiences and promote learning, incorporation of reports into the governmental database and statistical directorates; (ii) dissemination of information on lessons learned and experiences shared through programmes on public and private media (TV and radio). The development of a community intervention guide on gender, youth and climate change will allow for the consolidation of learning on community intervention with these vulnerable groups. This guide will provide a mapping of good practices in the implementation of projects in terms of gender, youth and climate change.

Output 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans

Local and regional planning and funding will be supported to introduce ecosystem protection and the adoption and scaling up of sustainable agriculture techniques. The local development plans constitute the reference and orientation framework for all development actions at the local level. Therefore, the project will conduct an inventory of existing plans in order to improve coherence between the

management of restored degraded lands and landscapes and community development initiatives. This exercise will be participatory and will require regular consultations of all actors and civil society at the local level on issues focused on the integration of smart agriculture, conservation of ecosystems and gender in local development planning. In addition to updating the directory of development actors, the exercise will create a dynamic of sustainable consultation and inclusion of all in the decision-making process at the local level in terms of ecosystems preservation.

1.a.4. Alignment with GEF focal area and/or Impact Program strategies

LDCF Focal area		Project Focal area
Goal	To strengthen resilience and reduce vulnerability to the adverse impacts of climate change in developing countries, and support their efforts to enhance adaptive capacity	Building smallholder farmers resilience through climate smart agriculture techniques in Oio and Cacheu north regions in Guinea Bissau
Corporate/Core Indicator	Number of direct beneficiaries (gender disaggregated)	1,400 households 9,800 direct beneficiaries, 40,000 indirect people (35% women) with a focus on the youth and vulnerable people.
Objective 1	**Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation**	**Component** 1: Strengthening the agriculture resilience to climate change **Component** 2: Building Farmers? technical capacity to implement CSA?s techniques and technologies
Outcome 1.1	Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience	Outcome 1.1.: Climate smart agriculture techniques promoted Outcome 2.1: CSA?s techniques and technologies implemented by Farmers' groups
Output 1.1.1	Physical assets made more resilient to climate variability and change	Output 1.1.1 Implementation of climate-smart agriculture techniques and technologies Output 1.1.2 Restoration of degraded agricultural land with an ecosystem-based adaptation approach.
Output 1.1.2	Livelihoods and sources of income of vulnerable populations diversified and strengthened (gender disaggregated)	Output 1.1.1 Implementation of climate-smart agriculture techniques and technologies Output 1.1.2 Restoration of degraded agricultural land with an ecosystem-based adaptation approach.
Output 1.1.3	Vulnerability to climatic hazards reduced through new or improved early warning systems	Output 2.1.2: Provision of agroclimatic and meteorological information and early warnings for groups of farmers.
Output 1.1.4	Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts	Output 1.1.2 Restoration of degraded agricultural land with an ecosystem-based adaptation approach.
Objective 3	**Foster enabling conditions for effective and integrated climate change adaptation**	**Component 2: Building Farmers? technical capacity to implement CSA?s techniques and technologies** **Component 3: Knowledge and lessons learned dissemination**

Outcome 3.1	Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis	Output 2.1.2 : Provision of agroclimatic and meteorological information and early warnings for groups of farmers. Output 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans
Output 3.1.1	Countries with systems and frameworks for the continuous monitoring, reporting and review of adaptation	Output 2.1.2 : Provision of agroclimatic and meteorological information and early warnings for groups of farmers. Output 3.1.3. Project monitoring and evaluation for lessons learned and knowledge compilation
Outcome 3.2	Institutional and human capacities strengthened to identify and implement adaptation measures	Outcome 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques Output 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans
Output 3.2.1	Adaptation actions/measures integrated into national, sectoral or subnational development strategies, plans and budgets	Output 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques Output 3.1.2. Project knowledge and lessons learned dissemination Output 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans
Output 3.2.2	Strengthened capacity of institutions and humans to respond rapidly to extreme weather events (gender disaggregated)	Output 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques
Output 3.2.3	Capacity built for long-term research on climate change impacts andadaptation	Output 3.1.1. Project monitoring and evaluation for lessons learned and knowledge compilation Output 3.1.2. Project knowledge and lessons learned dissemination

1.a.5. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

As mentioned above, according to the harmonized framework, during the period June-August 2021, 7.6% of the Guinea-Bissau population is in a food crisis situation. In the regions of Oio, and Cacheu, 8% of the population of each region is in the same situation. The project will lead to (i) significant investments by the rural population to cover their food needs and social integration.

Although climate-smart agriculture is a promising technology, producers in Guinea Bissau see the initial costs of installing irrigation kits and dams as exorbitant and the benefits are not immediately apparent. Producers therefore favour the unusual practices with which they feel most comfortable despite the GHG emissions they generate. Indeed, the analysis of the agricultural sector in Guinea Bissau reveals that the sector is facing financial difficulties, in special due to the inability of the government to assume the necessary investments and the almost inexistence of organized private sector operating in this sector. There is also a lack of technical, regulatory and institutional framework for the promotion of climate-smart agriculture.

Without the mobilisation of external financial resources, the private sector, but also all actors in the agricultural sector, will still have difficulties in developing the climate-smart agriculture sector and moving towards food self-sufficiency. The mobilisation of funding for the promotion of climate-smart agriculture through the establishment of water-efficient irrigation systems is necessary to raise

awareness of the benefits of the environment and good agricultural practices and will create a sustainable framework for food security in the target regions.

The activities described above are best catalysed by the use of a LDCF grant that will address existing policy and regulatory barriers, capacity and knowledge gaps, and lack of appreciation of the technical feasibility and commercial viability of integrated farming systems. The LDCF will therefore support the strengthening of the institutional and regulatory framework governing the energy sector, knowledge and capacity development, and the implementation of the agriculture demonstration, management and monitoring and evaluation projects. LDCF support will also be used to provide targeted training to market actors to support the adoption of innovative agricultural production techniques in rural areas. The project will generate several other additional benefits. Households will have: (i) easy access to food; (ii) easy access to drinking water and irrigation of agricultural areas; (iii) improved standard of living; (iv) ability to create income-generating activities; (v) better learning and working conditions for children, school youth and youth enrolled in vocational training; (vi) reduced indoor pollution; and (vii) improved human health. The project interventions will contribute to climate change adaptation by using environmentally friendly technologies to replace environmentally polluting technologies used in a business-as-usual model. Facilitation and activation of the application of smart farming technologies will be achieved by removing barriers associated with regulations and institutional mechanisms, capacity and limited knowledge on the application, design, financing and operation of hybrid systems.

The current LDCF project, with its outcomes, focuses solely on adaptation and climate-smart agriculture needs in the project area. The absence of functioning Microfinance institutions (MFIs) in the country, will obliged to entail contacts with community informal saving groups (locally denominated ?Abotas?) in order to evaluate the possibility of introducing small agriculture loans, highly concessional, designed to ensure only the minimum profit needed to ensure the long-run maintenance of the funds within the community.

1.a.6. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The project aims to contribute to Core Indicator 2 through the implementation of climate smart agriculture techniques on 150 hectares, including water and soil conservation works in cultivated fields, agroforestry, prohibition and assisted natural regeneration, zero-tillage, reforestation, planting in protected communal, village and community forests. Additionally, Gabion thresholds are planned on 100 hectares. These activities will also engender positive impacts on the reduction of greenhouse gas emissions.

In addition, the project is in line with the GEF/LDCF's main objective 7 on climate change adaptation "Promoting innovation, technology transfer and supportive policies and strategies". In the project area, most of the population is rural and largely dependent on rain-fed agriculture in a context of climate change. Droughts are recurrent. These phenomena, which occur one after the other and at least two years out of three, cause food deficits and economic shocks with an increase in poverty. The project will contribute to the achievement of LDCF objective 1: Reducing vulnerability and increasing resilience through innovation and technology transfer for climate change adaptation.

The proposed project is expected to increase resilience and reduce vulnerability of 150 hectares of land and 1400 households, representing 9,800 direct beneficiaries and 40,000 indirect beneficiaries, of which 35% are women, with a focus on youth and vulnerable people. The proposed project is also in line with sustainable development, especially in rural areas, and will bring local benefits such as improved living conditions for rural populations.

The exact number of women and youth are not available for the specific administrative territories where the project will be implemented. However, women are estimated to be 35% of the beneficiaries. The gender action plan developed under the proposed intervention takes into consideration the (i) participation of women in decision making, (ii) promotion of women leadership, (iii) economic independence and access to resources and (iv) co-responsibility of men.

These indicators will respond to the LDCF's objective of building resilience and reducing vulnerability to the adverse effects of climate change in developing countries and supporting their efforts to improve their adaptive capacity. This LDCF objective is expressed in the project as the project objective: To build resilience and reduce vulnerability of farmers in Cacheu and OIO to the adverse effects of climate change. Thus, the project indicator of number of direct beneficiaries disaggregated by gender will contribute to LDCF core indicator: Number of direct beneficiaries (disaggregated by gender); the project indicator: Increased yields and livelihood production in targeted areas with relevant adaptation technologies used (drip irrigation, California irrigation network fed by dam water) will contribute to LDCF impact indicator 1: Successful demonstration, deployment and transfer of relevant adaptation technologies in targeted areas, and the project indicator will strengthen LDCF Impact Indicator 3: Improved opportunities for investment in adaptation with and through public and private sector partners.

1.a.7. Innovation, sustainability, and potential for scaling up.

The particularity of this project is that it pioneers a new paradigm for the sustainable development of climate-smart agriculture in the regions of Oio, and Cacheu. Innovation is a major feature of the project due to the focus on the different technologies that will foster resilience and the fact that the project's approach will synergistically reach different intervention areas. For instance, the project plans to promote the use of drip and California irrigation systems. As noted above, these systems have an irrigation yield of 90% and 85% respectively. These systems will therefore save between 35% and 50% of water. In order to take advantage of drip and California irrigation systems the project will support the construction of elevated water reservoirs that will allow to gain pressure for this kind of water distribution. These infrastructures will consist in the borewell, solar panels kits to pump the water, plastic reservoir of adequate size for the perimeter and the drip tubing and sprinkled mechanisms. A further level of innovation is the integration of these systems with existing techniques of distribution of water such as retention basins and taps distributed in the perimeters. The redundancy will ensure that in case the drip and California irrigation systems fail or stop for maintenance the communities will have a secondary source of irrigation while the problem might be handled by the project implementation unit. Additionally, the project will synergistically target irrigation challenges but also the regeneration of degraded land, including through regeneration and reforestation.

Also, as token of innovation or re-introduction of techniques aligned with CSA, the project will be promoting the use of organic manure, use of weather information through combination of official meteorological information and self-collect rain data for farming decisions (peasant pluviometers), anti-erosion arrangement, crop rotation (cereal-legume) and rainwater harvesting through the zai technique.

An additional and essential element of sustainability will come from promoting local ownership by communities and end-users. Appropriate training and capacity building for local operation and maintenance will be provided to ensure long-term sustainability, and local authorities will be involved from project planning to implementation and monitoring. Local ownership will also be fostered through the creation or training of local management committees that will have their voice in project design, implementation and monitoring. These committees will also ensure that any proposed innovation responds to local needs and realities. Furthermore, the cash-for-work modality that will be used in implementing the CSA will ensure the communities see the social-economic benefits of the project. In addition, social sustainability will be enhanced through systematic gender mainstreaming throughout the project cycle.

The introduction of climate-smart agriculture in rural households has great potential for replication. Indeed, the CSA technologies that will be introduced or re-introduced require a low level of technical expertise and relatively low investment per household.

Although the private sector is not strongly developed in Guinea-Bissau, the project activities are not technology-intensive and most of them can thus be carried out at the local level. Consistent with technical level, a simplified financial mechanism based on the partnerships with community existent association and operationalization of local management committee will be put in place.

More precisely, the local and management committees will receive a lump-sum amount of money given in exchange of the realization of restauration activities in each locality and also to cover the monthly committees functioning costs. The cash-for-work option has not been selected due to concerns about the sustainability of restoration actions beyond the project.

In addition, local organizations will be mobilized to provide training to farmers (transformation and marketing of agricultural productions, and structuring of solid business models for income generating activities). Local companies will also be mobilized in accordance with the procurement procedures in place. The involvement of local entities allows the promotion of the technical expertise available on the territory and the strengthening of the local economy.

Once the financial mechanism is in place, it can be used as a reference either by other investors or by international and national financial institutions as a catalyst for increasing environmentally friendly agricultural production in other rural localities in Guinea Bissau. This project can also be replicated with other innovative smart agriculture technologies. Several activities will generate results that will be used to demonstrate how the approaches and lessons can be used in the country and in the regions. Replicability also comes from the project's ability to clearly demonstrate the financial and social benefits of adopting climate-smart agriculture. As part of the replication and dissemination the project will promote exchange between the different beneficiary communities and other communities outside the project intervention, in special the ones implementing CSA in the East of the country.

Institutionally, sustainability will come from the mainstreaming of CSA in regional and local plans and collaboration established between several line ministries and the capacity to integrate the concept of climate-smart agriculture as a means of integrated rural development, which is a declared priority of the Government of Guinea Bissau as reflected in its Strategic Plan Horizon 2025.

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[1] Ballantes : The Balantes are a West African people who live mainly in Guinea-Bissau, but also in Senegal.

[2] World Food Programme, 2020. Food Security and Nutrition Monitoring Survey, Guinea-Bissau

[3] Eric Penot, 1994. Mangrove rice cultivation of the Balant society in the Tombali region (Guinea-Bissau).

1b. Project Map and Coordinates

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

The project sites are located in Cacheu and Oio regions.

#	Region	Sector	Section	Site	Coordinates
1	Cacheu	Big?ne	Barro	N Tchumini-Barro	Long. : 15?36?43??W / Lat. : 12?23?13??N
2			Indaia	Inadaia	Long. : 15?33?25??W / Lat. : 12?24?10??N
3			Pundame	Pundame	Long. : 15?48?32??W / Lat. : 12?17?46??N
4		Bula	Pete	Pete	Long. : 15?40?03??W / Lat. : 12?05?14??N
5	Oio	Bissora	Jagali	Jagali/Leto	Long. : 15?44?03??W / Lat. : 12?05?14??N
6			Mansoa & Mansaba	Olom & Djamaia	Long : 15?16'31.90"O / Lat: 12?4'18.37"N
7			Farim	Genico	Long. : 15?33?08??W / Lat. : 12?27?14??N

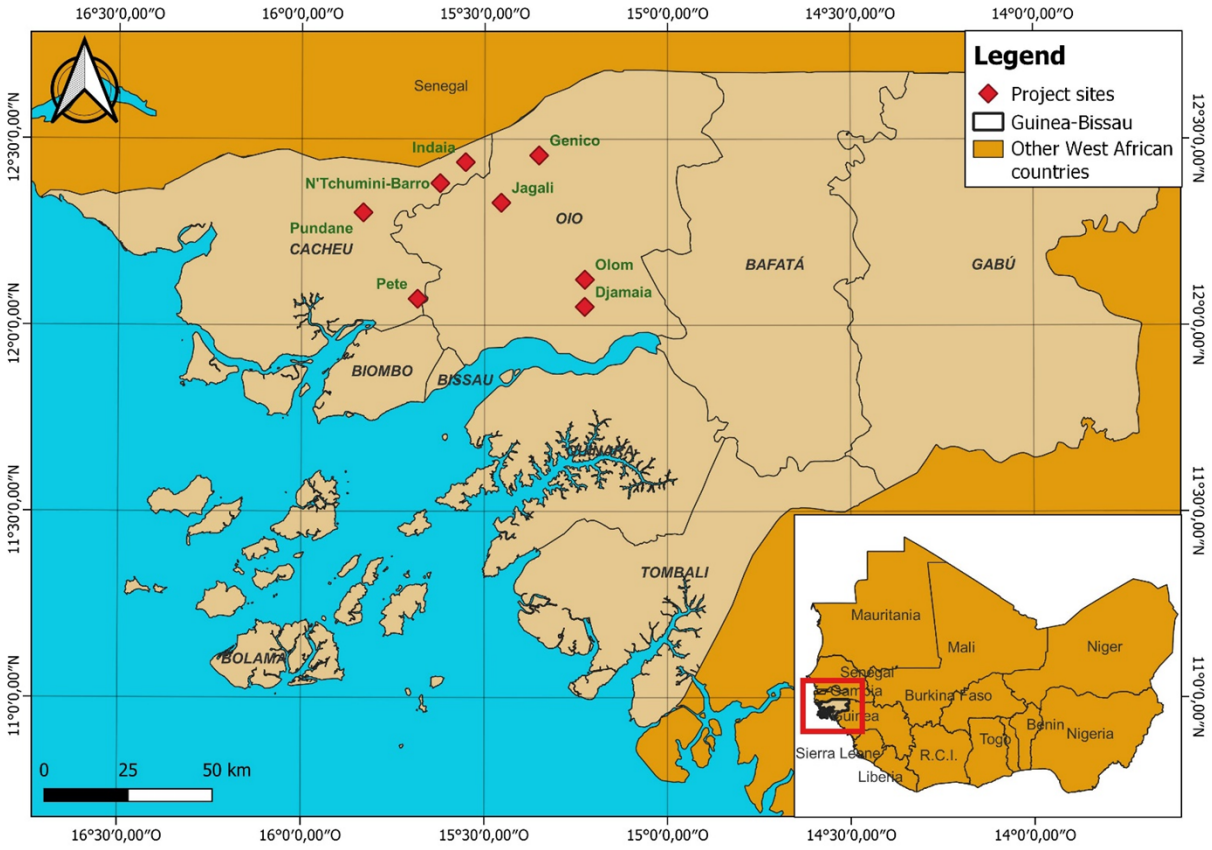


Figure 5. Localization of project sites

1c. Child Project?

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

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

The stakeholder identification process resulted from the combination of the entities initially foreseen in the PIF and an in-depth analysis of the documents, the mapping of ongoing interventions in this field and, above all, the documents referring to the PAIPV project, since it is intended to be a complement to it.

We also conducted interviews in different institutions in order to better understand the possibilities of collaboration and contribution of the project. The interviews were conducted with an understanding of the institutional competence (mandate), strengths, weaknesses and opportunities that each of the pre-identified parties could contribute as added value to the project. The definition and understanding of these elements will contribute to a project implementation based on a participatory approach and strengthened by the continuity of the learning of the different actors, in order to optimize the results, consolidate the knowledge and promote an articulated execution.

The project is developed in a logic of institutional articulation where interested parties strengthen its implementation with existing expertise and at the same time strengthen themselves institutionally through learning, training and experience sharing opportunities during project implementation.

During the stakeholder consultation process, each stakeholder's self-assessment was taken into account regarding how best to engage in the project. The details of these stakeholders are shown in the table below.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Table 2: Project stakeholders

During the stakeholder identification phase, the capacities and expertise that each stakeholder could bring to the project were analyzed. This information allowed us to define a dual role for the Civil Society Organizations: i) role of project implementer through the execution of activities in the form of service provision. This is taken into account in the project budget. At this level, the approach and selection of organizations will be based on public tenders where criteria such as capacity to intervene in the project area and experience in mobilizing rural communities, particularly women and youth, will be

respected. Clear and precise terms of reference will be drafted; ii) role as co-executor of the project through their influence with the communities. The Community Based Organizations (CBOs) play a relevant role in the community mobilization component in specific intervention activities that require dynamic community skills, particularly from women and youth in the rural areas where the project intervenes. Civil society will also be a member of the Management Committees within the communities and will thus actively participate in the decision making that will be the responsibility of this structure. The selection of the participating organizations will have as an essential and priority criterion the presence of organizations that intervene in the theme and in the area of intervention of the project. This will generate ownership and participation of local communities and take into account the reality of the population and the sustainable management of natural resources in the decision-making process. The detailed mapping of these organizations will have to be carried out later in the consolidation of the studies that will have to be carried out.

Within the framework of the project, the Society Organizations are of two different levels, namely the CBOs and the Non-Governmental Organizations (NGOs). The project will work with CBOs made up of rural producers and intends to strengthen the capacities of these structures to improve the performance of producers, particularly women and young rural producers. The NGOs, which have better technical and operational capacities and consolidated professional experience, will be able to support the project in the execution of some specific community mobilization and dynamization activities.

Interested party	Description of competencies	Responsibility in the project	Interest and type of influence on the project[1]	Engagement methodology	Timeline[2]
Public institutions					

Directorate General of the Environment Ministry of the Environment and Biodiversity	Governmental administration whose mission is to define, coordinate and execute environmental policies, as well as to ensure the planning and management of resources for the preservation of the environment in a sustainable development perspective. The Ministry has experience in the implementation of projects on the topic of climate-smart agriculture.	Key to the implementation of the project. Political and technical coordination. Articulation with the other projects that the directorate lead in this field (CSA). Contributions to the articulation with the PAIPV project. Articulation with other projects of the Ministry in progress on this theme (the COASTAL and Scaling up project). Technical assistance.	P	Periodic bilateral meetings between the parties; extraordinary meetings; PSC and PMU meetings; supervisory assignments. Technical assistance.	For the duration of the project
General Directorate of Agriculture / Ministry of Agriculture	Government department whose mission is to create favourable conditions for the development of agriculture in order to ensure food security, diversify agricultural exports, promote the rational management and preservation of agroforestry resources pastoris. The General Directorate of Agriculture is responsible for overseeing the definition, implementation and adjustment of agricultural policy.	Key to the implementation of the project. Political and technical coordination Collaboration in the operationalizatio n of the technical component related to the agricultural production chain. Articulation with the PAIPV project. Technical assistance.	P	Periodic bilateral meetings between the parties; extraordinary meetings; PSC and PMU meetings; supervisory assignments. Technical assistance.	For the duration of the project

Project Steering Committee	Extends structure for decision-making space for project stakeholders	Strategic direction, monitoring and supervision of project implementation.	P, DI	Periodic bilateral meetings between the parties; extraordinary meetings; PSC and PMU meetings;	For the duration of the project
Project Management Unit	Will be in charge of the day-to-day management of the project.	Operational responsibility for the project. Plan the activities that will be Implemented. Responsible for follow-up the execution of activities in the field and report on the evolution of the indicators	DI	Bilateral meetings between the coordination and PMU; extraordinary meetings; meetings PSC; supervisory missions; operational plan planning workshops. day-to-day management of project execution	For the duration of the project
Regional Directorate of Agriculture / Ministry of Agriculture	The deconcentrated services of the Ministry of Agriculture are present in all regions. They operate at the sector level. Responsible for the coordination of the entire regional structure of agriculture and rural development as well as representation functions.	Collaboration for the settling of the project at the regional and sectoral level, dialogue and support for the mobilization of communities. Monitoring of activities in the regions. Government structure closer to the population and therefore involved in the operation of the project in the communities. Technical assistance.	DI	Bilateral meetings between project coordination and PMU and other organs; participation in project events.	For the duration of the project

General Directorate of Forests and Fauna / Ministry of Agriculture	Its mission is to coordinate and supervise the implementation of forestry policy, protection, conservation and rational management of forest resources and wildlife.	Restore the forest ecosystem in the project areas. Supporting reforestation and restoration of mangroves. As well as in the management and protection of forests. Technical assistance.	DI	Bilateral meetings between project coordination and Management Unit and other organs; participation in project events.	For the duration of the project
Directorate of Rural Engineering Services / Ministry of Agriculture	Define, coordinate and supervise policies for hydro-agricultural development, agricultural mechanization, application of chemical fertilizers and biological products and ensure the implementation of policies for the promotion of agricultural infrastructure in order to use it as a means to achieve higher production and productivity.	Collaboration to adapt best practices for irrigation systems and infrastructure for hydro-agricultural planning. Technical assistance.	DI	Bilateral meetings between project coordination and Management Unit and other organs; participation in project events.	For the duration of the project
Directorate of Agrarian Extension Services / Ministry of Agriculture	Large-scale dissemination of agricultural information and techniques	Collaboration for the implementation of the project at the regional and sectoral levels, articulation with the project team for community mobilization. It must be familiar with community mobilization techniques with a gender approach. Technical assistance.	DI	Bilateral meetings between project coordination and PMU and other organs; participation in project events.	For the duration of the project

Direction G?n?rale des Ressources en Eau	They manage, conserve and control the use of water resources.	Adaptation to the National Plan for Integrated Water Management. Technical assistance.	II	Bilateral meetings between project coordination and PMU and other organs; participation in project events.	First year of project implementation
Institute de Meteorology	Production and distribution of meteorological information. The intervention was oriented towards the agrometeorological component, risk and disaster management.	Production of meteorological information, collaboration to consolidate the culture of using agrometeorology as a tool for farmers to make decisions related to adaptive capacity. Transfer of knowledge on the use of rain gauges to farmers. Technical assistance.	DI	Bilateral meetings between project coordination and PMU and other organs; participation in project events.	For the duration of the project
Institut National de la Recherche Agronomique	The government entity responsible for conducting agricultural research/research. It is mainly involved in the research component of seed adaptation.	Collaboration in terms of monitoring the productive capacity of the soil, adaptation of seed varieties in terms of adaptation to climate change. The introduction of biological forms of pest control. Technical assistance.	DI	Bilateral meetings between project coordination and PMU and other organs; participation in project events.	For the duration of the project

Local government	Political structure of the State responsible for regional and local development	Project reception at regional and sectoral level.	DI	Bilateral meetings between and PMU and other organs; participation in project events.	For the duration of the project
Civil society organizations					
Community-based association (women, youth)	They operate in different sectors. The community associations are present in many communities.	Responsible for the organization and mobilization of producers in the communities. Focal point and community interlocutors. In addition to being beneficiaries, they play an active role in optimizing community mobilization and ensuring the sustainability and continuity of the project in local communities. Member of the Project Steering Committee.	DA, DI	Availability of information (website, newsletters, brochures, etc.); to participate in project activities our territories; participation in the planning of actions; participation in training, seminars, events, PSC.	For the duration of the project
Farmers' Association and Producers' Cooperative	Forms of organization of small producers that are present at the village and regional levels. 	Responsible for the organization and mobilization of producers in the communities. Connection with the development of agriculture, production and marketing chain, connection with markets. Member of the Project Steering Committee.	DA, DI	Availability of information (website, newsletters, brochures, etc.); to participate in project activities our territories; participation in the planning of actions; participation in training, seminars, events, PSC.	For the duration of the project

General population living in the project intervention area	They are the indirect beneficiaries of the project. Benefit from the improved supply of ecosystem services, adoption of ecological practices and promoting development sustainable.	Collaborate in the implementation of the project. Contribute to the dissemination of good agroecological practices. Ensure the sustainability of the initiatives implemented within the framework of the project. Contribute to the sustainable management of resources.	IA, II	Availability of information (website, newsletters, leaflets, etc.); participate in project activities in the territories; community decision meetings	For the duration of the project
Community radio stations	More suitable channels for wide dissemination of information in the regions, with a long reach to the beneficiaries and the community in general	Opportunities for information dissemination, long-term awareness.	DA, II	Availability of information (dissemination) ; participate in project activities in the territories; participation in training, seminars, events.	From the second year of project implementation
Telecommunication companies	Financial transfer services Disclosure of information via SMS to a wide audience	Use to adapt to less bureaucratic and more accessible forms of payment and financial transactions.	II	Availability of information (website, newsletter, leaflets, SMS, etc.)	For the duration of the project
Professional training centres and technical schools in the regions	Professional training centres exist in some inland locations and offer technical professional training in certain areas relevant to the project.	Assistance in the repair and maintenance of pumps, solar panels	IA	Availability of information (website, newsletter, leaflets, etc.); participate in project activities in the territories;	For the duration of the project

Private sector in general	Although the private sector in the country is still small, there are opportunities to create partnerships during the project	Opportunities for marketing and valuing local products (development of the production chain).	DA, II	Foster actions that involve the work of young and women producers. Foment actions that promote benefit sharing in product chains related to biodiversity sustainability	For the duration of the project
Centres of Research, Academy, Associations and environmental activists	Production of scientific knowledge on climate change and smart agriculture	Production of knowledge and information that support decision-making. Receiving widespread support for actions related to project.	IA, II	Availability of information (website, newsletter, leaflets, etc.); participate in project activities in the territories.	For the duration of the project

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Gender analysis and issues of inclusion in the context of climate change:

A long-term trajectory of inequality: Although the country has a favorable legal framework for gender equality and the protection of women's rights, data show a higher incidence of poverty among women and in female-headed households, which is reflected, for example, in access to education, health and justice and is strongly linked to gender inequalities. Data from the Integrated Regional Survey on Employment and the Informal Sector (ERI-ESI) show that there is a gap of more than 50% in average hourly earnings between men and women, meaning that men are better paid than women, who are mostly clustered in the informal sector and without access to social protection.

The results of the Enqu?te Harmonis?e sur les Conditions de Vie des M?nages conducted in 2018-2019 by the INE show an incidence of poverty of 47.7% and a depth of poverty of 13.7%. According to a study conducted by the World Food Program (WFP), the daily cost for a family of seven members is US$2.35 and a nutritious diet costs US$4, which eliminates 68% of the population from access to food considered nutritious.

Regarding women's living conditions, according to MICS6 data (2018-2019), out of a sample of 10,945 women surveyed, the female literacy rate in rural areas is 16.3% and 56% in urban areas. The data also indicates that the WIO region has the lowest female literacy rate, 13.2%, followed by Gabu 15.8% and Tombali 16%.

In most regions of the country, according to customary norms, women do not have the right to inherit property, including land, in the event of the death of their parents or husband. This limits their access to the means of production and reduces their opportunities for economic empowerment, as it makes them dependent on precarious access to land through loans or rents. There are few cases where women have the right to use land privately in their own name. These barriers to access to land affect women's productivity in the agricultural sector and in the development of income-generating activities that can reduce poverty.

Women and youth face difficulties in accessing bank credit available in the market. Bank credit practices are restricting, bureaucratic and based on criteria that exclude the profile of the vast majority of women and youth, especially those residing in rural areas. They require collateral, fixed income, or assets in their own name to secure the loan that women working mostly in the informal sector cannot present. The shortage of less bureaucratic lines of credit adapted to the profile of activities carried out by women in the informal sector contributes to making the conditions necessary for them to undertake and improve their economic capacity unachievable.

Gender inequalities contribute to women's poverty and make them more vulnerable to climate change. Access to information and opportunities for resilience to climate change are closely linked to poverty and economic marginalization. The vast majority of the Guinean population, particularly women, are highly dependent on the agricultural sector and natural resources, with limited capacity to adapt to climate change and, as such, are susceptible to climate vulnerability.

Factors that limit women's participation/inclusion :

Several social, cultural and structural factors related to gender inequalities are identified as conditions for better integration of the gender approach in development projects and programs, especially for women in rural areas.

- Low level of education of women;
- Social and cultural barriers that prevent the effective participation of women in associative life, such as early and forced marriages;
- Overload of domestic work for women that prevents access to other opportunities;
- Women are heavily involved in agricultural production, with limited decision-making capacity, particularly in terms of marketing and processing. The agricultural sector linked to rice (a strategic product for the country) is rather unequal in terms of the roles of men and women. In horticulture, women are able to achieve a dynamic improvement in their income thanks to greater decision-making autonomy;
- Different social roles for men and women and division of labor based on gender with visible disadvantages and lower status of women's work;

- Exclusion of women from decision-making spheres;
- Limited freedom of expression for women in certain cultural contexts;
- Community contexts marked by the most diverse forms of gender-based violence (including control, limitations on freedom of movement and expression, and economic violence); in some ethnic groups and communities, women do not communicate with men outside the family network;

Project Gender action plan for women empowerment and gender gap closing
A broad understanding of these social, cultural, and structural factors contributes to a gender-sensitive approach. Gender mainstreaming in the Project should take into account four main dimensions that are in synergy with some of the country's strategic documents, including DENARP II, thz Politique Nationale sur l'?galit? et l'?quit? entre les Sexes, the Strat?gie Nationale Faim Z?ro, the Convention sur l??limination de Toutes les Formes de Discrimination ? l'?gard des Femmes - CEDAW, the Charte Africaine des Droits de l'Homme des Peuples et les Politiques d'?quit? du FEM,,therefore, the following areas are considered priorities for gender mainstreaming in the project:

Women's participation in decision-making: Project implementation aims to ensure that women, girls and youth are involved and able to participate in community decision-making regarding the project, resource management and best practices for climate change adaptation. They should be able to express their positions and have them taken into account. This component must be ensured in all stages of the project, with the inclusion of gender-sensitive indicators that can help safeguard the effective participation and inclusion of men, women and youth in project implementation.

Promotion of women's leadership: the project will take into account the relevance of involving women leaders for more inclusive and resilient alternatives to adapt to climate change, through their inclusion in networks and decision-making spaces.

Economic empowerment, access to resources and sustainable development: The project plans to ensure women's access to all available training and learning mechanisms, so that they can acquire skills and capacities to diversify production and entrepreneurship through access to credit opportunities and inputs, to acquire knowledge on more ecological and sustainable production practices.

Men's co-responsibility: the project is based on a gender mainstreaming logic, involving men, women and youth in the process of integrating the gender approach to climate change adaptation, in order to contribute to the construction of new masculinities within the communities, where men are engaged and contribute to the women's empowerment process. The planned activities aim to ensure the inclusion of different social categories.
The strategic guidelines for the inclusion of a gender-sensitive approach in the project are structured in such a way as to allow:
- The construction of gender-sensitive indicators that will make it possible to monitor the level and evolution of women's involvement in the project;
- The adequacy of activities at the most appropriate times for the participation of all, including women and taking into account the specific priorities of women, girls and youth in general. To that effect, the project will develop a community intervention guide on gender, youth and climate change to orient the team towards good practices in gender sensitive community mobilization.
- The integration of women in the project teams, especially women who can play the role of rural community animation, in order to strengthen women's capacities to participate in decisions, express and manifest their positions in terms of strategic orientations;
- The adequacy of gender-sensitive communication and community mobilization to avoid reinforcing stereotypes and inequalities, such as going into communities and meeting only men...
- Ensure that women and youth are present at all stages of the project (constructed decision-making spaces, meetings, training) and that their priorities are taken into account;

- To research, adapt and adopt intelligent agricultural techniques that will reduce the work overload in very specific areas and contribute to poverty reduction.

The project is oriented so that gender mainstreaming can effectively contribute to the reduction of inequalities in the beneficiary communities. In line with the strategic products designed to support increased productivity, notably rice and horticulture (as indicated in the table below), the gender dimension will be taken into account in the technical interventions to correct the difficulties encountered. Therefore, the project is banking on a gender-sensitive intervention that is cross-cutting to all activities and that can also present indicators to measure its performance.

Table 3: Project gender analysis

Rice production	**Difficulties encountered**	**Proposals for improvement**
Rice cultivation is a family activity. Women and young people have an important role in production, however, in some ethnic groups, the decision on its use is the exclusive responsibility of the head of the family, who is responsible, for example, for monitoring the financial resources for the sale of rice (the portion for sale). This removes women from the decision-making sphere of the family's productive resources and generates food and economic dependence on their husbands, thus contributing to women's vulnerability, particularly in situations of conflict within the marriage. Rice production involves a division of labor by gender. This division varies according to ethnicity.	-Low capacity for large-scale production. Production is based on manual labor and requires a high intensity of physical effort, especially for women who combine agricultural and domestic work. -Low decision-making capacity of women and youth in traditional power structures. -Degradation of essential conditions for the development of mangrove rice cultivation and consequently strong pressure on the land of the plateau; -Difficult access to seeds adapted to climate change: - Dependence on the rainy season for production.	-Restoration of degraded agricultural land and introduction of systems that benefit of all, including women and youth. -Inclusion of women and youth in the decision-making spaces created in the project. -Improved access to more drought-resistant seeds and other quality inputs. -Strengthen resilience to climate change.
Horticulture	**Difficulties encountered**	**Proposals for improvement**

It is an activity considered peripheral and carried out mostly by women. It is done collectively (they can organize themselves into associations) and this strengthens the capacity of women to support each other and to ensure greater negotiation in terms of autonomy, decision-making capacity and economic empowerment. There is evidence that income from horticulture helps to support children's school and health expenses, thus constituting a direct investment in the family's well-being. The land made available for horticulture is obtained by concession from the community to women's associations or by lease or loan. Under favorable production conditions, they manage to ensure family consumption (food diversification). Also, the income from its sale allows to improve the financial capacity. In some localities, younger men contribute to the watering process.	-Difficulty in getting intrants, such as seeds, and tools for land preparation and access to water. -Lack of microcredit lines accessible to the vulnerable groups. -Limited information on agro-ecological production techniques. Excessive use of chemical fertilizers without the necessary equipment and without knowledge of the effects on health, especially on pregnant and lactating women. - Difficulty in accessing land. Existence of numerous conflicts in this process. The perimeters granted to women are, in some cases, lands with poor soil fertility, with difficult access to water, requiring a lot of preparation and far from the communities. -Modes of conservation not much explored, very little transformation of the products are carried out, that implies losses of products.	-Improved access to quality intrants and financing for vulnerable target groups. - Awareness, information and training on agroecological techniques and smart agriculture. - Working with women producers. -Support for the adoption of formal land concession mechanisms in favor of women's associations. - Support for soil recovery, irrigation and adaptation. - Support for marketing and processing of products.

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

Yes

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

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

Yes

4. Private sector engagement

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

Although the private sector is not strongly developed in Guinea-Bissau, the project activities are not technology-intensive and most of them can thus be carried out at the local level. The intervention of the local private sector, and in particular of local firms, will notably enable (1) to stimulate the local economy and (2) to ensure the continuity and hence the sustainability of the project over time. Indeed, the monitoring of the provision of goods and services will be more easily done with local firms (e.g. the maintenance of water control technologies).

Thus, the project will involve the private sector for the provision of goods and services according to the procurement rules in force, particularly in the areas of implementation of agricultural techniques resilient to climate change, training and capacity building, and structuring of M&E.

Especially, the project will collaborate with the local private sector for:

Activity	Preidentified entity	Provision of goods and/or services
Output 1.1.1 Implementation of climate-smart agriculture techniques and technologies	Engineering firms	Hydrological, hydraulic and pedological studies
	Engineering firms	Diagnostic study of climate-smart agricultural techniques and technologies implemented at the regional and sub-regional levels
	Private firms	Purchase of small equipment for promotion of crop systems and crops that are resilient to climate change and adapted to the soil, economic and social conditions of the intervention areas
	Private firms	Purchase of small equipment for setting up experimental and learning plots (field school) of climate-smart agriculture techniques and technologies
	Private firms	Setting up of water control technologies (e.g Solar pumps kits)
Output 1.1.2. Restoration of degraded agricultural land with an ecosystem-based adaptation approach	Consulting firms	Analysis of past and existing land use, restoration and protection practices
	Private firms	Setting up of regenerative techniques
	Private firms	Purchase of equiment for restauration activities for management committees
	Private firms	Purchase of equipment for the arrangement of rice, horticultural and arboricultural perimeters
Output 2.1.1 Technical capacity building trainings on climate-smart agriculture techniques	Training institutions (universities, firms or national or international companies)	Initial and additional training on different themes (professional skills in animation and awareness; technical skills in CAS, climate change, principles of adaptation and mitigation, food security) for the reinforcement of the project team's skills
	Training institutions (universities, firms or national or international companies)	Awareness-raising training of smart farming techniques and technologies

	Consulting firms and/or training institutions (universities, firms or national or international companies)	Elaboration of a training strategy in smart agricultural techniques in collaboration with local stakeholders and training sessions for local decision-makers, extension workers, agricultural technicians and small-scale farmers
	Private firms	Purchase of high-quality intrants
	Local Consultants	Study for the characterization of the current organizations and evaluation of the capacity building needs
	Consulting firms and/or training institutions (universities, firms or national or international companies)	Training for trainers for capacity building of priority groups
Output 2.1.2 Provision of agroclimatic and meteorological information and early warnings for groups of farmers.	Private firms	Purchase of rainfall measurement kits and purchase direct-reading thermometers and anemometers
	Private firms	Purchase of farmer?s pluviometers for farmers and cell phone
	Private firms	Purchase of tools for creation and dissemination of information materials adapted to each target
Output 3.1.1. Project monitoring and evaluation for lessons and knowledge compilation	Private firms	Mid-Term Evaluation report and Final Evaluation report
	Audit firms	Audit report
	Local Consultants	Capacity building of the project team on capitalization processes, tools and supports
	Training institutions (universities, firms or national or international companies)	Training for strengthening the technical and material capacities of the stakeholders for the implementation of the strategic plan for monitoring, maintenance and continuous improvement of physical investments
Output 3.1.2 Project knowledge and lessons learned dissemination	Private firms	Providing tools, documents, products, knowledge, design of devices, writing/designing fact sheets, policy briefs, press releases, scientific publications, radio and TV documentaries etc.
	Private firms	Designing a website for the project
	Private firms	Providing educational awareness kit including tools and associated educational sheets
	Training institutions (universities, firms or national or international companies)	Training of the project team and partner technical services in the use of awareness kit

Output 3.1.3 Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans	Local Consultants	Inventory of existing plans in order to improve coherence between the management of restored degraded lands and landscapes and community development initiatives, drafting technical annexes to existing regional and local plans writing of technical annexes and drafting notes for decision makers

5. Risks to Achieving Project Objectives

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

The project faces a variety of risks that should be effectively reduced through the implementation of mitigation measures.

Table 4: Projects risks analysis

?	Risks	Risk level	Risk description and mitigation measures
1	**Political instability**	Low	Political instability is recurrent: since gaining independence in 1974, Guinea-Bissau has experienced prolonged politico-military unrest. There is some risk that political instability could throw the project off course, although most activities would not be affected if instability persists. *Mitigation measure:* - A contingency plan is developed at the start of the project; - The security situation is regularly monitored by the PMU in order to implement the contingency plan if necessary; - The project intervention sites are located in rural areas, relatively unaffected by possible socio-political unrest.

2	**Institutional risk**	Medium	Political instability has repercussions at the institutional level, particularly in terms of capacity for action. In addition, the project is anchored at the level of two ministries, which leads to a risk of conflict of interest/tension: an important coordination issue. *Mitigation Measure:* - The project is anchored at a high level, but its implementation involves close collaboration with a wide range of stakeholders (local communities, public institutions, civil society organizations, etc.) and draws on the experiences, expertise, lessons learned, and best practices of each; - Capacity building activities will be implemented within the framework of the different components in order to strengthen the available expertise and fill the identified gaps ; - MADR and MEB will respectively designate a focal point to sit on the project's Steering Committee. They will be responsible for coordination between the ministries and the PMU.
3	**Unavailability of funding**	Medium	WADB financing is subject to the debt mechanism, which can lead to delays in the availability of funds. *Mitigation measure:* - The financial arrangement ensures the autonomy of implementation of certain activities with respect to BOAD financing. If disbursement is pending, the co-financing will allow the project to continue to be implemented through activities financed by the GEF. - The project's steering and management, and budgetary and operational planning tools will make it possible to anticipate possible budgetary tensions. Communications will be sent in due time to the competent authorities in order to remove the risks involved in the proper execution of the project.

4	**Delay in the commissioning of investments and their appropriation**	Low	There is a technical risk associated with the investment due to the country's limited experience with the proposed technologies. *Mitigation Measure:* - The techniques and technologies implemented are selected according to various criteria, including their simplicity, to allow replication and appropriation; availability or ease of access to the constituent elements to allow maintenance and replication; - Capacity building and empowerment activities will occur concurrently with the investments for the different stakeholders (ministries, deconcentrated technical services and partner beneficiaries); - Particular attention will be given to the definition of effective, adapted and well-targeted training programs. Action training and the competency-based approach will be favored.

5	**Lack of active participation/engagement from stakeholder to the project**	Medium	The lack of animation, information and awareness of stakeholders leads to a risk of non-participation. However, due to the difficulties experienced in the agricultural sector, organizations are looking for and considering new alternatives. *Mitigation Measure:* - The various stakeholders are integrated and participate in the institutional system. The monitoring carried out by the various instances and the human resources deployed ensure that information is shared and made available to all stakeholders ; - The focal points of the ministries have a seat on the Steering Committee, which guarantees effective involvement of the High Authorities in strategic decision-making, coordination between the ministries and the PMU, high-level monitoring of the project, and a capacity to mobilize for the resolution of problems during implementation; - The beneficiaries have representatives in the PMU through the animators, who are full-time employees from the communities. The participatory approach is adopted for the implementation of the project and its activities; - Dissemination activities of the project's knowledge and lessons learned contribute to the promotion of techniques and technologies at the national level.
6	**Tension over land management and use**	Low	The land issue is a source of tension. The project will not interfere with land management decisions. *Mitigation Measure* : - The project will build on and strengthen existing community management arrangements. In the event of conflict, existing internal conflict resolution structures and systems will be used in the first instance. The project may ultimately call upon civil society organizations that usually work with these communities for mediation; - Social dialogue will support internal negotiation processes. The participatory intervention strategy will strengthen collaboration among community members.

7	**Climate science and risk information is either unavailable or too coarse to be used for effective national, regional and local plan ning.**	Medium	- Component 1 of the project is strengthening the resilience of agricultural production to climate change. Advice and information on the virtues of smart agriculture will be provided. Component 2, will provide meteorological and agro-climatic information, training and support on how to compile and integrate available information on climate risks and use it in vulnerability assessment.
8	**Negative impacts of the project on the environment and rural populations**	Low	The sustainability of the activities to be implemented under all project components is a key issue that must be addressed. The environmental and social impacts of agriculture are related to land use and the loss of fallow land. *Mitigation Measure:* - The project is being implemented in accordance with WADB's new environmental and social policies and procedures, approved by the GEF, to ensure risk mitigation. The investments will also be subject to the validation process of the Autonomous Authority for Environmental Assessments (AAAC) in Guinea-Bissau; - The project is based on the deployment of soil restoration and climate-smart techniques with minimal environmental impacts; - All investments include capacity development activities for stakeholders to ensure their empowerment in the use, management and replication of investments; - The ministries and deconcentrated services will be equipped to carry out both investment monitoring and sustainability activities. They will be responsible for continuing to support farmers after the project ends ; - The definition of a strategy for the sustainability and multiplication of climate-smart agricultural techniques and technologies is one of the project's activities; - The initiative is gender sensitive through indicators, activities and a specific community intervention strategy.

9	**Natural hazard**	Low	The natural hazards identified are marine submersion of cultivated land, climate variability and associated extreme events in terms of flooding and drought. The project specifically aims to strengthen the resilience of smallholder farmers to climate change which contributes to and/or increases the above natural hazards. Project activities in terms of deployment of smart farming technologies and techniques and provision of weather and agro-climatic data and an early warning system include the establishment of facilities, devices and tools as well as associated training. All these actions constitute direct adaptation and mitigation measures to natural hazards. The risk is therefore considered low. *Mitigation measure* : - Component 2 of the project will provide agro-climatic and meteorological information and an early warning system for farmers' groups. These elements should enable farmers to adapt their technical itinerary and production inputs to climate change and the associated natural hazard ; The management of cultivated areas, techniques and smart farming techniques deployed will be in direct response to the forecasts and expected impacts of climate change and the associated natural hazard
10	**Health restrictions due to COVID-19**	Low	A possible resurgence of the pandemic will result in restrictive measures. These COVID-19 restrictions may limit interactions between key stakeholders and project beneficiaries and impact the implementation of project activities. *Mitigation measure:* - The health situation is monitored regularly by the PMU so that the contingency plan can be implemented if necessary; - Adequate health and safety measures are put in place, including distancing measures associated with the distribution of personal protective equipment to key stakeholders and beneficiaries to enable the implementation of project activities.

11	**Inflationary pressure induced by COVID-19 and the conflict in Ukraine**	Low	The major geopolitical and socioeconomic upheavals associated with the conflict in Ukraine and the post-COVID-19 recovery efforts may put inflationary pressure on the cost of key resources needed for project implementation and community livelihoods. This inflation is already being felt in the energy sector (petroleum products in particular), transportation, agricultural inputs (fertilizers, pesticides, etc.), agricultural and manufactured goods among others. *Mitigation measure:* - The project will ensure that it consults with key stakeholders, including beneficiaries, to mitigate the impact of inflation on the project while ensuring that the overall objectives of the project are met. - The project's procurement costs for services and benefits will incorporate the current inflation rate plus 1-2 points.

Considering the nature of this project, the potential negative social impact is very limited due to (i) the high gender integration ensured by the detail gender action plan and (ii) the implementation approach based essentially on the improvement of existing techniques and introduction of innovations that will reduce the physical effort, for instance in the irrigation. The rural local communities are the main beneficiaries of the project, and within them women are the foremost important targets. The project implementation region has no indigenous people, in the sense of small social groups that are distinct from the majority of population. Instead, the local population is composed of different ethnic groups, therefore no need for particular implementation setting to protect specifically indigenous groups. However, the project will put in place the common transparency procedures in order to impede all kind of favouring tendencies for specific ethnic group.

The access to natural resources and equal opportunities is ensured by the participatory approach in which community organizations play important role in the implementation, namely the community-based women and youth association, farmers? association and cooperatives. The community participation through locally organized entities ensure that opportunities are placed in their existing social construction, thus fully on their control. This project has a low impact in terms of natural resources exploitation, due to the approach based on rehabilitation of traditional rice field, without any new deforestation and improvement of existing technics through the introduction of innovations. According with the Guinea-Bissau?s environmental and social regulation, managed by the *Competent Environmental Assessment Authority (AAAC)*, this project will be, most probably, classified has project category C, which means that the project has insignificant or null negative impact to the environment and human being. This level of classification does not require *detailed environmental studies due to the insignificant impact on the environment.*

The above gender analysis identified specific bottlenecks and barriers for full participation of women and specific solution for each of the encountered difficulties for equal participation of women. The analysis has been done in a way that the different challenges that women encounter are described from the point of view of the socioeconomic activity, horticulture and rice production, in order to better expose at first, and then present the solution that will contribute for better access and participation of women in the project.

Besides women and young people, handicap people living within the project implementation territories are also important vulnerable people that need to be taken into consideration. Therefore, while choosing the households that will benefit from the project, a special attention will be given to families that have handicap members. These families should be considered as priority when choosing the direct beneficiaries.

6. Institutional Arrangement and Coordination

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

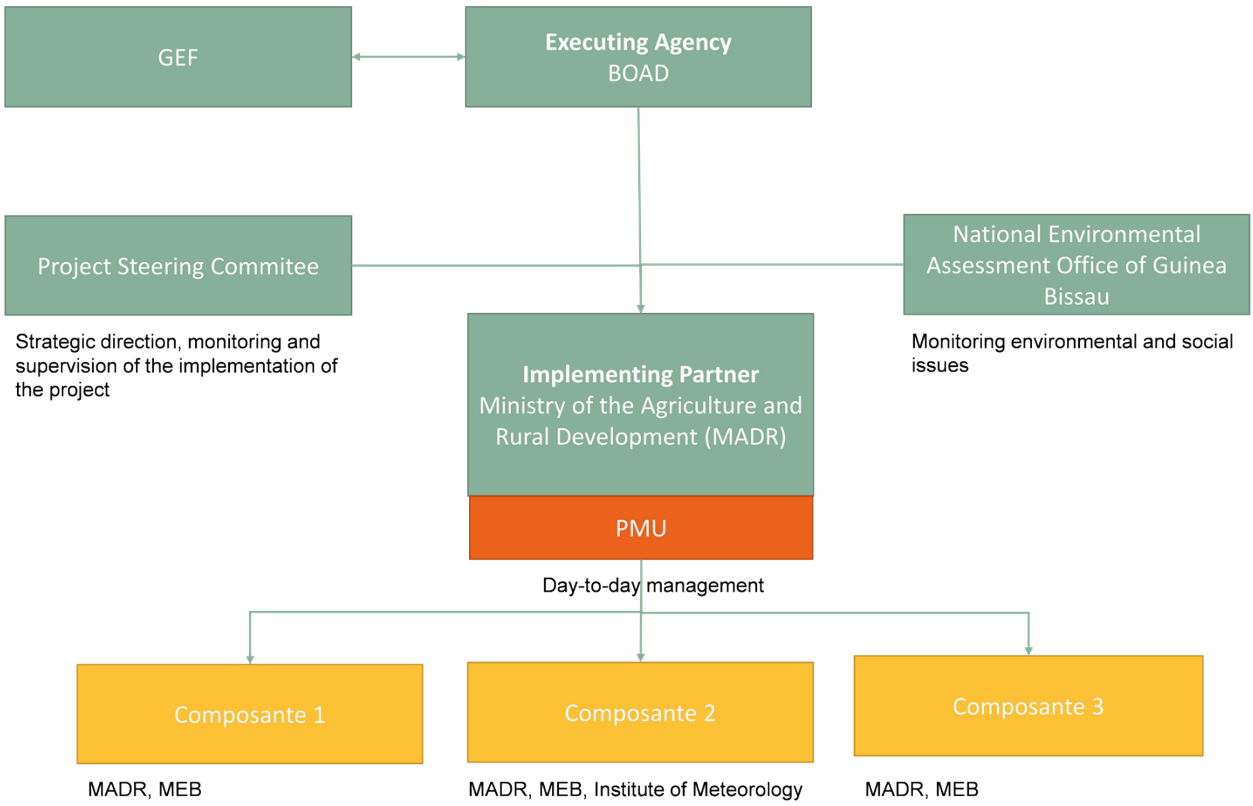
Institutional arrangement

BOAD, as an executing agency, is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. BOAD is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation.

The Implementing partner for this project is the Republic of Guinea Bissau, represented by the Ministry of the Agriculture and Rural Development (MARD) and the Ministry of Environnement and Biodiversity *(*MEB) over a period of three years, from 2023 to 2026. The Implementing Partner is the entity to which the BOAD entrusted for the implementation of the project, as set forth in this document.

The Project management unit (PMU) will be hosted by the MADR, especially the General Directorate of Agriculture or General Directorate of Rural Engineering of Oio and Cacheu and will be in charge of the day-to-day management of the project.

The project will also be implemented in partnership with the Ministry of Environment and Biodiversity, the General Directorate of Forests and Fauna, the General Directorate of Water Resources, the National Institute of Agronomic Research, and the Institute of Meteorology. Furthermore, the National Environmental Assessment Office of Guinea Bissau will be in charge of monitoring environmental and social issues for the selection of the project sites to define the category of ESIA required according to the environmental and social impacts and risks.



Coordination

The project coordination will be implemented by the PMU for the day-to-day management and by the project steering committee for the strategic direction, monitoring and supervision of the implementation of the project.

Each stakeholder, mobilized by the project coordination, will participate in the project through an adaptive management approach. This means that each stakeholders requires to be flexible in their decisions, open to the possibility of adjusting coordination, management, activities, indicators, assumptions, finances, etc. to improve progress towards the desired results.

- Project Management Unit (PMU)

Hosted by the DGE in OIO and Cacheu, the Project Management Unit (PMU) will be composed of twelve (12) full-time members and two (2) part-time consultants:

Position	In charge of
Project Coordinator **(full-time)**	The Project Coordinator will be in charge of the overall coordination including the management of the PMU members and the other stakeholders

Two (2) focal points (from MARD and MEB, full-time)	The focal points will be designated by the ministries and will be responsible for the coordination between the ministries and the PMU.
Two (2) Local officials (one in Oio and another in Cacheu, full time)	The Local Officials will be in charge of the deployment (implementation and logistics) of the activities in the field with and for the beneficiaries under the supervision and responsibility of the project coordinator. He/she will directly support the animators (planning of activities, supervision of technical aspects, etc.), harmonize and consolidate the contributions from the field, ensure the collection and reporting of monitoring data to the MoE, participate in the writing of reports. They should have a minimum of a bachelor's degree in the field of environment or agriculture and experience in community animation. In order to reduce the financial burden, the two local officials will use the existing regional agriculture office.
Seven (7) Animators **(full-time)**	The Animators will be located in the communities of intervention. Recruitment will be based on proposals from the communities who will submit 2 to 3 candidates who will be interviewed by the PMU. The animators will be "sons or daughters" of the intervention villages with a proven commitment to the community and interested in agriculture and/or climate change issues and in learning. This will ensure better engagement and ownership, through them the communities become partners in the implementation.
Financial, administrative and procurement manager **(1/2 time)**	The financial, administrative and procurement manager will be in charge of the procurement, the financial monitoring and the administrative issues during the project in line with the Agency policies and Timeline.
M&E Assistant **(Consultant, full time)**	The M&E Specialist will be responsible for structuring the M&E framework and tracking and analysing monitoring data during the project. The recruited consultant will be the same for this project and the PAIPV in order to increase the synergy between them.
Gender specialist **(Consultant, 2 days per month)**	The Gender specialist will be hired as a consultant with a framework agreement covering a quarter of the project time. He/she will be responsible for developing the project's gender strategy, structuring the tools throughout the project, evaluating gender mainstreaming and the implementation of related activities in order to make the necessary adjustments. He/she will also support community outreach activities to ensure that the project benefits community development.
Knowledge Management Assistant **(Consultant, 1/2 time)**	The Knowledge manager will be recruited as a consultant with a framework agreement covering one quarter-time. He/she will be responsible for structuring the tools used throughout the project for knowledge management and will be in charge of the project related activities (especially the 3rd component). The recruited consultant will be the same for this project and the PAIPV in order to increase the synergy between them.

More generally, the PMU will be in charge of implementing the project with day-to-day management including: (1) Project coordination and planning (including managing risks, monitoring and evaluation and updating multiyear workplan); (2) Communication, information/awareness, concertation with the other

actors (especially farmers' organizations/management committees) and involving all partners (local administrative authorities and services at the sector and regional levels, public offices, banks, farmers' groups, NGO etc.); (3) Procurement of goods and services including human resources through competitive bidding or through agreements with specialized technical services whenever they present a comparative advantage in terms of efficiency; (4) financial management, including overseeing financial expenditures against project budgets; and (5) Writing delivery report and financial report.

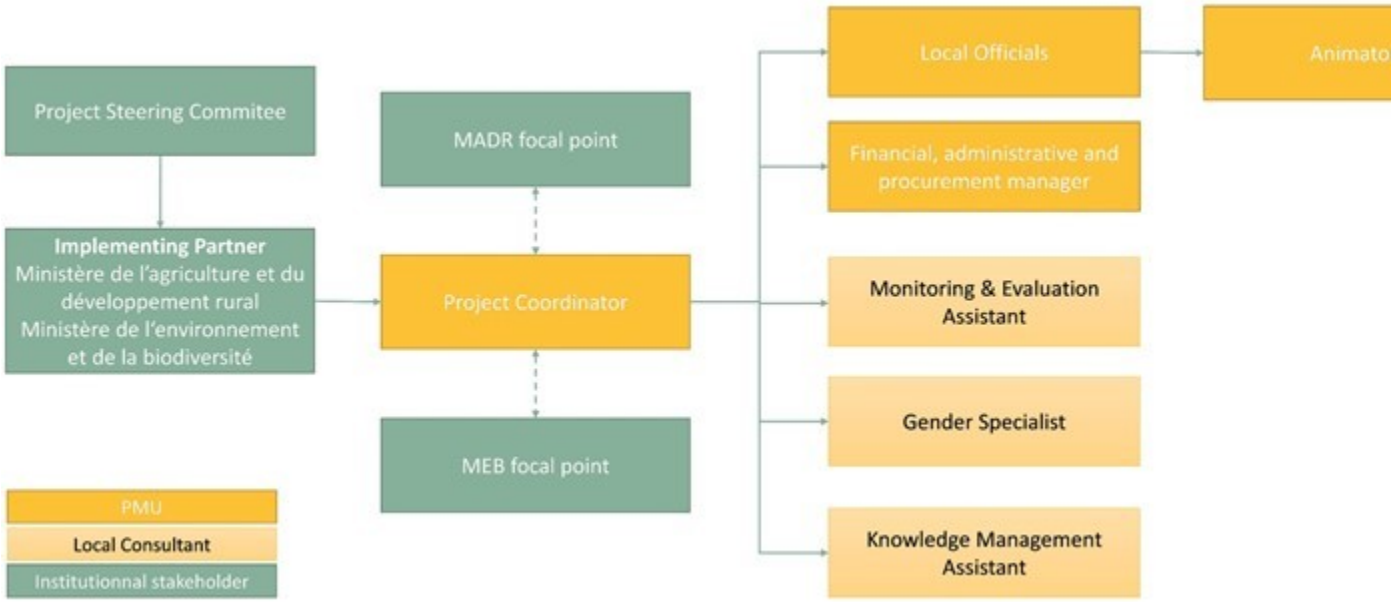
v Project Steering Committee (PSC)

As described in the PIF, the PSC will be established by decree of the Prime Minister's Office. The PSC will be chaired by the MEB and vice-chaired by the MADR. The PMU will provide the secretariat and the overall organization of the meeting.

Other institutional stakeholders will represent in the committee: the General Directorate of Agriculture, General Directorate of Rural Engineering, General Directorate of of Environment, the General Directorate of Forests and Fauna, the General Directorate of Water Resources, the National Institute of Agronomic Research, and the Institute of Meteorology. The PAIPV coordinator will also be invited to ensure synergy between the two projects. The civil society will also participate to the committee with the acknowledged NGOs of the sector, the farmer?s organization referents and the members of the local committees.

The PSC will be in charge of strategic direction, monitoring and supervision of the implementation of the project. More precisely, it will include : (1) to ensure the coherence of the activities carried out within the framework of the project with the objectives of the project (2) to evaluate the execution of the project during the past six months and/or year and to approve the execution reports presented by the PMU; (3) to evaluate the functioning of the PMU and to propose recommendations to the supervisory authorities of the project; (4) to formulate recommendations for decision-making for the project.

The committee will meet twice a year and every time it is needed, upon convocation by its president.



Other relevant GEF-financed projects and other initiatives

Relevant projects funded by the GEF and other initiatives are described in *Section 7. Consistency with national priorities*. This section describes the projects and initiatives identified, their objectives, and their level of complementarity with the project.

7. Consistency with National Priorities

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

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

The proposed interventions are based on and closely aligned with the recommendations of the National Economic and Social Development Plan (PNDES), the National Partnership Framework (2018-2023), the National Platform on COP21 (September 2018), the National Agricultural Investment and Food Security Plan (PNIA-SA) (2018-2025), the National Water Policy (PNE) (January 2018), the National Environment Policy, the National Development Plan, the Nationally Determined Contribution and the Second and Third National Communication.

The project is consistent with Guinea Bissau's Nationally Determined Contribution (NDC), in particular on the promotion of climate-smart agriculture while strengthening development at the grassroots level. Guinea-Bissau aspires to contribute to the international mitigation effort aimed at gradually aligning with the 1.5? C trajectory as recommended by the Paris Agreement. Thus, Guinea-Bissau has set the

objective of reducing its GHG emissions by 30% by 2030 compared to the reference scenario (conditional contribution of 20% and 10% unconditional contribution).

The National Action Program on Adaptation to Climate Change (NAPA) was submitted to the UNFCCC in 2006 and since then Guinea-Bissau submitted three subsequent communications, the last one on 2018. The prioritized actions (programs and projects) are within the scope of food security, water resources, coastal zone and forest. This project addresses directly two out of the four priorities. In spite of the inexistence of specific national adaptation policy, the different sectoral policies incorporate adaptation measures, although not in a comprehensive way. Thus, there is a gap between national plans (such as iNDC, Terra Ranka, Hora Tchiga and Third National Communication, and the existing legal framework for the implementation of the aforementioned plans, programs and policies. In 2019 Guinea-Bissau submitted its First *Biennial Update Report* (BUR), whose focus was to update the GHG inventory.

The project addresses the objective of climate-smart agriculture by building resilience in the agricultural sector while reducing GHG emissions and improving agricultural productivity and income. According to the NDC (October 2021), Guinea Bissau's adaptation and mitigation strategy is based on the vision of climate-smart agriculture.

The objective of the National Economic and Social Development Plan (PNDES) is to contribute to mitigating the adverse effects of climate change on the most vulnerable populations, with a view to sustainable development and poverty reduction in Guinea Bissau. The PNDES established as one of the main goals of the government the biodiversity preservation and combat against climate change, having it as crucial part of the development strategy. This project will reinforce the positive impacts of the priority activities of the PNIA-SA for the adaptation of the agriculture and water sectors (diversification and intensification of irrigated crops; mobilization of surface water and exploitation of groundwater; promotion of income-generating activities...). The World Bank Group today adopted its Partnership Framework (2018-2023) with Guinea Bissau whose objectives are consistent with those of the PNDES. The framework will help Guinea Bissau accelerate the structural transformation of its economy to create productive employment and address its development challenges.

The National Environmental Protection Policy aims to ensure a healthy environment and sustainable development by considering the environmental dimension in all decisions affecting the design, planning and implementation of development policies, plans, programmes and activities through the accountability and commitment of all stakeholders. It aims to: (i) ensure food security and the supply of products in quantity and quality; (ii) actively contribute to sub-regional, regional and international efforts to protect, restore and manage the environment; and (iii) promote job creation. The present project, through the promotion of soil conservation and improvement techniques, water saving techniques, protection of managed areas, reduction of the use of chemical inputs by favoring integrated approaches, should have strong environmental benefits.

The proposed interventions are based on and closely aligned with the recommendations of the second (2011) and third (2018) national communications and the NAP (2020). The NAP has identified and ranked 4 priority sectors including food security, education, capacity building and coastal and marine ecosystems. The project will address these 4 priority sectors. Indeed, the project will contribute to strengthening Guinea Bissau's capacity to address climate-induced food insecurity by improving the policy, regulatory and

institutional framework for the management of climatic factors of land degradation, by improving knowledge and understanding of climate change and its impacts on agricultural production. These priority adaptation options and measures consider the Guinea-Bissau NAP/CAD national strategy and action, the national biodiversity strategy and action plan, and national action strategies, in particular those related to livelihoods strategies, especially those related to livelihoods production in farming communities, ecosystems and natural resources protection.

The government aims to reduce the dependency on the monoculture of cashew nuts, therefore the PNIA sets the path for investment on diversification, in one hand, and in the other in the increase of productivity of existing plantation in order to reduce the need and willingness of deforestation for new plantation purpose.

The subprogram number 4 of PNIA (2017), Sustainable management of natural resources (water, soil and forest) enounces the necessary actions to strengthen the rural populations capacity of adaptation to the climate change. This subprogram takes into consideration the need for a sustainable management of water, soil exploitation according with different ecologies and forest preservation.

Alignment of the proposed intervention with Guinea-Bissau?s strategies and policies

#	**Strategy/Policy Document**	**Key objectives**	**Project alignment**
1	Terra Ranka	- Sustainable development and biodiversity preservation and regeneration to maintain the long-term potential for value creation of renewable resources; - Self-sufficiency in rice production	Introduction of smart practices that will adapt to climate change, while reducing negative impact to the ecosystems where the project will be implemented; The project will support rice production systems through a better management of water, thus contribution for the increase of productivity

2	National Development Plan	- Develop productive sectors of the economy and infrastructure; - Preserve biodiversity, combat climate change and enhance natural capita	Agriculture and rural development through introduction of climate smart technologies and techniques to foster economic development and poverty reduction; Implementation of approaches that preserve the biodiversity by reducing the pressure on forest through recuperation of former agriculture lands and protection of rice fields by buffer zones reforested
3	PNIA	- Production diversification; - Promotion of low-cost irrigation systems; - Short-cycle seeds; - Dissemination of varieties less demanding in water and resistant to prolonged drought periods; - Increase in hydraulic works, including construction of micro water retention and small dykes for water retention	The project will contribute with the introduction of an innovative irrigation system and improved water management systems. The project will apply short-cycle seed with collaboration and support from INPA adaptive research
4	National Action Program on Adaptation to Climate Change (NAPA)	- It proposes steps and priority activities aimed at reducing and/or mitigating the negative effects of climate changes and implementing early warning and forecasting measures to enable response to future catastrophes.	The project will be collaborating with the National Meteorology Institute in order to increase farmers? capacity to use meteorological information to anticipate hazards and also their capabilities to collect directly rainfall information to guide their farming decisions
5	Convention on Biological Diversity	With the objective of conserving its biodiversity, to guarantee the sustainable use of its elements and to promote the fair and equal share of the benefits and advantages that result from it.	The project will be limiting its activities to existing under-exploited agriculture field through techniques that entail low emissions.
6	Water Master Scheme	- Integrated management of water resources (IWRM);	- The project will be contribution with the creation of new water

7	National Water Code	- Rehabilitation, renewal and extension of water infrastructure; - Improving knowledge on water resources and sustainable use thereof (training).	points for horticultures equipped with solar panel; - Introduction of irrigation systems that will fully take advantage of water availability; - Rice field water management through PVC tubes that will avoid construction of intrusive concrete infrastructures that risk to change the water flow and river dynamics
8	National Water Policy		
9	United Nations Sustainable Development Cooperation Framework for Guinea-Bissau 2022?2026	Structural Economic Transformation, Sustainable Development and Inclusive and Resilient Green Growth That Leaves No One Behind	Contribution for sustainable development and green growth through new irrigation technologies that increases the productivity without causing any additional negative impact on forest
10	National Plan of Environmental Management (PNGA)	- Seeks the optimization of existing environmental resources for economic growth and sustainable livelihood improvement; - Besides sustainable natural resources management, it also seeks to support the search of solutions that can improve food safety, eradicate poverty, control pollution, improve sanitation and mitigate climate change.	The project will be contributing to the improvement of food security, by increasing the rice and horticulture productivity, while mitigating the climate change by reducing the pressure on the forest (abandonment of high land production of rice in the forest)
11	Forest Master Plan and Forest Law	- Setting-up of conservation units, especially in fragile ecosystems; - Promotion of local conservation and development initiatives; - Reforestation using endemic species; - Consolidation of protected areas (PAs) in the Forest Belt; - Initial assessment of climate change risk on Guinea- Bissau?s biodiversity	- Agroforest conservation based on endemic species reforestation to protect rice field from sedimentation; - Promotion of agriculture in existing field, by regenerating abandoned sub exploited mangrove field;
12	Consolidation of a Protected Area System in Guinea-Bissau's Forest Belt		

Besides the alignment with the national policies and programs, the proposed intervention is aligned with existing project ongoing in the country that addresses the climate smart agriculture. In fact, the exiting projects can synergize in order to increase the knowledge around CSA and also create knowledge platforms that can benefit all the actors involved in this effort. Additionally, it?s important also to stress some important projects that do not have CSA as main approach, but still contribute with relevant practices or technologies that can grant for a more climate conscious agriculture.

Thus, there?s technical complementarity and knowledge that can be shared between proposed intervention and the ongoing/concluded project:

#	**Project**	**Main goals**	**Level of complementarity**
1	Scaling up climate-smart agriculture in East Guinea Bissau **Status**: on-going **Funding**: Adaptation Fund (implemented through BOAD)	- Seeks to strengthen practices and capacities in climate-smart agriculture in the project region and at institutional level. - Through the project?s activities, food security and livelihoods are expected to be strengthened at household level while simultaneously increasing capacities in climate risk management and adaptation planning at all levels of governance	The Scaling up project already gathers enormous knowledge on CSA techniques that can be replicated by the proposed intervention, such as zai, crop rotation, rain measurement devices, seeds bank, improved wells, drip irrigation, etc. These projects created a community forum for climate change, composed by farmers, local authorities, local civil society and technician operating in the region to discuss and share knowledge around climate change and adaptation approaches. These forums can be replicated by the proposed intervention.

2	Strengthening the resilience of vulnerable coastal areas and communities to climate change in Guinea-Bissau **Status**: on-going **Funding**: GEF	- Develop the strong institutions and policies needed to improve risk management in coastal zones, protect investments in coastal infrastructure and diffuse new technologies to strengthen resilience within coastal communities.	
3	?Strengthening adaptive capacity & resilience to climate change in the agrarian & water sectors in Guinea-Bissau? **Status**: concluded **Funding**: GEF (implemented by UNDP)	- Integration of climate change adaptation into development planning; - Small and medium scale climate change adaptation practices for water, agriculture and livestock management; - Capacity development on climate-resilient agriculture at local, regional and national scale	Policies elaborated under this project are now the basis for different project and initiatives on climate change; This project enhanced the resilience of existing agricultural productive systems, including water control and management; The project developed a manual of practical and concrete best-practice in climate resilient agriculture that can be used by the proposed intervention.
4	Ianda Guine Aruz	- Adaption research on rice varieties, water management and restauration of agriculture degraded lands	The project will sensitize for the use of resilience and short-cycle rice seeds. Considering that Ianda Guin? Aruz worked on the same topic for several years, the two projects can benefit from each other knowledge management systems
5	Ianda Guine Hortas	- Improved horticulture perimeters and production	Exchange of experience and knowledge between the beneficiary communities under the two projects The institutional arrangements of implementation can also seek for synergies and complementarities in the access to market for instance.

8. Knowledge Management

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

The knowledge management will be ensured through a closed relationship with the local communities and the public authorities, therefore specific events will be organized only for them in order to increase their knowledge about climate change in general and about the present project activities.

In order to ensure an efficient communication and knowledge management the project will have a long-term consultancy (along the implementation period) to develop the knowledge management strategy and tools. The consultant will be recruited under a framework agreement by the project unit for approximately one quarter of the project duration. The recruited consultant will be the same for this project and the PAIPV to increase the synergy between them. The implementation and follow up of such strategy will be under the responsibility of the project coordinator.

He/she will be in charge of implementing the following activities:

Activity	Deliverable	Timeline	Responsible	Collaborators	Budget
Output 3.1.2 Project knowledge and lessons learned dissemination	Toolbox to capture and communicate successes/experiences/capitization and manuals/guides on good practices in water management , soil restoration, crop planning (tools, documents, products, knowledge, design of devices, writing/designing fact sheets, policy briefs, press releases, scientific publications, radio and TV documentaries etc.)	For the duration of the project	KMA	PMU	6,000 $
	Project website as knowledge platform for stakeholders	Second semester of the project	Private firm	KMA PMU	5,000 $
	Educational awareness kit including tools and associated educational sheets	First semester of the project	KMA	PMU	3,000 $ (printing)
	Training report for the project team and partner technical services	First semester of the project	KMA	PMU	1,500 $
	Rural forum on climate change for knowledge sharing and dissemination of lessons learned (participants, agenda, reports)	Two last year of the project	KMA	PMU	5,000 $
	Knowledge Management Assitant (KMA) (1/2 time)	For the duration of the project	KMA	PMU	10,200 $

				Total	

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Project monitoring and evaluation will be conducted in accordance with established GEF procedures and will be led by the Project Management Unit (PMU). The PMU will work with the PAIPV team to ensure consistency. The project document, results framework, and associated indicators and targets will form the basis on which the project monitoring and evaluation system will be developed. It will be built around the logical framework as a management, planning and decision support tool for all partners involved in the implementation of the project. Several guides and tools will be used to measure project performance. First, the effect/impact surveys during the incentive period, the mid-term review, the project completion and annual monitoring, the annual analysis of the technical, economic and financial performance and impact of the project.All project actors, mobilized by the project coordination, will have to learn together to create, monitor, evaluate progress, correct mistakes, readjust approaches, etc., to maintain smart management of agriculture. This requires the project management instances to be flexible in their decisions, open to the possibility of adjusting coordination, management, activities, indicators, assumptions, finances, etc., to improve progress towards the desired results.

Quantitative objectives will be set at the beginning of the project during the revision of the logical framework, with the stakeholders, taking into account the intervention sites. A mid-term review and a final evaluation will be planned to assess the evolution of the initial situation. The monitoring and evaluation system must support decision-making for the adoption of actions or activities likely to improve future initiatives. Monitoring and evaluation tools will be developed on the basis of existing mechanisms and ongoing projects at the operational level (survey, results/impact assessment, monitoring activities, thematic studies, nominative targeting mechanism, dashboards, etc.).

The monitoring process itself will serve as a learning and capacity-building platform. Adaptive management principles will be applied in regular reviews of the effectiveness of project implementation mechanisms.

The steps, roles and responsibilities, and costs of project monitoring and evaluation are summarized in the table at the end of this section.

Roles and responsibilities

The PMU will be responsible for preparing a detailed schedule of project review meetings, in consultation with project implementing partners and stakeholder representatives. This schedule will be incorporated into the project inception report and will include, among other things, (i) schedules for project steering committee meetings, and (ii) project-related monitoring and evaluation activities.

The project coordinator will be responsible for the day-to-day monitoring of implementation progress based on the project's annual work plan (AWP) and its indicators, as well as the project document and results framework. The coordinator is in charge of writing and sharing the various reports. To this end, he/she supervises the project team members to contribute to the writing. The coordinator will inform the

project steering committee and the relevant authorities of any delays or difficulties encountered during implementation, so that support or appropriate corrective measures can be adopted in a timely manner. Any significant changes in the context that may impact the project logic or approach should also be shared as soon as possible.

A Monitoring and Evaluation Specialist will be a full-time position within the project. He/she will work under the authority of the project coordinator, in collaboration with the entire team and will be required to present and/or prepare materials for the presentation of project progress to the Steering Committee. He/she will (i) supervise and participate in the preliminary studies and initial diagnosis; (ii) design the M&E system with regard to the results framework. In this context, he/she will hold working meetings with the PAIPV project team so that the system supports and/or consolidates and/or supports the system put in place by this project initiated before. The coherence of the actions and the mutualization of strengths between the two projects is a line. Thus, the monitoring and evaluation tools will be developed on the basis of existing mechanisms and ongoing projects at the operational level; iii) design the monitoring-evaluation manual and associated tools; iv) steer the implementation of the monitoring-evaluation mechanism under the responsibility of the coordinator and in conjunction with the Steering Committee; v) ensure support with the objective of empowering and strengthening the capacities of stakeholders to enable them to fulfill their respective roles and responsibilities; vi) set up, manage and complete a database as the project is implemented. The computerized database will be developed for each intervention site. The data thus centralized will support the analysis of the project's performance level.

Facilitators (from the communities) are responsible for collecting data in the field under the supervision of local agents in charge of initiating an initial analysis and reporting back to the monitoring and evaluation officer.

The main project implementing organizations will be directly involved in the monitoring and evaluation of activities, outputs and outcomes, and all beneficiary and stakeholder groups will be consulted, using a gender-sensitive approach.

As part of the implementation of the investments, the project will operate within the existing institutional frameworks and will approach *the Competent Environmental Assessment Authority (AAAC)* to set up the necessary procedures. This authority will be involved in the selection of sites for the implementation of the investments to define the category of ESIA required according to the environmental and social impacts and *risks.*

Schedule of Monitoring and Evaluation Activities

The establishment of the project's monitoring and evaluation processes will involve various stages detailed below, including: the start-up phase and the launch workshop report; quarterly, annual and periodic monitoring events; and mid-term and end-of-project external evaluations.

Start-up phase

A project start-up workshop will be held at the beginning of the project (during the first quarter). It will bring together the full project team, representatives of ministries and directorates involved in institutional

implementation, key agencies involved in implementation at the national and regional levels, and beneficiary NGOs and beneficiary community organizations.

It is important that all key stakeholders participate in the kick-off workshop to allow for (i) the presentation of the project (results framework, objectives, indicators and means of verification) and ownership of these expected results; (ii) the detailed exposition of the reporting and M&E requirements of the funders (GEF and WADB) and the associated timetable; ii) shared understanding and clarification of respective roles, functions and responsibilities within the project's decision-making and implementation structures; iii) establishment of a common vision and ownership of the project's implementation strategy; iv) validation of the first year's work plan.

This workshop should allow to underline the coherence and the synergies of the project with the other initiatives at work at the national level and, more particularly, in the Oio and Cacheu regions.

A project inception report will be prepared following the inception workshop. This will include a detailed annual work plan for the first year (by quarter) detailing the activities and progress indicators, including baseline, that will guide implementation during the first year. In addition to key activities, this work plan will include the dates of site visits for periodic monitoring and the schedule of steering committee meetings. The report will also include a detailed project budget for the first year, prepared on the basis of the annual work plan. A more detailed description of the institutional roles, responsibilities, coordination actions, and feedback mechanisms of the partners will be included in the report. Also, the report will describe progress to date in establishing the project and start-up activities as well as updating external conditions that may affect project implementation or change the basis for the project. It will also confirm the status of risks and assumptions. A list of planned reports and their tentative due dates will be shared by the PMU within the inception report (annual and quarterly reports, final report, technical reports, mid-term and final evaluation reports).

Follow-up events

Quarterly monitoring

Quarterly monitoring of project implementation will be the responsibility of the PMU and will be documented in quarterly progress reports. The preparation of the quarterly progress reports will be the result of a unified planning process among the main project partners. As a results-based management tool, these reports will track the implementation of actions and the achievement of output targets.

Quarterly progress reports are short reports describing the main progress updates of the project and the main problems/constraints encountered provided each quarter by the project coordinator, in consultation with the relevant stakeholders. They provide a basis for discussion with stakeholders involved in the institutional implementation of the project.

Annual monitoring

Annual reports on the implementation of the project will be prepared to track progress since the beginning of the project and particularly since the previous reporting period. These are two separate but

complementary reports : a narrative report and a financial report. These annual reports are prepared according to GEF and WADB formats and requirements. The narrative report provides information on the following: progress toward the project's objective and results since the start of implementation (cumulative data); project results provided by project outcome for the year covered by the report in question (annual data); lessons learned, good practices, and unanticipated positive impacts; the annual work plan for the following year; and changes in project management, with an explanation (risks and implementation issues) The financial report includes information on project expenditure levels to ensure that they are in line with forecasts.

The final project report will be written by the project team during the last three months of the project, prior to the final evaluation. This comprehensive report should include a summary of all areas of activity and associated results implemented by the project (results achieved or not achieved against those set out in the project document); changes in project implementation following the mid-term evaluation, the reason for these changes and whether the proposed results were achieved; The degree of involvement of the various stakeholders and the impact the project had on them; the synergies deployed during project implementation; lessons learned related to the activities and to project management (approach and implementation mechanism, etc.); an analysis of the project's impacts on the environment and on the environment. An analysis of the project's impacts (sustainability, potential risk, etc.); an assessment of project expenditures by output and outcome over the life of the project, based on annual implementation reports.

Periodic monitoring through site visits

The coordinator and stakeholders may make visits to the intervention sites to directly assess the progress of the project. Other members of the steering committee may also join these visits. A field visit report will be prepared.

External evaluations

Two key independent external evaluations will be commissioned, one at mid-project and one at the end of the project.

Mid-Term Evaluation

The project will undergo an independent mid-term evaluation of its implementation. The mid-term evaluation will determine the progress made towards achieving the results and identify corrections to be made if necessary. It will focus on the effectiveness, efficiency, and timeliness of project implementation, highlight issues requiring decisions and actions, and present early lessons learned from the design, implementation, and management of the project. The findings of this review will be incorporated into recommendations for improved implementation during the last half of the project's duration. The monitoring tools for the relevant GEF focal areas will also be completed during the mid-term evaluation cycle.

Final evaluation

A final independent evaluation will take place three months before the final meeting and will be undertaken in accordance with GEF guidelines. The final evaluation will focus on the achievement of project results as originally planned (and as corrected after the mid-term evaluation, if such a correction has taken place). The final evaluation will examine the impact and sustainability of the results, including the contribution to capacity development and the achievement of global environmental benefits/targets.

The final evaluation should also provide recommendations for follow-up activities and require a management response. Relevant GEF monitoring tools will also be completed during the final evaluation.

Table 5: Monitoring and Evaluation summary

M&E activity?s	**Deliverable**	**Timeline**	**Responsible(s)**	**Collaborator(s)**	**Estimated budget**
Start-up workshop	Workshop Report	During the first quarter following the start of the project	Project Management Unit (PMU) / Ministry of Agriculture and Rural Development (MARD)	Ministry of Environment and Biodiversity (MEB)	2,500 $
Elaboration of the start-up workshop report	Workshop Report	In the month following the workshop	PMU	Focal points MADR and MEB	0 $ *Report prepared by project staff*
M&E System Development	M&E System	Within 3 months of the start of the project	External consultant	PMU	5,000 $
Baseline evaluation	Baseline evaluation Report				
Quarterly progress monitoring	Quarterly progress reports	Quarterly	PMU		6,000 $ *Report prepared by project staff*
Analysis of progress in terms of project results and implementation	Progress Reports	Annually, prior to the annual implementation report and in annual work plans	PMU		0 $ *Report prepared by project staff*
Preparation of annual reports on the implementation of the project	Annual reports on project implementation	Annual	PMU		0 $ *Report prepared by project staff*
Elaboration of ad hoc technical reports	Ad hoc technical reports	Throughout the project	PMU		0 $ *Report prepared by project staff*
Mid-Term Evaluation	Mid-Term Evaluation report	One and a half years after the start of the project	External evaluator	PMU MARD and MEB	5,000 $

Final evaluation	Final Evaluation report	3 months before the end of the project	External evaluator	PMU MARD and MEB	5,000 $
Elaboration of the end of project report	End of project report	3 months before the end of the project	PMU		0 $ *Report prepared by project staff*
Audit	Audit report	Annual	Audit firm	PMU	15,000 $
Visits at the intervention sites	Field visit report	Annual	PMU Focal points MARD et MEB	Other members of the Steering Committee	8,000 $
				Total estimated costs	**46,500 $**

10. Benefits

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

The project proposes a solution to change the socio-economic vulnerability of farmers by strengthening of the resilience of the agricultural sector of the Cacheu and Oio regions to the adverse effects of climate. This strengthening will be enabled by the deployment of smart agricultural practices, ensuring land restoration, food security and better socio-economic outcomes for the population. It will be an ecosystem approach, with restoration of the surrounding areas, to provide an adequate response to the impacts of climate change on agricultural systems.

Structural changes, production support and changes in attitudes towards the mode and means of production are expected. At the end of the project, the producers' associations and cooperatives will have acquired a capital of experiences so as to allow the continuation and expansion of their intervention, commercial alliances and changes in consumption habits.

The socio-economic benefits of the project are based on a structured logic of interconnected activities at three levels of intervention: (i) strengthening farmers' capacities to maintain a level of production of appropriate quality and volume. The activities of restoration of the cultivated area; deployment and appropriation by the farmers of technology and techniques of climate-smart agriculture will make it possible to secure agricultural yields due to the positive impact on the ecosystem. Agro-climatic and meteorological data will be made available. This will allow the implementation of an adaptation and mitigation strategy for ecosystems as well as the empowerment of farmers to adapt their technical itineraries over the course of the production campaigns; ii) to reach higher levels of autonomy at the grassroots level, upstream of the commercial sector and capable of ensuring food sovereignty. This area of intervention will invest in strengthening the capacity of farmers to organize themselves into local cooperatives in order to increase the "sales force" gradually, but substantially, the volumes traded. This will have a transformative impact at the local, regional and national levels. The baseline studies in the target localities will provide more detailed information on production size and capacity and economic calculations of projected earnings (production, processing and marketing). The data collected will allow for a more in-depth analysis of actual agricultural potential and intervention needs to correct weaknesses. The

image capital and the reputation of the actors involved in the project (farmers, economic operators and consumers) will make it possible to make available on the local market products that respect the philosophy of agroecological production; iii) to produce and disseminate a substantial knowledge base that will be used to support the improvement of the resilience capacities of farmers A series of activities are planned to promote the sharing of experiences, the development of agendas, priorities and collective strategies as a means of removing blockages. The linking of interventions in the agricultural field should allow a strengthening in terms of proposals and demands. There will be gains in terms of the objective of scale and the opening up of space for producers in the debate, analysis and development of proposals. This segment also provides connections to sub-regional experience networks that can share their experiences and serve as inspiration for Guinea-Bissau farmers. Knowledge generation involves capitalizing on and disseminating smart farming techniques through various means, in the form of publications and digital documents, in order to make them a collective heritage of Guinea-Bissau development actors.

Investment in the country's agricultural sector through projects of this scale represents an important alternative to boost the local economy. The impact is all the more noticeable in rural areas far from urban centers and more vulnerable to access to information, government services and, consequently, greater poverty.

Achieving the objectives of building agricultural resilience will enable the project to achieve positive impacts in other social sectors. The reduction of poverty and hunger and the improvement of the diet and nutrition of producers, their families and the community are expected. These effects can also be seen in the health sector, especially for children and women who will have access to a more diversified diet compatible with their nutritional demands.

The project supports the most vulnerable groups of producers, namely women and youth. Several studies conducted in the country have proven that investing in women's economic empowerment has a substantial impact on children's access to education and health. Women are powerful levers of community development, particularly through their organizational and entrepreneurial capacity. Far from an individualistic approach, they reinvest the profits from their activities in the education and health of children, but also for the benefit of their community.

Ultimately, this intervention will produce benefits on environmental, social and economic aspects that will result in :

- An increase in the level of knowledge of local producers about smart agriculture and changes in environmental behavior, using ecological and sustainable practices ;

- Access to active participation opportunities for farmers as protagonists in the construction of development alternatives based on adaptation to climate change ;

- Improved food and nutritional security for farmers, their families and communities, especially children and women, with access to more diversified and better quality products ;

- The strengthening of farmers' organizations allows the improvement of the economic dynamics of the project's target localities. The economic potential of the farmers is increased due to the organization and the support of the production chain, the transformation and the marketing of the products ;

- Improved opportunities for the most vulnerable farmers, especially women, to meet the costs of education and health services for children.

The benefits of this intervention are aligned with the global challenges of reducing poverty, hunger and promoting more resilient societies to climate change. They contribute to the promotion, visibility and consolidation of social intervention paradigms based on the empowerment and active participation of the poorest people impacted by climate change in the construction of solutions that concern them.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

Measures to address identified risks and impacts

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

The ESMP for this intervention is closely connected with the one elaborated for PAIPV. In fact, the proposed initiative will simply proceed by adding new activities, respective impacts, and necessary management of those impacts in the existing PAIPV ESMP. Thus, it follows the existing PAIPV?s structure, which has a set of actions that need to be undertaken according to the specification of the intervention site in the regions of Cacheu and Oio.

Since the mitigation measures are determined, as well as the entities responsible for their implementation, the project will, on the one hand, ensure that the measures are well executed in accordance with the recommendations of the environmental assessment done by PAIPV and, on the other hand, follow the real evolution of the impacts to confirm the effectiveness of these measures. Therefore, the plan must be interpreted as a tool that will follow all the implementation stages, in a dynamic way, with flexibility to assume different shape resulting from potential needs that might arise during the implementation.

The environmental and social components that should be monitored under this project include: water resources, soils, landscape, community health and safety, fauna and flora.

As a result, environmental monitoring will consist in controlling the proper execution of the recommended measures resulting from the environmental assessment done by PAIPV. To this end, the environmental monitoring operations will be as follows:

? Incorporate environmental and social clauses in the Tender Document submitted to companies;

? Incorporate the mitigation measures to be entrusted to the service provider in the Tender Document;

? Check that environmental clauses and mitigation measures are included in procurement contracts assigned;

? Prepare for the attention of operators of environmental measures the Tender Documents and/or contracts social markets not entrusted to the company;

? Put in place the planned environmental and social measures: check whether the environmental and social measures identified during the various phases of the Project are applied;

? Ensure that the company respects its commitments by verifying the environmental clauses of the contract for works;

? Enforce the laws and regulations in force: check that all the legal provisions relating to elements of the environment (soil, water, fauna, flora, waste, etc.) are implemented as planned;

? Control the execution of environmental measures by the operators awarded with contracts.

? Environmental monitoring is by definition limited in the time of execution of the work, but may exceed the sole period of that specific work. Impact monitoring is in principle carried out over an indefinite period, which only ends when a new project is implemented at the level of the infrastructure concerned.

For the sake of operationality, we propose hereby a table of interventions that need to be taken for all intervention sites. The ESMP proposes an approach based on the stage of implementation, namely (i) installation of the worksite (before construction), (ii) construction phase and (iii) exploitation phase or project implementation.

For each phase we present the type of impact, mitigation actions, responsible actors for mitigation efforts and indicators.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ESS-Plan	**CEO Endorsement ESS**	
Formulaire ES 2 ENG	**Project PIF ESS**	

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

Results Chain	Indicators	Baseline	Mid-term target	Target at the end of the project	Means of verification	Hypothesis
Objective: Build smallholder farmers resilience through climate smart agriculture techniques	O.2) Number of farmers (M/F) involved in activities related to the management of smart agriculture techniques	0	Indicator not monitored at mid-term	9 800 beneficiaries of which at least 35% are women	Attendance sheet	The subject remains of great importance to the government The national institutions concerned are ready to collaborate Beneficiaries participate and are actively involved in the implementation of the project
	0.3) Number of smallholder farmers resilient to climate change	TBD during project baseline assessment		Reduction of the duration of the lean period by 30 %	Tools developed by the project M&E Assessment report on the duration of the lean period	
	0.3) Proportion of improvement in rice and horticultural productivity	TBD during project baseline assessment		Productivity gain ? 15%.	Yield assessment tools developed by the project M&E Agricultural yield assessment report	
	Component 1: Strengthening the agriculture resilience to climate change					
R?sultat 1.1: Climate smart agriculture techniques promoted	1.1.1) Proportion of households that have adopted at least one climate-smart technology in the project area	0%	At least 35 % of the households	At least 80 % of the households	Tools developed by the project M&E	Local communities are willing to engage in the restoration and

	1.1.2) Area of agricultural land where climate-smart techniques or technologies are implemented (ha)	TBD during project baseline assessment (participatory mapping of arable land)	150 hectares	350 hectares	Tools developed by the project M&E Mapping of managed lands	rehabilitation activities. Sufficient manpower available to perform restoration and installation work. Beneficiaries are interested in organizing themselves into committees for inclusive community management of natural resources
Output 1.1.1: Implementation of Climate smart agriculture techniques and technologies at farmers? groups and cooperatives level	1.1.1.1) Number of climate-smart technologies and techniques implemented	0	? 3 technologies and techniques per intervention village	? 5 technologies and techniques per intervention village	Tools developed by the project M&E Contracts and documents associated with the supply and acceptance of installations Attendance list	
	1.1.1.2) Proportion of farmers (M/F) with access to quality agricultural inputs	0	65% of farmers including at least 50% of women	80% of farmers including at least 50% of women	Gender disaggregated participation tracking data Tracking of organic inputs produced in the villages Inputs delivery form	
	1.1.1.2) Number of local management committees operationnal	0	7 committees, 1 committee per intervention village or site	7 committees, 1 committee per intervention village or site	Report of the meeting Lists of Members	
	1.1.1.3) Proportion of women members of local management committees	0	50% of women have a decision-making seat	50% of women have a decision-making seat	Gender disaggregated participation tracking data Lists of Members	

Output 1.1.2: Restoration of agriculture degraded lands with Ecosystem based adaption approach	1.1.2.1) Number of hectares of degraded land restored through climate-smart techniques	0	100 hectares	150 hectares	Tools developed by the project M&E Mapping of managed lands	
	1.1.2.2) Area of farms practicing at least one AIC technique	TBD during project baseline assessment (participatory mapping of cultivated land)	TBD at baseline assessment (mapping of cultivated land) 40% of cultivated land	TBD at baseline assessment (mapping of cultivated land) 60% of cultivated land	Tools developed by the project M&E Mapping of managed lands	
	1.1.2.3) Number of local natural resource management committees operational	TBD during project baseline assessment	7 committees, 1 committee per village of intervention	7 committees, 1 committee per village of intervention	Report of the meeting Lists of Members	
	1.1.2.4) Proportion of women members of local natural resource management committees	TBD during project baseline assessment	50% of women have a decision-making seat	50% of women have a decision-making seat	Gender disaggregated participation tracking data Lists of Members	
	Component 2: Building Farmers?technical capacity to implement CSA?s techniques and technologies					
R?sultat 2.1: CSA?s techniques and technologies	2.1.1) Number of people benefiting from capacity building and training.	TBD during project baseline assessment	TBD at baseline assessment 50% de femmes	TBD at baseline assessment 50% de femmes	Training attendance sheet	National institution staff are willing to

implemented by Farmers' groups	2.1.2) Proportion of people with access to climate information for climate risk and disaster reduction in the agricultural sector	TBD during project baseline assessment	80% of farmers including 50% of women	80% of farmers including 50% of women	List of beneficiaries	attend and actively participate in training Local communities are willing to use the equipment provided, and willing to adopt the practices promoted by the project
<u>Output 2.1.1:</u> Technical capacity building trainings for farmers on climate-smart farming techniques	2.1.1.1) Number of farmers (M/F) participating in technical training and capacity building activities	TBD during project baseline assessment (ressement of farmers in the localities of intervention)	60% of farmers including 40% of women	80% of farmers including 50% of women	Syllabus and training materials Training attendance sheet	
	2.1.1.2) Number of local actors and employees of ministries (MADR and MEB) participating in technical training and capacity building activities	TBD during project baseline assessment in collaboration with local actors and ministries	TBD at baseline assessment in collaboration with local actors and ministries 100% of the employees of the selected ministries 50% of local actors selected	TBD at basaline assessment in collaboration with local actors and ministries 100% of the employees of the selected ministries 100% of local actors selected	Syllabus and training materials Training attendance sheet	
	2.1.1.3) Level of satisfaction of those trained in smart farming technology and techniques	0	80% of the trainees rate their appreciation as satisfactory or very satisfactory, on a 5-point Likert scale.	80% of the trainees rate their appreciation as satisfactory or very satisfactory, on a 5-point Likert scale.	Satisfaction questionnaires and associated analysis report	

	2.1.1.4) Number of events (meeting, workshop, exchange visit, etc.) to raise awareness of AIC techniques and technologies for communities	0	3 specific events	6 specific events	Terms of reference of the events Event attendance sheets	
<u>Output 2.1.2:</u> Provisioning Agroclimatic and weather information and early warnings for farmers? groups climate-resilient decision making	2.1.2.1) Number of adapted weather stations installed	0	7 adapted weather stations, 1 per village	7 adapted weather stations, 1 per village	Certificate of receipt signed by the local authorities	
	2.1.2.2) Existence of a participatory early warning system	0	0	1 participatory early warning system	Guide for the presentation and use of the early warning system	
	2.1.2.3.) Existence of local climate risk monitoring and management units in charge of disseminating climate and weather information	0	7 local units of monitoring and management of climate risks, 1 per village	7 local units of monitoring and management of climate risks, 1 per village	Report of the meeting Lists of Members	
	2.1.2.4) Proportion of women members of local climate risk monitoring and management units	0	50% female members	50% female members	Gender disaggregated participation tracking data Lists of Members	
	Component 3: Knowledge and lessons learned dissemination					

Outcome 3.1: CSA?s knowledge and lessons learned compilated and disseminated	3.1.1 Number of knowledge and lessons learned dissemination materials available and how they are disseminated (television, community radio, dissemination workshop, memo to decision makers, etc.)	0	0	? 3 supports of diffusion	Knowledge products developed Distribution records (mailing list, physical distribution records)	Regional and local institutions are receptive and committed to the definition and adoption of plans Beneficiaries are interested in organizing themselves into committees for inclusive community management of investments
	3.1.2) Total number of policies/plans that incorporate climate resilience	TBD during project baseline assessment	3 local plans	2 regional plans and 5 local plans	Paper and digital versions of the various plans	
Output 3.1.1: Project monitoring and evaluation for lessons learned and knowledge compilation	3.1.1.1) Existence of a participatory monitoring and evaluation system for project intervention sites	0	1 participatory monitoring and evaluation system for project intervention sites	1 participatory monitoring and evaluation system for project intervention sites	Monitoring and Evaluation Manual Project Implementation Reviews Mid-term Evaluation report Terminal Evaluation report	
	3.1.1.2) Number of local monitoring committees involving farmers (M/F) and technical services	0	7 committees, 1 committee per village of intervention	7 committees, 1 committee per village of intervention	Report of the meeting Lists of Members	
	3.1.1.3) Proportion of women members of local monitoring committees	S/0	30% of women have a decision-making seat	30% of women have a decision-making seat	Gender disaggregated participation tracking data Lists of Members	

	3.1.2.1 Existence of a community intervention guide on gender, youth and climate change	0	0	1 community intervention guide on gender, youth and climate change	Paper and digital versions of the community action guide on gender, youth and climate change	
Output 3.1.2: Project knowledge and lessons learned dissemination	3.1.2.2 Existence of a project website that reports on project highlights and serves as a knowledge platform	0	1 project website	1 project website	Terms of reference for the design of the website Website address	
	3.1.2.3 Existence of an educational awareness kit for the populations of the intervention zones	0	0	1 educational awareness kit	Paper and digital versions of the pedagogical guide for the presentation and use of the kit	
Output 3.1.3: Integration of ecosystem protection and sustainable agriculture into local and regional plans	3.1.3.1 Number of participatory and inclusive local and regional plan development workshops	0	3 local participatory and inclusive plan development workshops	2 local and 2 regional participatory and inclusive plan development workshops	Workshop attendance sheets Meetings/events minutes	

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

Annex B: Response to Project Reviews (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion, and responses to comments from the Convention Secretariat and STAP at PIF).

3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized? There

is no proportionality in the co-financing contribution to PMC. The GEF contribution and the co-financing contribution must be proportional.

05.31.2022: Cleared.

4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply): 04.19.2022: - MSP financing ceiling is $2 million. As such, please limit the project financing or change the project type to FSP. - A GEF-7 LDCF country cap is $10 million. Guinea-Bissau already has a PIF approved GEF-7 LDCF project worth $6,734,250 (GEFID 10105). As such the maximum cost for any additional GEF-7 project is $3,265,750 (current proposed project: $3,275,500, overshooting by $9,750), even if the project was submitted as FSP.

05.31.2022: Cleared.

The LDCF under the principle of equitable access? 04.19.2022: Please refer to the comment under the section for Table D.

05.31.2022: Cleared.

5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? 05.31.2022: PPG limit is US50k for MSPs. Please update PPG as well as PPG fee accordingly. 04.19.2022: PPG limit is US50k for MSPs. The limit for FSPs depends on the project size. Please refer to policy and guidelines on project and program cycle: https://www.thegef.org/projects-operations/policies-guidelines

06.04.2022: Cleared.

6. Are the identified core indicators in Table F calculated using the methodology included in the corresponding Guidelines? (GEF/C.54/11/Rev.01) - Please refer to two comments provided on 04.19.2022, as Core Indicators 1,3 and 4 seem to be still '0'. Please have a consistent value between different sections of the PIFAR (e.g., 'Core Indicator 1: Direct beneficiaries' is indicated as 9,800 in Section 1.a.6.)

Please refer to the Annex A ?Project Results Framework? of the CEO Endorsement.

06.04.2022: - Core Indicators: Cleared.

6. Are the identified core indicators in Table F calculated using the methodology included in the corresponding Guidelines? (GEF/C.54/11/Rev.01) 'SCCF-A' still seems to be 'true'; as this is LDCF project, this should be 'false'. Please uncheck 'SCCF-A'.

Ok.

6. Are the identified core indicators in Table F calculated using the methodology included in the corresponding Guidelines? (GEF/C.54/11/Rev.01) - Please also consider Core Indicators 1, 3 and 4,

which are currently all indicated as ?0?. Direct beneficiaries are indicated as 9,800 in Section 1.a.6. Training (Core Indicator 4) seems to be integral part of Component 2, particularly under ?2.1.1 Technical capacity building trainings for farmers' on climate-smart farming techniques?. In addition, policies/plans (Core Indicator 3) are important in terms of sustainability beyond the designated project duration and keeping the momentum. For example, PIF mentions ?Local and regional planning will be supported to introduce ecosystem protection and the adoption and scaling up of sustainable agriculture techniques. Can this ?planning? be further elaborated in the PIF and considered as Core Indicator 3?

Please refer to the Annex A ?Project Results Framework? of the CEO Endorsement.

06.04.2022: - Core Indicators: Cleared.

1. Has the project/program described the global environmental/adaptation problems, including the root causes and barriers that need to be addressed? 05.31.2022: - Thank you for updating the images in the attached document. Please also update the images in the PIFAR (Portal) where possible. - Please elaborate also on the root causes, or highlight/indicate the changes made. 04.19.2022: - Images in the PIF are broken throughout the document and unable to review. - Please elaborate also on the root causes.

06.04.2022: Cleared.

3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program? 05.31.2022 /04.19.2022: - PIF states: ??combination of traditional practices and innovative approaches??. Please elaborate and deepen this important discussion. Also please provide any examples/candidates of this combination to be taken up in the project. - Please develop and include theory of change by refereeing to STAP primer on ToC (https://www.stapgef.org/resources/advisorydocuments/theory-change-primer).

06.04.2022: Cleared.

6. Are the project?s/program?s indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits? 05.31.2022 /04.19.2022: Please align the description in this section (1.a.6.) with Core Indicators. Please also refer to the comment(s) in ?Core Indicator? section of this review sheet.

06.04.2022: Cleared.

7. Is there potential for innovation sustainability and scaling up in this project? Financial mechanism: There seems to be no further elaboration provided on financial mechanism. Please provide elaboration on this mechanism or indicate where this has been added. Please deepen the discussion on this statement, particularly on ?synergistically reach different intervention areas. Please further elaborate on the ?incentives? for them to further promote their ownership. Please further elaborate and deepen the discussion on the replication, particularly on the rationale.

06.04.2022: Innovation; Local ownership; Replication: Cleared.

7. Is there potential for innovation sustainability and scaling up in this project? Financial mechanism: There seems to be no further elaboration provided on financial mechanism. Please elaborate on what this is and how it is related to the proposed LDCF project.

The project will not involve microfinance institutions because of the weakness of financial institutions in the two regions. Nevertheless, support actions for producers will be carried out during the project, notably for the structuring of solid business models for income generating activities and for the transformation and marketing of agricultural productions.

Please refer to the 1a. ?Project Description ?and the annex H ?Implementation Schedule? of the CEO Endorsement.

Is there a preliminary geo-reference to the project?s/program?s intended location? 05.31.2022 /04.19.2022: A map seems to be broken.

06.04.2022: Cleared.

Is the case made for private sector engagement consistent with the proposed approach? There seems to be no further elaboration or explanation provided re private sector engagement. Please provide elaboration/explanation on this or indicate where this has been added. 05.31.2022 /04.19.2022: - It is mentioned ?no? under ?Will there be private sector engagement in the project?; however, it is mentioned ?yes? to ?private sector entities? under ?Stakeholders? section. - Please briefly explain the rationale behind your answer in Section '4. Private sector engagement'.

Please refer to the part 4 ?Private Sector Engagement? of the CEO Endorsement.

Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design? 05.31.2022 /04.19.2022: Please also discuss COVID-19 risks and opportunities.

06.04.2022: Cleared.

Is the proposed ?knowledge management (KM) approach? in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project?s/program?s overall impact and sustainability? 05.31.2022 /04.19.2022: Please also discuss how the project will learn from other relevant projects and initiatives.

06.04.2022: Cleared.

Are environmental and social risks, impacts and management measures adequately documented at this stage and consistent with requirements set out in SD/PL/03? Please provide ESS screening information of the project.

Please refer to annex L ?Environmental and Social Management Plan (ESMP)? of the CEO Endorsement.

Has the project/program been endorsed by the country?s GEF Operational Focal Point and has the name and position been checked against the GEF data base? 06.04.2022: PPG is updated in the endorsement letter. However, fee seems to be not. 'Fee' in the endorsement letter must be the total of Agency fee + PPG fee = 160,000 + 3,750 = 163,750.

Please refer to the endorsement letter of the CEO Endorsement.

Is the PIF/PFD recommended for technical clearance? Is the PPG (if requested) being recommended for clearance? 06.04.2022 /05.31.2022 /04.19.2022: Not yet. Please refer to the review items and resubmit for consideration.

Ok.

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

BOAD has contracted with a consulting firm for the preparation of CEO Endorsement documentation. The contract amounts is $49,753 with $7,320 for travel expenses and $42,433 for consultant fees.

No other activities were funded yet under the PPG.

PPG Grant Approved at PIF: USD 50,000 (GEF)			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Contracting with a consulting firm for the preparation of CEO Endorsement documentation	49,753*	39,802*	9,951
Included :			
Travel	7,320	5,856	1,464
Consultant Fees - Project manager - National rural development expert - National expert in environment and social/gender assessment - International expert in financial analyst - International assistant to project manager - Senior international expert in agriculture program development / Quality Control Specialist	42,433	33,946	8,487
Total	**50,000**	**39,802**	**9,951**

If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities up to one year of CEO

Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report closing of PPG to Trustee in its Quarterly Report.

* BCEAO exchange rates 1 USD = 623,750 FCFA (09/12/2022 date of contract signature)

Details of the activity under the consulting contract are described:

- Facilitation of a virtual workshop to launch the process of formulating the detailed project document;

- Consultation with project stakeholders;

- Definition of the baseline scenario;

- Establishment of the GEF alternative;

- Development of the institutional framework;

- Proposal of a procurement plan;

- Preparation of the detailed project budget;

- Preparation of the BOAD and GEF logical framework of results;

- Drafting of the detailed project document following the GEF framework, which will include i) a study on vulnerability in terms of adaptation to climate change and gender, on mitigation (calculation of reduced emissions and MRV); ii) an environmental and social impact assessment of the project or an E&S management framework of the project; and iii) the proposed irrigation technologies;

- Facilitation of a virtual workshop for the restitution and validation of the project document.

Annex D: Calendar of Expected Reflows (if non-grant instrument is used)
Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)

The disbursement plan is divided into three tranches representing the three years of the project:

- Tranche 1 of USD 673,794;

- Tranche 2 of USD 897,928;

- Tranche 3 of USD 428,278.

To apply for the next tranche, an expenditure verification report, including the supporting documents, will be requested. Once validated by the GEF, a request for payment of the next tranche will be made.

The request for payment of the additional tranche can be requested if and only if the rate of expenditure use of the previous tranche exceeds 60%.

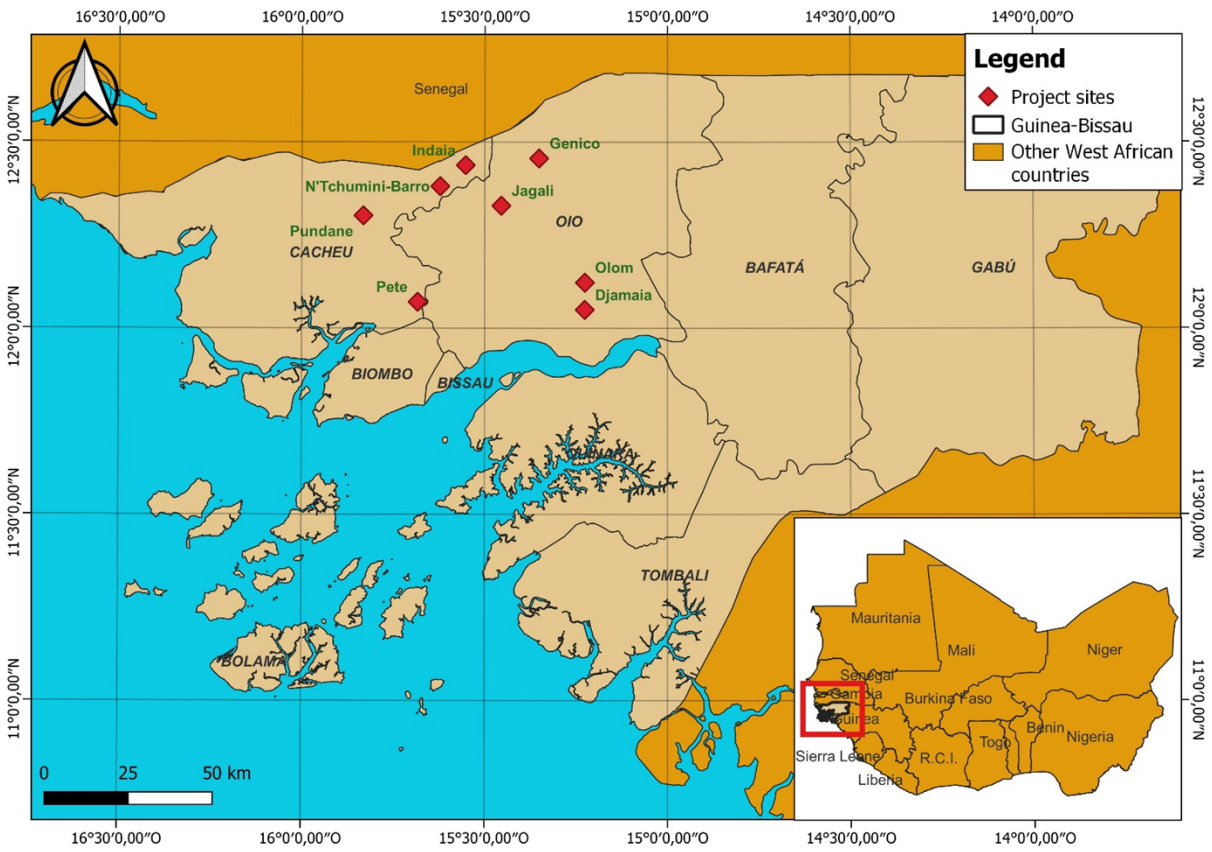
The amount of the tranches may be revised if there is a contractual amendment to the schedule. In particular, it is likely that the signature date of the contract and the cultivation period will have an impact on the project implementation and therefore on the realization of the activities over the three years.

ANNEX D: Project Map(s) and Coordinates

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

The project sites are in Cacheu and Oio regions.

#	Region	Sector	Section	Site	Coordinates in Degree Minutes Seconds with suffix	
					Longitude	Latitude
1	Cacheu	Big?ne	Barro	N Tchumini-Barro	15?37?18,3 W	12?22?52,0 N
2			Indaia	Inadaia	15?33?8,37 W	12?26?15,7 N
3			Pundame	Pundame	15?49?54,8 W	12?18?8,50 N
4		Bula	Pete	Pete	15?40?59,4 W	12?4?14,29 N
5	Oio	Bissora	Jagali	Jagali/Leto	15?27?17,2 W	12?19?44,2 N
			Mansoa & Mansaba	Olom & Djamaia	15?13?33,7 W 15?13?35,1 W	12?7?21,14 N 12?2?58,23 N
7			Farim	Genico	15?21?5,76 W	12?27?21,5 N



ANNEX E: Project Budget Table

Please attach a project budget table.

Annex J: LDCF Budget

Budget presentation by activity

A reallocation of the component amounts is proposed. Specifically, the amount of component 1 is reduced by 67,000 USD to feed components 2 and 3 by 6,000 USD and 61,000 USD respectively. This strategic choice was made to ensure high-quality project implementation. Indeed, although Component 1 is the core of the project, Component 2, which focuses on capacity building, and Component 3, which focuses on monitoring and knowledge dissemination, must be fully operational to support Component 1.

Budget presentation by expenditure category

Annex K: BOAD/LDCF Budget

Activity	Funders	Total
Study, control and supervision of works, hydro-agricultural development works, intensification of agricultural production and valorization of agricultural production (Components 1/2/3/4/5 of PAIPV)	BOAD	7 000 000
Implementation of climate-smart agriculture techniques and technologies	LDCF	577 850
Restoration of degraded agricultural land with an ecosystem-based adaptation approach	LDCF	915 150
Subtotal BOAD		7 000 000
	7 000 000	
Subtotal GEF	1 560 000	1 493 000
Total	8 560 000	8 493 000
Institutional capacity building (component 6 of PAIPV)	BOAD	200 000
Technical capacity building trainings on climate-smart agriculture techniques	LDCF	155 000
Provision of agroclimatic and meteorological information and early warnings for groups of farmers.	LDCF	51 000
Subtotal BOAD	200 000	200 000
Subtotal GEF	200 000	206 000
Total	400 000	406 000
Environmental measures and accompanying actions and, project coordination and management (Components 7/8 of PAIPV)	BOAD	250 000
Project monitoring and evaluation for lessons and knowledge compilation	LDCF	99 100
Project knowledge and lessons learned dissemination	LDCF	32 150
Mainstreaming of ecosystem protection and sustainable agricultural techniques in local and regional plans	LDCF	29 750
Subtotal BOAD	250 000	250 000
Subtotal GEF	100 000	161 000
Total	350 000	411 000
PMC/Project coordination and management (Component 8 of PAIPV)	BOAD	550 000
PMC	LDCF	140 000
Subtotal BOAD	550 000	550 000
Subtotal GEF	140 000	140 000
Total	690 000	690 000
Total BOAD	8 000 000	8 000 000
Total GEF	2 000 000	2 000 000

ANNEX F: (For NGI only) Termsheet

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

ANNEX G: (For NGI only) Reflows

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

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

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