



Part I: Project Information

GEF ID

10105

Project Type

FSP

Type of Trust Fund

LDCF

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Strengthening climate information and early warning systems for climate resilient development and adaptation to climate change in Guinea Bissau

Countries

Guinea-Bissau

Agency(ies)

UNDP-5443

Other Executing Partner(s)

Ministry of Environment and Biodiversity (MAB)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Sector

Climate Change Adaptation Sector

Taxonomy

Climate Change, Focal Areas, Climate Change Adaptation, Small Island Developing States, Least Developed Countries, Climate finance, Influencing models, Strengthen institutional capacity and decision-making, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Beneficiaries, Women groups, Sex-disaggregated indicators, Gender results areas, Awareness Raising, Knowledge Generation and Exchange, Participation and leadership, Capacity Development, Capacity, Knowledge and Research, Knowledge Generation, Knowledge Exchange, Learning

Rio Markers

Climate Change Mitigation

No Contribution 0

Climate Change Adaptation

Principal Objective 2

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

12/20/2020

Expected Implementation Start

7/23/2024

Expected Completion Date

5/22/2030

Duration

48In Months

Agency Fee(\$)

570,000.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation	LDC F	2,125,000.00	12,454,000.00
CCA-2	Mainstream climate change adaptation and resilience for systemic impact	LDC F	2,425,000.00	15,000,000.00
CCA-3	Foster enabling conditions for effective and integrated climate change adaptation	LDC F	1,450,000.00	5,146,000.00
Total Project Cost(\$)			6,000,000.00	32,600,000.00

B. Project description summary

Project Objective

To strengthen the climate monitoring capabilities, early warning systems and information for responding to climate shocks and planning adaptation to climate change in Guinea Bissau

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co- Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Transfer of technologies for climate monitoring infrastructure	Investment	1. Enhanced capacity of national hydro-meteorological (NHMS) and environmental institutions to monitor extreme weather and climate change	1.1 Installation or rehabilitation (as appropriate) of 15 Automatic Acoustic Limnigraphic stations (with data logger and telemetry)	LDC F	3,151,582.00	13,014,000.00
			1.2 Installation or rehabilitation (as appropriate) of 3 Automatic Acoustic Tidal Gauge Stations (with data logger and telemetry)			
			1.3 Installation or rehabilitation (as appropriate) of 10 Automatic Rain gauge Stations (with data logger and telemetry)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			1.4 Installation of 10 Automatic Weather Stations (with data logger and telemetry)			
			1.5 Procurement and installation of 3 maritime weather stations (AWS430), maritime observation console (MCC401), MetCast observation console (MCC301) in the 6 ports of Guinea-Bissau			
			1.6 Design and installation of data processing facilities, open climate data portal (OCDP), and forecasting system			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			1.7 Procurement of weather forecasting services			
			1.8 Development and implementation of a capacity building program to provide the Guinea-Bissau with the required capacity to operate and maintain the observation network and develop services			
			1.9 Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Climate information integrated into priority development plans and early warning systems to support the NAP process	Technical Assistance	2. Efficient and effective use of hydro-meteorological and environmental information for decision-making early warnings and mainstreaming CC in the long-term development plans	<p>2.1 Institutional strengthening of the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services</p> <p>2.2 Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in</p>	LDC F	2,255,968.00	15,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			coordination with the NAP process			
			2.3 Development of a sustainable financing mechanism for the climate information production and dissemination system			
			2.4 Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,?) identified in coordination with the NAP process			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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2.5
Development of an efficient and sustainable mechanism for sharing climate products and early warning information

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Monitoring, evaluation and knowledge management	Technical Assistance	3. Lessons learned by the project through participatory M&E, with special attention to gender mainstreaming, are made available to support the financial sustainability of the strategy	<p>3.1. Project activities and impacts on global, national and local adaptation benefits of climate information and EWS are assessed and monitored.</p> <p>3.2 Project lessons and knowledge codified and disseminated nationally and internationally</p> <p>3.3 Wider public awareness of climate services available and the benefits of their use achieved through comprehensive multimedia outreach and education campaigns</p>	LDC F	306,766.00	2,440,000.00
Sub Total (\$)					5,714,316.00	30,454,000.00

Project Management Cost (PMC)

LDCF	285,684.00	2,146,000.00
Sub Total(\$)	285,684.00	2,146,000.00
Total Project Cost(\$)	6,000,000.00	32,600,000.00

Please provide justification

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Agriculture and Rural Development with funding from IFAD through REDE Project	Public Investment	Investment mobilized	14,000,000.00
Recipient Country Government	Gambia River Basin Organization (OMVG) Saltinho Hydroelectric project	Public Investment	Investment mobilized	10,000,000.00
Recipient Country Government	Ministry of Environment / West African Development Bank (BOAD)	Public Investment	Investment mobilized	8,000,000.00
GEF Agency	UNDP	Grant	Investment mobilized	600,000.00
Total Co-Financing(\$)				32,600,000.00

Describe how any "Investment Mobilized" was identified

The co-financing that is presented as Investment Mobilized refers to the following: 1) Funds that represent investments in the agricultural sector (first row) and that were leveraged by the Government of Guinea-Bissau's Ministry of Agriculture through two IFAD projects. One of them (PADES) has already closed. To that effect, the General Directorate for Agriculture provided an updated letter of co-financing specifying and clarifying the nature of the co-financing. The project that currently provides co-financing to the GEF project is titled "Agricultural Diversification, Integrated Markets, Nutrition and Climate Resilience Project (REDE)". It aims to promote crop diversification to reduce the country's dependence on a single crop production - rice or cashew. As the project areas have an arid Sahelian climate, measures relating to climate change mitigation and adaptation measures will be introduced, particularly by reducing brush fires and forest clearing, better lowland water management, by increasing organic content of cultivated soils and protecting and generating forests on plateau land. The project constitutes a relevant intervention vis-à-vis the GEF's Early Warning System's Project because the agricultural sector is among those that will benefit the most from climate information in the form of early warning and seasonal forecasts. Other sub-sectors / segments that are implicated in the REDE Project, and for which EWS are also relevant include food production and distribution, landscape level management, rural development, infrastructure. Since the last submission, a correction was made to the category of co-financing not being in-kind, but rather "Grant". 2) Funds managed by Gambia River Basin Organization (OMVG) and leveraged by the General Directorate of Water Resources (DGA, under the Ministry of Natural Resources and Energy) (second row). OMVG is working together with the Government of Guinea-Bissau and the African Development Bank to ensure the successful implementation of "Feasibility studies project for the construction of the Saltinho dam, over the

Corubal river in Guinea Bissau?. Studies are ongoing. A new letter from DGA (dated 19-Oct-2023) substitutes the previous one from 2020. It provides updated content on the period for this co-financing, which will remain available till 2024. 3) Funds that were leveraged by the Ministry of Environment (third row), as per their letter dated 17-May-2021, which reflect a commitment linked to an ongoing project funded by the Adaptation Fund and executed through the West African Development Bank (BOAD) titled "Scaling up climate-smart agriculture in East Guinea Bissau". The commitment remains valid and it represent investments mobilized for vulnerable rural livelihoods. The BOAD/AF Project is being implemented in the northern parts of Bafata and Gabu regions in the sectors of Sonaco, Pirada, Pitche, Gabu, Cuntoboel and Ganadu. 4) Funds from UNDP (last row) which will be managed together with GEF funds through the same project award. These funds were leveraged by UNDP to directly support the project throughout its duration.

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(\$)
UNDP	LDC F	Guinea-Bissau	Climate Change	NA	6,000,000	570,000	6,570,000.00
Total Grant Resources(\$)					6,000,000.00	570,000.00	6,570,000.00

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 (\$)
150,000

PPG Agency Fee (\$)
14,250

Agenc y	Trus t Fun d	Countr y	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	LDC F	Guinea- Bissau	Climat e Chang e	NA	150,000	14,250	164,250.0 0
Total Project Costs(\$)					150,000.0 0	14,250.0 0	164,250.0 0

Meta Information - LDCF

LDCFtrue
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.true

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). true

This Project has an urban focus. false

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

Agriculture	0.00%
Natural resources management	0.00%
Climate information services	100.00%
Coastal zone management	0.00%
Water resources management	0.00%
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 true

Change in mean temperature true

Increased climatic variability true

Natural hazards true

Land degradation true

Coastal and/or Coral reef degradation true

Groundwater quality/quantity true

Core Indicators - LDCF

CORE INDICATOR 1

Total

Male

Female

% for Women

Total number of direct beneficiaries

100,000

52,000

48,000

48.00%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

0.00

CORE INDICATOR 3

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

6

CORE INDICATOR 4

Male

Female

% for Women

Total number of people trained

50

30

20

40.00%

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

DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF

During the PPG stage (2019-2020), the PPG team took into account the current situation in the country, as well as observations made during the PPG's inception mission, including the risk that equipment slated to be provided by the project would very likely be stolen, damaged or it would quickly deteriorate, if maintenance and security could not be sufficiently ensured. If the project strategy would focus primarily on the rapid purchase and installation of hydro-meteorological equipment, without the needed securing and capacity building action, it would likely enhance this risk and fail to meet its goals.

Early in the PPG stage, the mentioned risk had been classified as "critical" (#7 in the Risk Matrix in Section 3). Through the present design of activities, which implied adjustments to certain elements of the strategy, the risk was downgraded to "high".

The project strategy was re-scoped at the level of outputs, project duration and implementation approach as a result of the PPG. The proposed changes to project design had, however, retained all of its core elements: the overall goal, the structure and the core concepts and intention behind the project, as they were expressed in the PIF that was approved by the GEF Council. The project's objective, its components and outcomes remained unchanged.

The proposed strategy builds up on the approach, components and outcomes presented on the PIF, but with slight changes on the project's outputs, based on pressing needs for the development of climate information services, which had been duly informed in Guinea-Bissau's NAPA and other related documents, including National Communications to the UNFCCC:

1. Establish an observation network.
2. Implement data transmission systems (telemetry) and data processing/managing infrastructure.
3. Produce forecasts based on models.
4. Establish and produce specialized climate services, which may include early warning systems.
5. Develop response capacity. i.e. understanding and knowing how to make use of climate information products and take adequate actions.

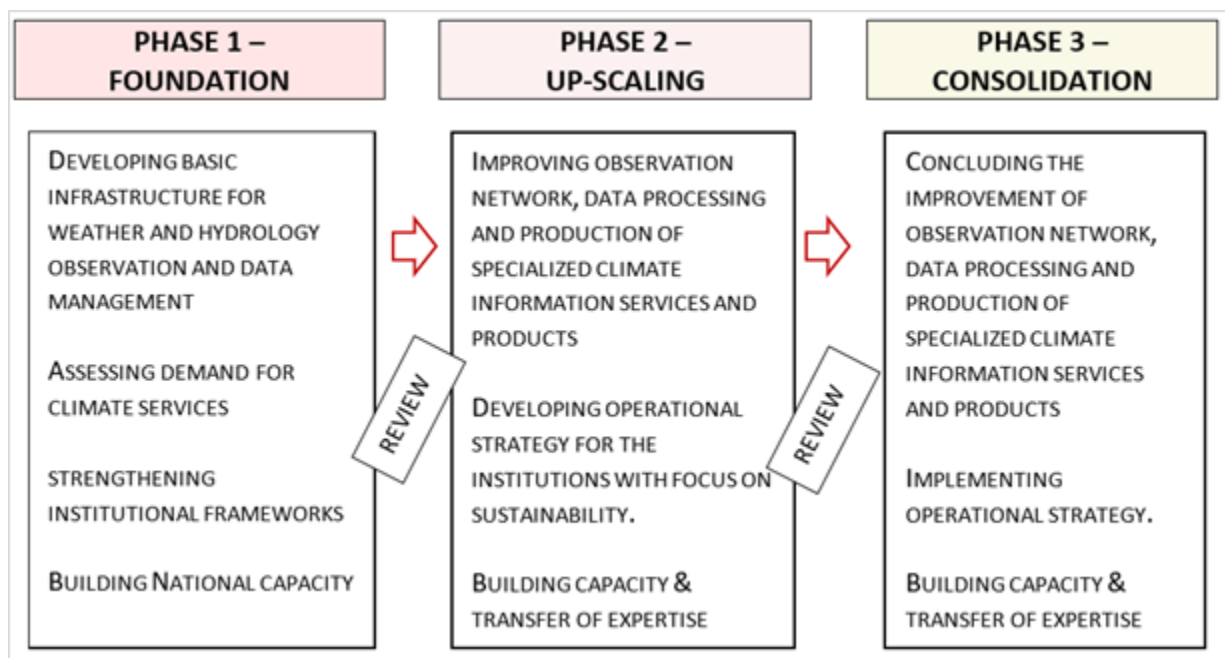
These steps will be followed for the three main domains of weather/climate, hydrology and marine services. In each of these domains, topics as infrastructure, human resources, funding, institutional framework and operational strategy, procedures and protocols will have to be analyzed and defined and

implemented by the project team. Based on this structure, the plan for implementing this project will minimize the risks and maximize the benefits the project will bring for the country by introducing the following changes:

- ? Extending the project duration to at least 6 years instead of 4;
- ? Break the implementation strategy into 3 phases:
 1. Foundation
 2. Up-scaling
 3. Consolidation
- ? Include 2 mid-term evaluations to assess the success of the project activities and give feedback on what can be improved between the 3 phases.

This approach will reduce the risks by first testing a specific approach in a reduced number of stations, before fully implementing the project activities in all the sites selected. It will include a solid stakeholder engagement strategy, as well as a strong institutional framework to ensure the governance of the project and proposals to guarantee its post-GEF project financial sustainability.

The three implementation phases are shown in [PRODOC Figure 7. Summary of goals under each phase](#) reproduced below:



1a. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

Summary of Context, Scope and the Core Problem:

[Content from the UNDP PRODOC: **SECTION II. DEVELOPMENT CHALLENGE**]

As a least developed country (LDC) and small island developing state (SIDS), Guinea-Bissau is particularly vulnerable to climate change. The country is continually listed among the most vulnerable to climate change impacts in the world. In 2014, the Maplecroft Climate Change Vulnerability Index^[1] ranked Guinea-Bissau as the second most vulnerable in the world, only behind Bangladesh. The primary drivers of Guinea-Bissau's climate vulnerability are its physical exposure and dependence on agriculture and fishing.

The climatic trends and their impacts observed during these last decades in the country will more likely be exacerbated, according to climate projections. The General circulation model (GCM) projects an increase in mean annual temperature between 1.1°C to 3.0°C by 2060^[2]. The IPCC's Fifth Assessment Report (AR5)^[3] from the Intergovernmental Panel on Climate Change (IPCC) indicates that under a range of scenarios, the Sahel and West Africa are projected to be hotspots of climate change and unprecedented changes in climate will occur earliest in these regions. In addition, the AR5 projections points out that many global models indicate a wetter main rainy season with a small delay in the onset of the rainy season by the end of the 21st century. Regional modelling also suggests an increase in more intense and more frequent extreme rainfall events over the Guinea Highlands and Cameroon Mountains.

Climate variability and change thus constitute serious challenges for Guinea-Bissau's economic growth and development that must be addressed in order for the country to pursue a sustainable and resilient development pathway.

The observation of recent climate extreme events and the meteorological records, from both Guinea-Bissau and the region, provide glaring evidence that climate change is happening in the country. The changes witnessed and described by communities consulted during the process of developing Guinea-Bissau's National Program of Action of Adaptation to Climate Changes^[4] include:

- ? Late onset of the rainy season (mid-June) compared to the usual (early May)
- ? Less regular distribution of rainfall than in the past
- ? Shortening of the mild temperatures period, often called the "cold season" (Guinea-Bissau's "winter"), which used to last for three months (December to February), to only two months (December to January) nowadays
- ? Warmer and drier environment
- ? Frequent dust clouds
- ? More frequent occurrence of high tides of greater magnitudes impacting on dikes and rice fields
- ? Decrease in water quality due to saline water intrusion and water point infestation by aquatic plants
- ? Reduction of the wetland areas and resettlement due to frequent drought episodes

The agricultural sector is the mainstay of Guinea-Bissau's economy and source of income of 85% of the population. The cashew nut production, for example, plays an important role in both the government's revenue as it is the country's first export crop, and in the poverty reduction, as most of households rely on it for income. Rice is considered the country's second strategic crop and staple food of more than 95% of the population, with its consumption estimated at 190,000 tons. Both crops use rudimentary and obsolete production techniques, and will be impacted by climate hazards such as droughts, extreme rainfall events and sea-level rise. This can lead to significant losses in production and contribute to food insecurity in the country.

Climate change, therefore, represents a major challenge for Guinea-Bissau's economy, geography and settlements as it will threaten livelihoods of those who depend on natural resources for a living.

Beyond the threats posed by climate change in Guinea-Bissau, the lack of adequate hydro-climatic information also represents a hindrance for the development of various economic sectors: transportation (air, land and water), agriculture, fisheries, infrastructure, education, health, water supply & sanitation (WATSAN), biodiversity conservation & ecosystem services ? to name a few. Monitoring climate change with hydro-meteorological services is key for the development of adequate adaptation measures within these sectors.

In addition, the impacts of climate change could be better mitigated through climate resilient planning and timely disaster preparedness measures.

However, inadequate or non-existing climate and weather information, forecasts and analyses create severe limitations for developing informed and climate-responsive decision-making and put the population under high-risk conditions related to climate induced hazards and extreme weather events.

For more details refer to PRODOC Section 1) Context and PRODOC Section 2) The climate-induced problem.

Refer also to PRODOC_Annex_X_Impacts_Covid_Recovery_041112.pdf, which has been uploaded to the Roadmap section of the GEF Portal (direct access can also be made via this link:

https://gefportal.worldbank.org/api/spapi/LoadDocument?fileName=https%3A%2F%2Fworldbankgroup.sharepoint.com%2Fsites%2Fgefportal%2FGEFDocuments%2F8d05241d-83c8-e811-813e-3863bb2e1360%2FRoadmap%2F_PIMS%205443%20AnnexXImpactsCovidRecovery041112.pdf

Barriers that need to be addressed:

Significant policy, institutional, individual, financial, technological and informational barriers that prevent the desired situation from emerging. These barriers include:

> Significant gaps in weather and climate monitoring infrastructure:

Data and observation capacity with respect to climate change is very limited in Guinea-Bissau. Before the political-military conflict of 1998-1999, the country's meteorological network counted only seven (7) synoptic stations, seven (7) agro-climatic stations that are not functioning and forty-five rainfall stations. Most of these facilities have been destroyed by the political-military conflict of 1998-1999. Today, there are only four operational meteorological stations (Bissau Airport, Bissau Centre, Bolama-Bijag's, Bafat' e Gab?). Unfortunately, all of them are working with very limited capacity. Therefore, there is a critical need for modernizing and expanding the meteorological network to collect more accurate and reliable data, in real- or near-real-time. More information about the current baseline situation of hydro-meteorological stations in Guinea-Bissau are available in the [Baseline Scenario section](#) and in [PRODOC Annex 15: Complete Baseline Assessments](#).

> Limited knowledge and capacity to effectively predict climatic events and assess their sector/area/community specific potential impacts:

The scientific and technical capabilities required to effectively identify climate induced hazards such as storms, flooding, droughts, sea surges and climate induced pest and disease outbreaks and forecast their potential impacts on all Guinea-Bissau's vulnerable communities such as coastal communities, the farmers and fishermen and others are often weak. This is due to a lack of infrastructure, hardware and software, human capacity/skills to program and run the models code, or not effectively using forecasts that are available from regional and international centers. Running and interpretation of forecast models requires specialized education and training that is often lacking. Even when climate information is available (monitoring and forecasts), it is usually not translated into specific hazards experienced by different sectors and users e.g. heat units for agriculture or wave heights for managing coastal shipping. Without translation into information that can be easily understood by users, the information is difficult to use for particular operational decisions.

> Inconsistent use of different hydro-climatic information sources across and within country borders:

There is currently no clear legal mandate or protocol for the issuance of a public warnings relating to hydro-climatic dangers. As a result, with multiple sources of information, messages may be confusing and not acted upon. It is therefore necessary to have an official process for generating warnings that includes communication with sectoral ministries and communities, where e.g. disasters are experienced. Meanwhile, calculating risks for known vulnerabilities requires a comprehensive archive of information related to vulnerable communities, infrastructure, roads, shipping lines, access to markets, flood prone areas, cropping patterns etc. This information is currently held in disconnected databases or computers spread across different government departments and ministries. All the information required to assess vulnerability and calculate risks needs to be accessible, either through a central database/repository, or through an orderly distributed network of servers.

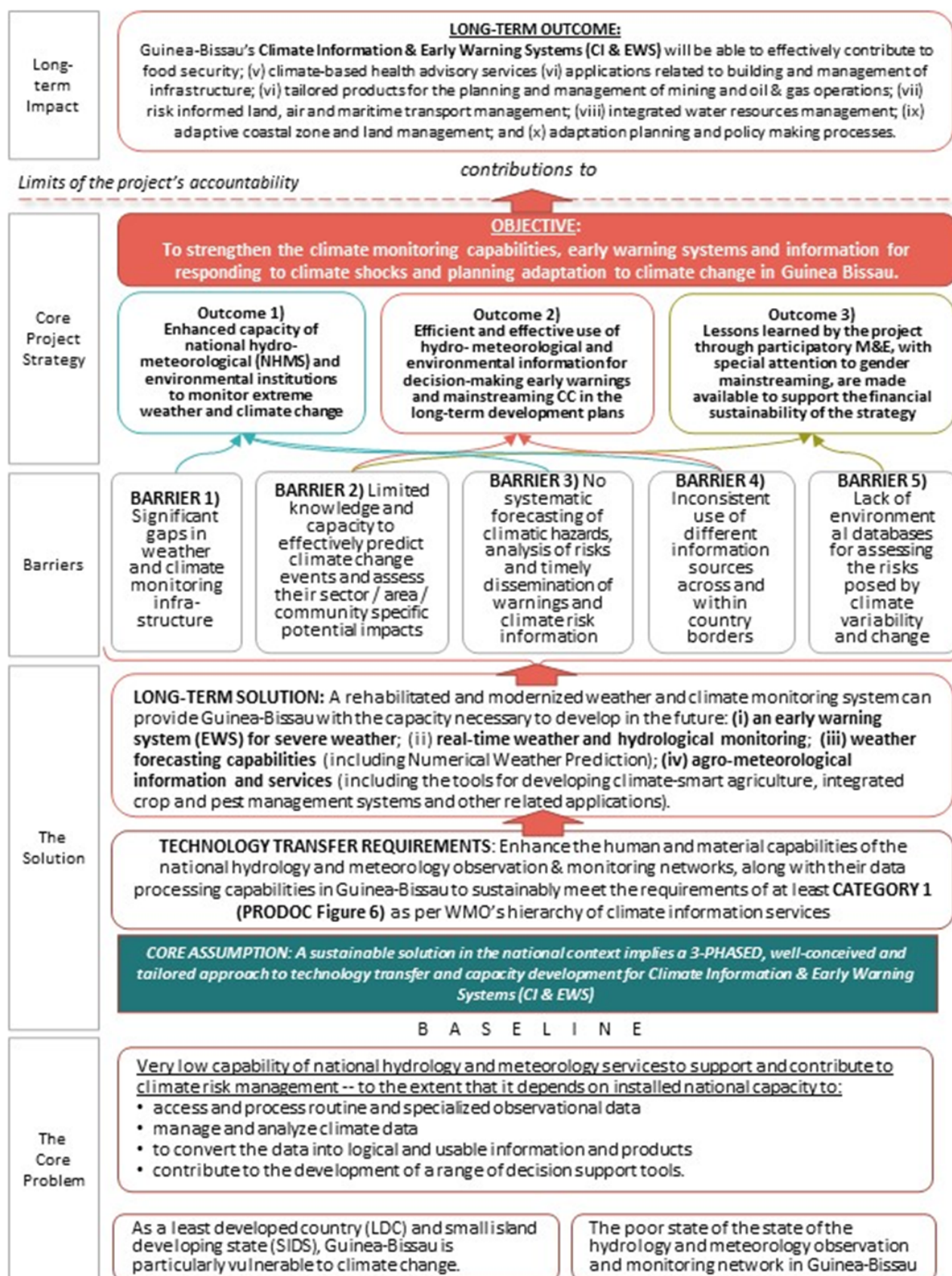
> No systematic forecasting of climate hazards, analysis of risks and timely dissemination of warnings and climate risk information:

Communication and data processing facilities for hydro-meteorological data and derived products are currently not available due to a lack of observing stations, computers and telecommunications equipment. Furthermore, weather and climate forecasts are not regularly produced within Guinea-Bissau nor do they take conditions specific to Guinea-Bissau into consideration (e.g. combining localized climate hazard information with information on localized vulnerability or environmental factors). Besides a lack of climate risk forecasts, there are no formal or official channels for the dissemination of these forecasts, associated warnings or response strategies that may be employed to mitigate any impacts.

> Lack of environmental databases for assessing the risks posed by climate variability and change:

The absence of a national environmental database reduces the potential to use weather, climate and hydrological information for decision-making in different sectors that make up the Bissau-Guinean economy. These include planning and investment decisions related to urban and rural development, infrastructure, health, transport, agriculture, and mining and water resources. The issue is less about ?environmental databases?, but rather the dysfunctionality of meteorological, hydrometric and maritime monitoring stations in Guinea-Bissau ? as it will be presented in Section 4 on the Baseline Scenario. The lack of a national environmental database reduces the potential for using meteorological and climate information for decision-making in the different economic sectors in Bissau-Guinea. These include planning and investment decisions related to urban and rural development, infrastructure, health, transport, agriculture, and mineral and water resources.

Refer to [PRODOC Figure 8. Theory of Change](#) for additional information.



Assumptions:

CORE ASSUMPTION) A sustainable solution in the national context implies a 3-PHASED, well-conceived and tailored approach to technology transfer and capacity development

Other assumptions:

1. Availability of requisite human resources and data
2. Local IT, telecommunications and technical infrastructure are sufficiently solid for the EWS to function well, including sufficient bandwidth for the use of local mobile telecommunications networks
3. Institutional support and political commitments are strong and allow for the implementation of the project through collaborative framework for climate services and EWS
4. An integrated approach to EWS is possible with government departments sharing data and information
5. The primary proponents for the successful implementation of this project are committed to it.
6. No major climate shock (or other hazard) that may occurring during the design and implementation phase of the Project will hamper its success in the long-run
7. Adequate security and O&M will ensure the sustainability of investments
8. The generally low absorptive capacity of individuals and institutions in Guinea-Bissau will not hamper the project's capacity building investments with respect to the provision of climatic / early warning services, and to extent that the project will by design address and bridge capacity gaps.

2) The baseline scenario and any associated baseline projects

The meteorological observation network Guinea-Bissau is old, outdated, degraded and made up of diversified brands, it makes it difficult to ensure network connection and equipment maintenance. Today, there are only four Meteorological stations (Bissau Airport, Bissau Centre, Bolama-Bijag's, Bafat' e Gab?) that are partially functional with very limited operational capacity. Indeed, because of budget constraints, the hydro-meteorological stations are no longer functioning properly.

Given the current economic difficulties facing the country, the National Meteorological Service has only very limited means of operation and a virtual absence of investment resources. Additionally, the local and decentralized institutions in charge of supporting the meteorological stations in the collection and analysis of climate change information do not have the necessary capacity and are not properly coordinated to formulate and disseminate relevant agro-meteorological information and advisories.

In addition, the lack of a national environmental database reduces the potential for using meteorological and climate information for decision-making in the different economic sectors in Bissau-Guinea. These include planning and investment decisions related to urban and rural development, infrastructure, health, transport, agriculture, and mineral and water resources.

To ensure effective efforts to improve early warning systems, Guinea-Bissau must overcome all of the above obstacles related to environmental and climate database, while taking into account the adaptive capacity of the country's most vulnerable population.

For more information about the current baseline of the hydro and meteorological stations refer to

[PRODOC Section 4\) Baseline Scenario and any associated baseline projects](#) and

[PRODOC ANNEX 15. Complete Baseline Assessments \(In Portuguese\).](#)

Baseline finance

Various projects and programs compose the baseline for this project, to the extent that they are well aligned with the Project's objective and can provide a platform for collaboration, technical integration and co-financing. Such initiatives are implemented by the government, academic and research institutions, and local and international partners

PRODOC TABLE 15 (reproduced below) provides, a comprehensive assessment of the baseline finance).

Refer in addition to PRODOC TABLE 14. [Synergies, collaboration and partnerships](#) for an overview and details on both past and on-going projects, including GEF-funded, and which are relevant to project (these do not constitute however a financial baseline for the project).

PRODOC Table 15. Baseline Finance Project (all components) and co-financing from the baseline

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Baseline estimates \$ million	Co-financing from baseline \$M
1	AfDB/ Ministry of Agriculture	AfDB: Rice Value Chain Development Project	Government Investment: Ministry of Agriculture and Rural Development through the Rice Value Chain Development Project (AfDB): the project aims at sustainable recovery of the rice value chain in two regions by improving productivity, strengthening infrastructure, ensuring resilience to climate change, managing natural agricultural resources in a sustainable manner and reducing gender inequality. Total funding is \$6.13M, of which only \$3.0M counts against the baseline <i>finance, since</i> the project is reaching its end in 2020. DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, rural development, infrastructure</i>	2018-2020	1,2,3	\$3.0	\$0
2	IFAD/ Ministry of Agriculture	PADES: Support for the start-up of economic development in the South - IFAD project (<i>Appui au démarrage du projet d'appui au développement économique du Sud-PADES</i>)	Government investment: Ministry of Agriculture and Rural Development through the Economic Development Project for the Southern Regions (IFAD). The project includes community development and microfinance activities, but its main focus is on infrastructure and promotion of rice production, including through the rehabilitation of mangrove swamps for the purpose of rice production. PADES aims to revitalize the rural economy and improve food security and poverty in the regions of Tombali, Quinara, Bolama and Bijagos . About 40 per cent of direct beneficiaries are women and 42 per cent are young people. Although not a second phase of the previous Projet de Réhabilitation Rurale et de Développement Communautaire (PRRDC), which closed in 2013, PADES draws on some of its activities — including community development and microfinance. However, PADES has a stronger economic development focus on infrastructure and the promotion of rice production. The rehabilitation of mangrove swamps within the project zone for the purpose of rice production is a key feature of PADES. Current rice output meets one third of local demand. The project also promotes alternative income-generation activities such as market gardening, small-scale livestock production, capacity strengthening of rural organizations and improved access to markets. <i>A new phase is under negotiation.</i> DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, rural development, infrastructure, transportation</i>	2015-2022 (Phase I)	2,3	\$19.47	\$0
3	Project IFAD REDE/ Ministry of Agriculture	Project IFAD REDE: Agricultural Diversification, Integrated Markets, Nutrition and Climate Resilience Project (REDE)	Project IFAD REDE: Agricultural Diversification, Integrated Markets, Nutrition and Climate Resilience Project (REDE). The project will promote crop diversification to reduce the country's dependence on a single crop production - rice or cashew. As the project areas have an arid Sahelian climate, <i>measures relating to</i> climate change mitigation and adaption measures will be introduced, particularly by reducing brush fires and forest	2020-ongoing	1,2	\$65.7	\$14.0

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Baseline estimates \$ million	Co-financing from baseline \$M
			clearing, better lowland water management, by increasing organic content of cultivated soils and protecting and generating forests on plateau land. DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, landscape level management, rural development, infrastructure</i>				
4	WB/ Directorate of Infrastructures	World Bank Rural Transport Project (RTP)	Government Investment: Directorate of Infrastructures through the World Bank Rural Transport Project (RTP). Investment in rural infrastructure to improve the physical access of the rural population to markets and essential services in selected areas, as well as provide better responses in the event of crisis or emergencies. The project is envisaged to have a component focusing on transport infrastructure and another one on support to transport sector institutions. This project follows previous investments from donors and development banks in road rehabilitation and construction and can benefit from strong weather-based information and early warning. The first component, transport infrastructure improvement to enhance mobility in selected areas will mostly finance the rehabilitation and maintenance of about 110 km of unpaved trunk roads and connecting feeder roads in rural areas. The second component, support to transport sector institutions will provide a holistic support package to the institutions responsible for transport infrastructure and services in Guinea-Bissau (Ministry of Public Works, Construction, and Urbanism, Ministry of Transport and Telecommunication, and Road Maintenance Fund). The project foresees a component to respond to an emergency. DEVELOPMENT SECTOR LINKAGE: <i>transport, infrastructure, food production and distribution, rural development</i>	2019-2025	1,2,3	\$10.0	\$0
5	Government of China	Alto do Bandim Fishing Port Project	Alto do Bandim Fishing Port Project, funded by the Government of China in collaboration with the Ministry of Fisheries. Construction started in March 2019. The port will have facilities for storing and processing fish, which would add value to the output of the fisheries industry. The port's investment has been assessed at \$26M, but the relevant baselines, in this in relation to Components 1 and 2, were considered at \$20M only, given that the project has been under implementation for a while. DEVELOPMENT SECTOR LINKAGE: <i>fisheries, navigation, food production and distribution, infrastructure</i>	2018-2020	1,2	\$20.0	\$0
6	CPLP Secretariat Water Res Mgt & Monit. in member Countries	Support for Water Resources Management and Monitoring in CPLP Countries	Support for Water Resources Management and Monitoring in CPLP Countries (Projeto "Apoio à Gestão e ao Monitoramento de Recursos Hídricos nos Países da CPLP") in collaboration with the General Directorate for Water Resources under the Ministry of Natural Resources and Energy. This project is funded by the Brazilian Cooperation Agency (ABC), which is currently being implemented by the Brazilian National Water Agency (ANA) and the	2018 - 2021	1	\$0.350	\$0

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Baseline estimates \$ million	Co-financing from baseline \$M
			<p>CPLP Executive Secretariat in the member countries of the organization. The project aims to strengthen the capacities of member states to improve management and monitoring of water resources by conducting training / capacity building (in person and at a distance) to:</p> <ol style="list-style-type: none"> 1- Technology transfer over hydrological monitoring networks and <u>systems</u>; 2. Training of technical staff of the member states in water resources <u>management</u>; 3. Promotion of experiences for the development of legal and institutional frameworks for water resources management. <p>Total funding estimated at € 422.720 – converted to UDS as \$0.35M.</p> <p>DEVELOPMENT SECTOR LINKAGE: <i>IWRM, infrastructure</i></p>				
7	Gambia River Basin Organization (OMVG)	<u>Salinho</u> Hydroelectric Planning Project over <u>Combal</u> River in Guinea-Bissau	<p>In October 2019, the OMVG National Cell in Guinea - Bissau presented the technical feasibility study of the "Salinho Dam Construction Project on the <u>Combal</u> River". One of the components of the project is the rehabilitation of two hydropower stations initially cracked on the <u>Combal</u> River course at <u>Sintchã Caba</u> (5.4 km upstream of the projected site for the <u>salinho</u> dam) and Tchê - Tchê (located at 117 km upstream from the same town). Still without an overall assessed cost, including the rehabilitation component of the two above mentioned stations, according to the study in reference, the final version of the <u>ToR</u> for the physical works of the general works including the rehabilitation of the stations will be ready at the beginning. 2021. Leading potential funders include the AfDB (Sustainable Energy Found for Africa), private sector including banks. The project is executed by the Gambia River Basin Organization (OMVG) in collaboration with the General Directorate for Water Resources under the Ministry of Natural Resources and Energy. The project is part of a wider regional grid extension project, which will interlink electrical networks of The Gambia, Guinea, <u>Guinea-Bissau</u> and Senegal. This is an infrastructure development project. Some studies have been awarded funded to date. The potential co-financing reaches \$10M. For now, \$50M is presented as co-financing.</p> <p>DEVELOPMENT SECTOR LINKAGE: <i>IWRM, infrastructure</i></p>	2020-ongoing	1,2	\$10.0	\$10.0
8	Adaptation Fund / BOAD	Adaptation Fund/BOAD	<p>The project "Scaling up climate-smart agriculture in East Guinea-Bissau" aims at strengthening practices and capacities in climate-smart agriculture in the project region of dryland East Guinea-Bissau, and at institutional level. Key vulnerabilities in agriculture and water resources management are addressed; project will contribute to immediate and longer-term development and resilience needs of extremely vulnerable farmers, with a particular focus on extremely vulnerable groups: women, elderly and children. Through the project's activities food security and livelihoods are planned to be strengthened at household level while simultaneously increasing capacities in</p>	2020 - 2024	1,2,3	\$1010M	\$8.0

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Baseline estimates \$ million	Co-financing from baseline \$M
			climate risk management and adaptation planning at all levels of governance. Consolidation and expansion of the activities of the LDCF-UNDP project "Strengthening adaptive capacity and resilience to Climate Change in the Agrarian and Water Resources Sectors in Guinea-Bissau" (finished June 2016 in the 14 original tabancas in Gabú 'region' and 26 additional tabancas in the 'regions' of both Gabú and Bafatá; total beneficiary target population of approximately 37,000 people. DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, rural development, energy production</i>				
9	Green Climate Fund/ BOAD	Green Climate Fund / BOAD	Project "Enhancing livestock resilience to drought in Guinea-Bissau". In Guinea-Bissau, livestock is one of the main activities of rural populations which can support food security and improve the living conditions of the population. However, this farming is the victim of the adverse effects of climate change with rising temperatures, a drop in rainfall, the intensification of drought, the early tarring of water points and a drop in fodder production. Conflicts over the management of natural resources are exacerbated between pastoralists and farmers, especially with no transhumance corridors. The project is initiated to strengthen livestock resilience to climate. It will be implemented by the departments in charge of livestock and the environment, mainly water management and grassing zones for transhumance pastoralists. Proposal, Regional, Approved Mar 2019, projected for a 20-year period. Funding amount refers to the Guinea-Bissau's indicative share. DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, rural development, energy production</i>	Concept Note prepared in February 2018. Start date: mid-2023. Expected end date 2028.	1,2,3	\$9.2M	0
10	AfDB/EU	Project AGIR AfDB / EU / Ministry of Agriculture	Project AGIR AfDB / EU / Ministry of Agriculture. Launched in Ouagadougou in December 2012, AGIR is a framework that helps to foster improved synergy, coherence and effectiveness in support of resilience initiatives in the 17 West African and Sahelian countries. The Alliance is placed under the political and technical leadership of ECOWAS, UEMOA and the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), and it is based on existing platforms and networks, in particular the <i>Réseau de prévention des crises alimentaires</i> (RPCA). Building on the "Zero Hunger" target within the next 20 years, the Alliance is neither an initiative nor a policy. It is a policy tool aimed at channeling efforts of regional and international stakeholders towards a common results framework. A Regional Roadmap adopted in April 2013 specifies the objectives and main orientations of AGIR. One project under the RPCA was reported with funding amount of EUR 450 EUR (\$0.5M): <i>Appui aux producteurs pour l'amélioration de la productivité et la qualité de la production de cajou à travers les chaînes de valeur plus performantes.</i>	Ended in 2021	2,3	\$0.5 in residual funds only	\$0
#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Baseline estimates \$ million	Co-financing from baseline \$M
			DEVELOPMENT SECTOR LINKAGE: <i>agriculture, food production and distribution, rural development, infrastructure</i>				
	UNDP TRAC (core funds,)	Not part of baseline	Leveraged co-financing for M&E support, PMU, direct project support. Refer to total budget and workplan.	For the duration of the project			\$0.6
INDICATIVE SUM						\$148 M	\$32.6

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

Content from [PRODOC Section III. Strategy](#) and [PRODOC IV. Results and Partnerships](#).

The project strategy, as presented herein, is slated to create ideal conditions for the project's success and sustainability, because it will allow the project to gradually enhance investments, capitalizing on results achieved in a step-by-step manner, and by develop the associated capacity that is needed for operating and maintaining hydro-meteorological systems and equipment, both existing and new. The project will strive to create a culture of safeguarding and maintenance, which currently barely exists. Subsequently, the project will be able to produce beneficial climate information services and effectively contribute to adaptation planning, which is its ultimate goal, given the essential role of these services in climate change adaptation and disaster risk management.

The main elements in the present project's strategy considered the best practices in the implementation of similar projects. It is based on the concepts of service provision, sustainability, capacity development and stakeholder engagement, including a focus in gender, in order to provide innovative/customized solutions to ensure the sustainability of the project.

Overall, the 3-phased implementation will pursue the project strategy along the three following tracks:

First, the project will work on strengthening the infrastructure and capacity of national hydro-meteorological and environmental institutions involved in the monitoring of climate change and extreme weather in Guinea-Bissau. The aim is to contribute to the expansion of a minimum national climate observation network density. This network will be capable of gather, process and analyze climate information, which is a pre-requisite to the development of climate information services, including early warning systems. The project will depart from the current baseline described in the previous sections and will have a realistic scope and outcomes to achieve. Success will be measured in terms of the project's ability to consolidate a functioning, efficient and effective climate monitoring network and local capacity in Guinea-Bissau. In doing so, the project will address the barriers previously outlined to implementing a monitoring system and mainstreaming climate information in the country's development and adaptation plans.

Second, the project will seek to develop climate information services, including EWS, with the purpose of supporting the development and adaptation plans in Guinea-Bissau. The integration of climate information into priority development plans and EWS systems to support the NAP process will be part of the institutional/governance activities under this component. The goal will be to reduce the national capacity gap regarding the analysis and development of climate information services.

Thirdly, the project will have a strong focus on monitoring, evaluation and knowledge management in order to guarantee that the project's contributions to local, national and global adaptation benefits are monitored and assessed during its implementation. The appropriated tools and systems will be developed by the project team and the project records and lessons learned will be disseminated aiming for scaling-up its results and contributing to the development of similar projects.

The project is structured around three components and three implementation phases. The aim of component 1 is to modernize the hydro-meteorological monitoring network in Guinea-Bissau. The aim of component 2 is to add value to the improved monitoring network by building capacity to produce a range of weather and climate information services. Finally, component 3 aims to secure impact of the project by monitoring the project implementation process, evaluating outputs and outcomes, strengthening social inclusiveness, including the gender aspect of the project, and formulating adequate recommendations.

Because of the three-phased approach and an effective implementation period of at least 6 years (estimated from the moment when key recruitments start and a minimum project team is in place), this project foresees two mid-term reviews (MTR), one between Phase I and Phase II, and the second between Phase II and Phase III (as shown in [PRODOC Figure 7 further up ?Summary of goals under each phase?](#)).

More details are provided in [PRODOC Table 7. Phases of project implementation](#) (reproduced below):

Phase 1 ? Foundation	Phase 2 ? Up-scaling	Phase 3 ? Consolidation
Year 1 ? 2	Year 2-4	Year 4-6
<p>During the foundation phase, the project implementation team will work on defining and setting up the best methodology and structure for the delivering of the project.</p> <p>This will include the protocols, methods and frameworks related to all topics mentioned above, e.g. human resources, operational strategy, institutional frameworks, etc.</p>	<p>The up-scaling phase will focus on developing and improving the methodology and processes implemented during the first phase.</p>	<p>The consolidation will be final phase of the project implementation, where all the activities will be completed following the methodologies and process that were tested during the previous phases.</p>
<p>With a mid-term evaluation by the end of the first 2 years, the team will be able to see what the results are, the response from the community, as well as report on the good practices to be implemented and what should be corrected/improved during the next phases.</p>	<p>The results from the evaluation will help to make adjustments needed to the methodology and practices of implementing if necessary, relying on the lessons learnt from the previous phase.</p>	<p>The results from the second mid-term evaluation will be implemented during the third phase and aim at resolving any remain issue that still needs to be addressed.</p>
<p>During the first phase, the project activities will focus on a reduced number of stations of each domain (weather/climate, hydrology and marine), following the list of priorities set by the national authorities.</p>	<p>Phase 2 will extend the observation network for more stations in the country, following the plan and strategy developed by the project team based on the project document indications.</p>	<p>The consolidation phase will conclude the implementation of all project?s activities in all the stations defined during project inception phase.</p>

Phase 1 ? Foundation Year 1 ? 2	Phase 2 ? Up-scaling Year 2-4	Phase 3 ? Consolidation Year 4-6
An important output of the first phase will be an assessment of development scenarios for the respective stakeholders taking into account information needs, operational requirements and funding models. These scenarios will indicate the priorities for the reaming phases.	Gaps in the institutional framework will be addressed as required to assure smooth coordination between the actors involved in the production and dissemination of climate services, and in managing the DRM cycle.	The observation network is fully operational, climate services are being produced in the country.
Basic climate information data will start to be recorded, analyzed and disseminated, supported by consultant.	Information products are developed in collaboration with consultants, with emphasis on capacity transfer.	The institutions can produce a range of climate services without relying on external experts.
A capacity building program will be designed and implemented including training of national experts on post-graduate level abroad.	Capacity building continues in-country and abroad.	Capacity building continues in-country and abroad.

Expected results:

The Project's Objective (namely ?to strengthen the climate monitoring capabilities, early warning systems and information for responding to climate shocks and planning adaptation to climate change in Guinea-Bissau?) will be achieved through the implementation of its outcomes, which address the three key barriers mentioned above. These outcomes are:

Component 1

Outcome 1) Enhanced capacity of national hydro- meteorological (NHMS) and environmental institutions to monitor extreme weather and climate change

Under this component, the Government of Guinea-Bissau will be able to use LDCF resources to procure and install critical climate information infrastructure required to rehabilitate and/or modernize the observation network. In all equipment purchases, an assessment of existing equipment will be made, noting the manufacturer, status and critical gaps in density.[\[1\]](#)

The basic criteria for selection of locations of stations to rehabilitate or establish has been mentioned in the [PRODOC Section II-2\) Project Sites](#).

The actual selection of locations when implementing the project will need to be weighed against the costs of potentially cheaper solutions and the added costs of training personnel to service different products.

This component will build on the legacy of past interventions undertaken through the METAGRI, EMERMET. Those interventions served to minimally capacitate the INM prior to the approval of the present project. While important, those interventions did not include the provision of modern equipment.

[1] ?Density? here refers to the distance between stations so as to ensure adequate coverage for the measurements. The optimal spatial distribution

of stations in any given geography can be initially determined through modelling software on a map. What is optimal for Guinea-Bissau needs though to considers other parameters, such as funds? availability and security.

Core outputs under Outcome 1:

Outputs list
Output 1.1) Installation or rehabilitation (as appropriate) of 15 Automatic Acoustic Limnigraphic stations (with data logger and telemetry)
Output 1.2) Installation or rehabilitation (as appropriate) of 3 Automatic Acoustic Tidal Gauge Stations (with data logger and telemetry)
Output 1.3) Installation or rehabilitation (as appropriate) of 10 Automatic Rain gauge Stations (with data logger and telemetry)
Output 1.4) Installation of 10 Automatic Weather Stations (with data logger and telemetry)
Output 1.5) Procurement and installation of 3 maritime weather stations (AWS430), maritime observation console (MCC401), MetCast observation console (MCC301) in the 6 ports of Guinea-Bissau
Output 1.6) Design and installation of data processing facilities, open climate data portal (OCDP), and forecasting system
Output 1.7) Procurement of weather forecasting services
Output 1.8) Development and implementation of a capacity building program to provide the Guinea-Bissau with the required capacity to operate and maintain the observation network and develop services

Outputs list
Output 1.9) Strengthened community demand and development of participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level"

For a thorough description of the activities under this component, refer to [PRODOC Subsection 1\)](#) [Expected results](#), part of the [PRODOC Section IV. Results and Partnerships](#).

Component 2

Outcome 2) Efficient and effective use of hydro- meteorological and environmental information for decision-making early warnings and mainstreaming CC in the long-term development plans

Whereas component 1 was focuses on collection of climate information in Guinea-Bissau by means of strengthening the climate observation network, Component 2 aims to build the necessary capacity to use the collected data and design a range of new climate information services or improvement of existing services.

In order to assure sustainability of the integration, the design and exploitation of climate information systems needs to rely on a demand driven strategy and be framed within a solid business plan. Both features involve a stepwise integration with explicit involvement of the private sector. Well-chosen climate information services will generate additional economic value (e.g. better planning of economic activities) and play a vital role in the design and implementation of climate change adaptation measures (early warning, design of protection schemes, design of water retention measures, etc.).

Core outputs under Outcome 2

Outputs
Output 2.1) Institutional strengthening of the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services
Output 2.2) Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process
Output 2.3) Development of a sustainable financing mechanism for the climate information production and dissemination system
Output 2.4) Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capita, etc) identified in coordination with the NAP process

Outputs

Output 2.5) Development of an efficient and sustainable mechanism for sharing climate products and early warning information

A number of important **gender actions** will be incorporated into the development and implementation of activities under Outcome 2 -- the numbering refers to Actions under specific Gender Outcomes included in the project's **Gender Action Plan (GAP) in Annex 9**:

[GAP 2.1] Design and implementation of capacity building for gender and climate change / EWS /DRR focal points in line ministries and all other relevant technical staff and leadership.

[GAP 2.2] Implement Parity Law (2018), minimum quote of 36% women representation as limited number of women involved in decision making at national levels in lead ministries and institutions (Meteo, Hydro, Environment, Agriculture, Civil Protection Service) remains prevalent

[GAP 2.3] Technical support for mainstreaming gender in CC, DRR, EWS at lead institutions responsible for Climate Information Systems. Engage external experts to support strong gender approach: institutional gender audits; develop a comprehensive gender mainstreaming toolkit for projects.

[GAP 2.4] Undertake planning and support resource mobilization for the gender action plan.

[GAP 2.5] Evaluate performance, develop and implement an acknowledgement system for good performance on gender mainstreaming.

[GAP 3.1] Ensure EW information is tailored to needs of women and communicated in a manner to maximize accessibility and action (e.g. must consider literacy rate of recipient area). Give strategic attention to gender equality and the empowerment of women in Guinea-Bissau, ensuring that programmatic and operational activities of Climate Info and EWS System for resilient development are gender responsive.

[GAP 3.2] Ensure that women's needs, and particular challenges are represented in the design and implementation of on-the-ground interventions of the climate info, EWS and DRR; hold multi-stakeholder dialogues on EWS/DRR and gender at national and county level with inclusive and equal participation of both women and men.

Expected gendered results: (i) Enhanced capacities for gender mainstreaming in the overall climate change management and institutional framework; (ii) Involve are specifically involved in all aspects of EWS and DRR and the challenges that they face are duly considered: Disaster management activities are gender sensitive at all stages of the climate info process and disaster cycle, by involving both women and men in the design, administration, and implementation of EWS.

The above-listed gender actions and results from the GAP are not exhaustive. Other elements from the GAP may apply. It is recommended that, during the project's inception activities, indicators and the project's planning are scrutinized for their effective contribution towards gender equality and women empowerment, with particular attention given to Outputs 2.2, 2.4 and 2.5.

The same principles of Gender Mainstreaming and Gender Targeting apply to other Outcomes as well. It is expected that the GAP in Annex 9 is actively used in the project's planning and implementation tools.

Specifically for Output 2.2, gender mainstreaming has been strengthened:

The aim of the framework is to support climate-smart decision making by making sure to:

(a) know the user, including among them women, and understand what is needed: Understand the climatic elements that are relevant to the user; how the user wishes to receive information; how the user is likely to interpret the information; for what purpose the information will be used; the decision process of the user; and how the information might improve the decision-making processes.

(b) Make the information service simple, accessible and timely, including for women: Provide products that can be understood and readily applied by the user, along with easy access to follow-up professional advice. Where applicable, tailor communication products to women's needs, so that they can fully participate in the efforts towards enhancing climate information services in Guinea-Bissau and their applicability.

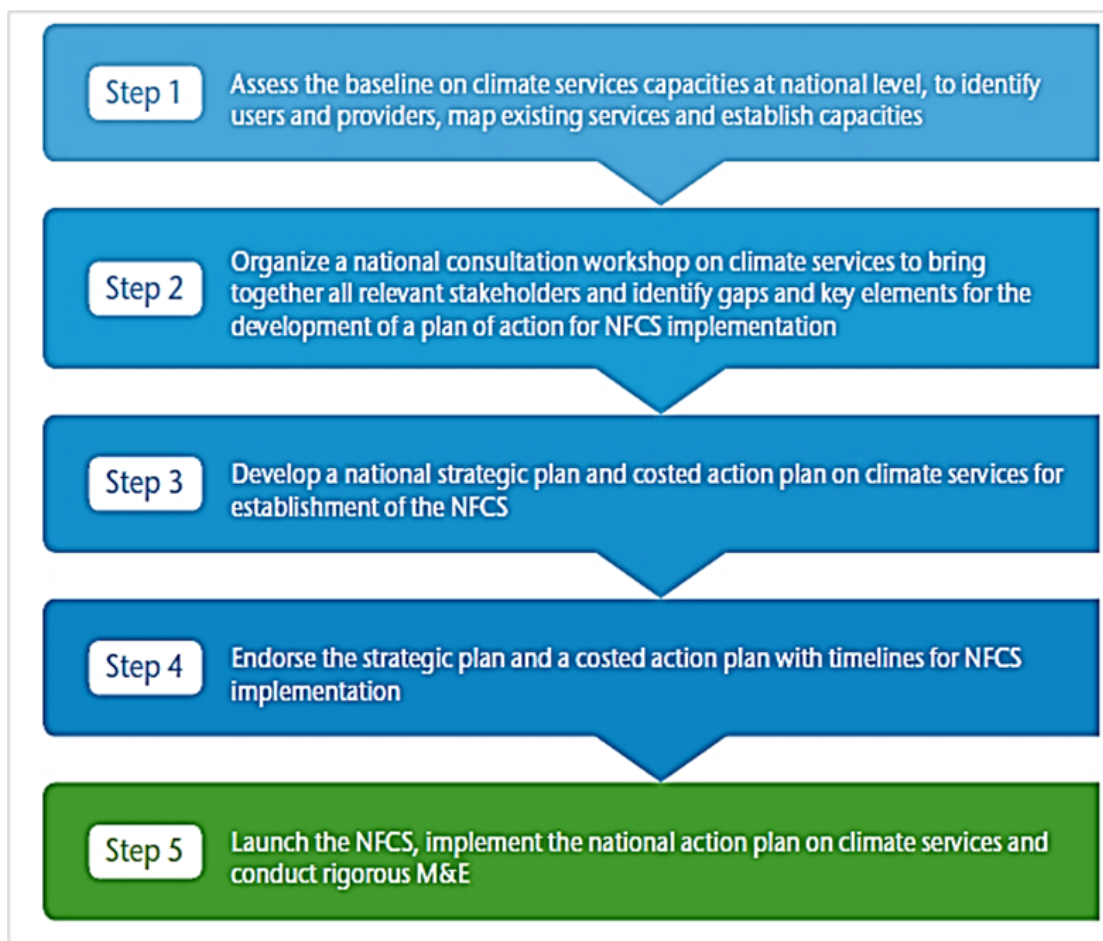
(c) Ensure quality and gender sensitivity: Provide products that have been developed with skill and with an understanding of possible applications and analytical techniques, complete with proper documentation and backed by thorough knowledge of up-to-date data availability and characteristics. They will also need to be sensitive to gender caveats, in addition to securing a balanced participation of women in training events and capacity development opportunities.

The proposed activities or steps for the establishment of the NFCS are based on Step-by-step Guidelines for Establishing a National Framework for Climate Services (WMO-No. 1206) as shown in PRODOC Figure 9 (reproduced further down) ? and with gender scrutiny of the details duly applied.

Sustainable funding of climate services which is being addressed through output 2.3 will need to support the action planning developed under this output.

Tailored climate information products and services developed under output 2.4 will be fundamental for the integration of climate into development planning.

PRODOC Figure 9. Five steps for establishing a National Framework for Climate Services (Source: (WMO-No. 1206)



For a thorough description of the activities under this component, refer to [PRODOC Subsection 1\) Expected results](#), part of the [PRODOC Section IV. Results and Partnerships](#).

Component 3

Outcome 3) Lessons learned by the project through participatory M&E, with special attention to gender mainstreaming, are made available to support the financial sustainability of the strategy

Under Component 3, the project will develop, implement and oversee a monitoring and evaluation (M&E) strategy to ensure that the climate resilient benefits (global, local and national) are monitored and assessed using appropriate tools and systems. It will also ensure its Knowledge Management (KM) mechanism. Together, the M&E and KM activities will provide the project with the opportunity to record and disseminate lessons learned for scaling-up to other similar development projects, both in Guinea-Bissau and abroad. A long-term monitoring and evaluation program will take place during the duration of the program and will ensure that the project's objectives are being met during the different phases of implementation. In the case the specific project goals and indicators of each phase are not being met, the activities and strategy to achieve it can be modified and adapted during project implementation.

Monitoring activities will also ensure that there is gender-balanced participation in the design and implementation of the project's activities and that gender equality is achieved within each outcome. Gender data will be surveyed in selected sites and gender mainstreaming strategy and complementary site level stakeholder engagement plan will be reviewed in order to provide advice to the Project Board with regards to the incorporation of gender indicators into project implementation.

Three outputs are foreseen under Component 3, of which the first one is clearly dedicated to M&E. The second output includes one important activity related to best practices and lessons learning and will ensure that the project connects with other countries and stakeholders including within the CIRDA network^[1]. The third output has a clear focus on the development of the project's overall KM mechanism. It includes specific activities that will ensure the assessment, documentation and sharing of best and successful practices and lessons learned with key stakeholders and other relevant initiatives in the region.

[1] CIRDA stands for Climate Information for Resilient Development in Africa. See e.g. <https://www.adaptation-undp.org/projects/cirda>.

Core outputs under Outcome 3:

Outputs
Output 3.1) Project activities and impacts on global, national and local adaptation benefits of climate information and EWS are assessed and monitored.
Output 3.2) Project lessons and knowledge codified and disseminated nationally and internationally
Output 3.3) Wider public awareness of climate services available and the benefits of their use achieved through comprehensive multimedia outreach and education campaigns.

For a thorough description of the activities under this component, refer to **PRODOC Subsection 1) Expected results**, part of the **PRODOC Section IV. Results and Partnerships**.

Refer to **PRODOC ANNEX 2: Multi Year Workplan** for a complete list of project activities and a 6-year chronogram. For a thorough description of activities, refer to the **PRODOC, Section IV. RESULTS AND PARTNERSHIPS**.

4) Alignment with GEF focal area and/or Impact Program strategies

This project is fully in line with the LDCF GEF-7 Adaptation strategy ?to strengthen resilience and reduce vulnerability to the adverse impacts of climate change in developing countries, and support their efforts to enhance adaptive capacity?. More specifically, it is aligned with climate change adaptation focal area's objective 1 ?Reduce vulnerability and increase resilience through innovation and

technology transfer for climate change adaptation? and objective 3 ?Foster enabling conditions for effective and integrated climate change adaptation?, and its outcomes, including technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience and Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis (aligned with PPCR and GCF).

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF,

LDCF, SCCF, and co-financing

+

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

Under Component 1, and referring to the climate monitoring infrastructure for the various sectors, the additional cost reasoning and expected contributions from the baseline are as follows:

Without LDCF, it would be difficult to for agricultural, infrastructural, transport, energy or fisheries projects to reach their full potential. Sectoral stakeholder will be unable to accurately assess climate risk, and shocks. Therefore, key decision-making processes within those sectors, including and in particular those that require EWS, would totally lack essential data on weather, water and climate.

In the context of climate change and variability, access to and understanding of agro- and hydro-meteorological information is a prerequisite for disaster risk reduction, agriculture productivity and adaptive agro-sylvo-pastoral activities.

Although well supplied with funds, those baseline projects listed further up have not prioritized investments in the development of climate monitoring infrastructure. Such investments would simply otherwise not be made in the near foreseeable future in the baseline scenario.

> The baseline finance for Component 1 adds up to **\$56 million** and it comes from the following sources:

#	Programs, Projects or Initiative relevant for Component 1 (C1)	C1 BASELINE FINANCE (\$M)	Proposed Co- financing from the C1 baseline (\$M)
1	AfDB/Ministry of Agriculture, D?veloppement des Chaines de Valeur Riz	\$1.0	
2	IFAD - PADES	\$0.9	\$0.9
3	IFAD - REDE	\$30.0	\$4.0
4	WB Rural Transport Project (RTP)	\$1.0	
5	Government of China, Alto do Bandim Fishing Port Project	\$10.0	
6	CPLP Secretariat Water Res Mgt & Monit. in member Countries	\$0.33	
7	OMVG Salinho Hydroelectric Project	\$5.0	\$5.0
8	Adaptation Fund / West African Development Bank (BOAD)	\$4.0	\$3.5
9	Green Climate Fund/ West African Development Bank (BOAD)	\$3.7	
10	Project AGIR AfDB / EU / Ministry of Agriculture	-	-
	TOTAL	\$56	\$13.4

> Of the above, \$13.4 million are slated co-finance the Project through Component 1, in addition to leveraged funds from UNDP at \$56K ? funds that would otherwise not be invested, was it not for the Project. UNDP funds will match those of GEF in na effort to minimally refurbishing essential small infrastructures with the purpose of protecting the new hydro-climatic equipment to be purchased, as of relevant activities under Component 1.

> A total of **\$3.341 million** from LDCF has been allocated under for funding Component 1 interventions, which are described in detail in the UNDP GEF PRODOC.

With LDCF funds, the basic conditions for the systematic production of climate data and information in Guinea-Bissau would be created. Project funds and UNDP co-financing will be used to procure and install appropriate infrastructure, to enable a minimum network density for improved observation, generation of climate information and a functioning EWS. Targeted capacity building and technology transfer actions are also envisaged.

The hydro-meteorological monitoring network in Guinea-Bissau comprising automatic weather stations (AWS), tidal gauging stations (FGS), and hydrological gauging stations (HGS) are upgraded. The weather and climate monitoring network in Guinea-Bissau including tidal gauge stations, automatic weather stations and hydrological stations has been upgraded. The development or procurement of reasonably robust and nationally owned weather forecasts services will be accomplished within the project's lifetime.

The equipment to be purchased and the capacity to be built with the resources channeled through the project under Component 1 will help to develop services such early warning of severe weather, agro and hydro-meteorological information and advisories. The identification of the required services will be demand-driven and is included as an output in Component 2.

Suited activities under this component will address risks identified in the baseline survey, in particular the risks related to maintenance of the equipment. The procurement and installation of equipment will be done gradually over the 3 phases in the project. This will allow for learning and adjusting the approach throughout the duration of the project.

The selection of instruments, density of the network and locations of the monitoring sites will be based on a plan which will be regularly updated (at least one update in every phase of the project). The design of this plan will take into account 1) suitability of the instruments for the particular environment, 2) required human capacity to maintain and operate the instruments, 3) required (financial) resources to operation the instruments, 4) information services required. Cost considerations are made and included in PRODOC Table 11. Equipment price and service costs? estimates: AWS, FGS, HGS, plus maritime (Outputs 1.1 through 1.5) ? reproduced further down (in view of budgeting).

The equipment to be purchased is meant to support the National Meteorology Institute (INM) and the General Directorate of Water Resources (DGRH) to generate timely and quality hydro-meteorological information and services. The project team will ensure that the equipment purchased, and the services delivered will be connected complementing any coastal (terrestrial and maritime), weather measuring and forecasting equipment that may exist or be acquired by other partners or projects.

Where needed, the INM and DGRH will work with key project partners for the placement of equipment in secure location, e.g. with Guinea-Bissau Port Authority or the Institute for Biodiversity and Protected Areas (IBAP), which have delegates present on the Islands.

The participation of communities, in particular of women, in the operation and maintenance of the observation network equipment will be fostered, along with related activities concerning the development of climate services. The project will therefore ensure that a capacity building program to that effect is rolled out.

The EWS response capacities of community leaders, including women, will also be strengthened under this Component, so that they too can become protagonists in a wider national response to climate related risks.

As a result, targeted stakeholders in Guinea-Bissau will have the required capacity to operate and maintain equipment ? as well as systems -- within a reasonably robust and adequate hydro-meteorological observation network, to be gradually and sustainably installed in strategic locations across the country, along with the necessary technology transfer, and in view of producing useful climate information and feeding early warning systems with accurate data ? advancing thereby the CI & EWS agenda envisaged by Guinea-Bissau in its NAPA and similar documents.

PRODOC Table 11. Equipment price and service costs? estimates: AWS, FGS, HGS, plus maritime (Outputs 1.1 through 1.5)

<i>The hydro-meteorological monitoring network in Guinea-Bissau comprising automatic weather stations (AWS), gauging stations (FGS), and hydrological gauging stations (HGS) are upgraded. The weather and climate network in Guinea-Bissau including tidal gauge stations, automatic weather stations and hydrological stations are upgraded</i>			
Linkages to:	Activities under Outputs 1.1 to 1.6 as below	Unit price \$K	Quantity (approx.)
Std activity under Outputs 1.1 to 1.5	1.X.1) Design and optimization of the.... <u>[equipment as mentioned in the title of the output]</u>	Bulk	1
Std activity under Outputs 1.1 to 1.5	1.X.2) Site selection and community sensitization.	Bulk	1
Std activity under Outputs 1.1 to 1.5	1.X.3) Site implementation and maintenance plan.	Bulk	1
Std activity under Outputs 1.1 to 1.5	1.X.4) Procurement and installation of ... <u>[equipment as mentioned in the title of the output]</u>	<u>[as below]</u>	<u>[as below]</u>
Output: 1.1)	<i>Automatic Acoustic limnigraph</i>	5	15
Output: 1.2)	<i>Automatic Acoustic Tidal Gauge</i>	5	3
Output: 1.3)	<i>Automatic Rain gauge station</i>	3	10
Output: 1.4)	<i>Automatic Weather station</i>	24	10
Output: 1.5)	<i>Automatic Maritime Weather station</i>	3	25
Std activity under Outputs 1.1 to 1.5	1.X.5) Rehabilitation of infrastructure	Bulk	1
Std activity under Outputs 1.1 to 1.5	1.X.5) Commissioning and transfer	Bulk	1
Total			

Under Outputs 1.1 through 1.5 of the proposed project, LDCF resources will be used for the procurement and installation or rehabilitation (as appropriate) of equipment and protective infrastructure relevant to the hydro-meteorological monitoring network in Guinea-Bissau.

<i>Equipment to be purchased, as per Table 11 and Table 12</i>	<i>Quantity*</i>
<i>Automatic Acoustic Limnigraph</i>	10-15
<i>Automatic Acoustic Tidal Gauge</i>	3
<i>Automatic Rain gauge station</i>	10

<i>Automatic Weather station</i>	10
<i>Automatic Maritime Weather station</i>	25

* Quantities are indicative, as prices may vary.

Stations will be fully automatic and will be equipped with data loggers and telemetry for transmitting of data.

[Refer to PRODOC for more information]

> The financial outlook for the additionality under Component 1 is as follows:

Intervention #	For the Additionality Calculus - Component 1	Amounts in \$M
Baseline #2 + #3 / Co-financing	IFAD - PADES + IFAD - REDE	\$4.9
Baseline #7 / Co-financing	OMVG Saltinho Hydroelectric Project	\$5.0
Baseline #8 / Co-financing	Adaptation Fund / West African Development Bank (BOAD)	\$3.5
	TOTAL Co-financing from the Baseline (\$M)	\$13.4
Leveraged co-financing	UNDP TRAC	\$0.054M
This project	LDCF	\$3.342M
	TOTAL PROJECT COST under C1	\$16.8M

> The adaptive scenario: Essential climate information is generated

Adaptation and other benefits expected to be generated: The key Outcome under Component 1 of this LDCF project is focused on enhancing the capacity of national hydro-meteorological services in Guinea-Bissau. As service providers operating on mostly on a demand-driven basis, these institutions will be equipped and capacitated to better face climatic challenges. Various groups, who are ?consumers? or ?users? of CI & EWS, including farmers, herders, fishermen, sailors, health workers, along with stakeholders from the construction, transport and mining industries, will be able to make climate-informed decision-making and averting climate risk ? among them, several women, whose plight for equality will be prioritized, safeguarding as well the needs of vulnerable groups, so that ?no one is left behind?.

Under Component 2, and referring to climate change mainstreaming into development sectors:

Without LDCF, a suite of development process linked to planning, strategizing and mobilizing finance to build people's resilience, as well as the country will have visible gaps. The financial, institutional, human capacity and State building baseline in Guinea-Bissau has many weakness.

There are significant investments in the baseline that relates to Component 2, which more than \$60M in sectoral investments. However, more is needed for these sectors to actually embrace the change in Guinea-Bissau and to have a solid basis from which to develop plans. Not all of those baseline projects listed further up as the financial baseline for Component 2 effectively include climate change as an important factor in their planning and implementation.

Under the project's first component, access to agro- and hydro-meteorological information will be facilitated. Still, to reach an understanding of its implications and opportunities will require a differentiated approach.

Also, without LDCF, there will be little to no innovation in the hydro-meteorological sector in Guinea-Bissau and very few knowledge exchange instances for a selected few. The few services that are rendered will continue to be supply-driven, with little regard for what clients, need, expect and at times demand.

> The baseline finance for Component 2 adds up to **\$66.6 million** and it comes from the following sources:

#	Programs, Projects or Initiative relevant for Component 2 (C2)	C2 BASELINE FINANCE (\$M)	Proposed Co- financing from the C2 baseline (\$M)
1	AfDB/Ministry of Agriculture, Développement des Chaines de Valeur Riz	\$1.0	
2	IFAD - PADES	\$1.0	\$1.0
3	IFAD - REDE	\$33.7	\$6.0
4	WB Rural Transport Project (RTP)	\$8.0	
5	Government of China, Alto do Bandim Fishing Port Project	\$10.0	
6	CPLP Secretariat Water Res Mgt & Monit. in member Countries		
7	OMVG Saltinho Hydroelectric Project	\$5.0	\$5.0

#	Programs, Projects or Initiative relevant for Component 2 (C2)	C2 BASELINE FINANCE (\$M)	Proposed Co- financing from the C2 baseline (\$M)
8	Adaptation Fund / West African Development Bank (BOAD)	\$4.0	\$4.0
9	Green Climate Fund/ West African Development Bank (BOAD)	\$3.7	
10	Project AGIR AfDB / EU / Ministry of Agriculture	\$0.2	
	TOTAL	\$66.6	\$16.0

> Of the above, \$16.0 million are slated co-finance the Project through Component 2.

> A total of \$2.065 million from LDCF has been allocated under for funding Component 2 interventions, which are described in detail in the UNDP GEF PRODOC.

With LDCF funds, it will be possible to secure the much needed strengthening of the institutional framework for climate services. This includes the collection of climate data, for the production and dissemination of climate information products, for risk-informed decision making within sectors and for early warning linked to climatic hazards.

The pathway to capacity building and systemic change takes time. The project favored a phased approach over 6 years.

In Phase I of the project, priority will be given to strengthening of institutions, building capacity, creating awareness for climate information services, mapping demand and developing business cases for climate information services in Guinea-Bissau. This will include development of strategies for integrating climate information, developing adequate funding mechanisms and addressing policy gaps or introducing innovative policies.

In Phase II, the focus will be on improving existing weather and climate information products such as daily weather bulletins, agro-met bulletins, and the design of new services will be initiated. This stage to large extent will still depend on consultants as local staff will be in training.

In Phase III, the last phase of the project will be focusing on delivery of new services, and gradual transfer of tasks from the project team and consultants to the local staff.=

As a result of the implementation of these phases, systemic capacity to render hydro-climatic services on a demand-driven basis (for the most) would have been created. It is quite possible that, by project end, a few climate services may have been developed commercially and explored by through

innovation and technical expertise. In addition, service provision will have more quality, diversity and more client satisfaction.

It is possible that a few application of climate information systems and information will be able to be explored commercially and eventually generate some revenue. But is not expected that the revenue will be sufficient to cover costs of the rendering the services within only six years of institutional development, given the currently low baseline. Hydro-meteorological services will still need to be subsidized. Still, *with LDCF*, the institutions responsible for rendering those services would have taken some steps towards a more financially balanced stance with financial sustainability as an inspirational goal to be pursued.

Regardless, it is important that early warning messages on climate-driven catastrophes can be effectively delivered free charge and reach vulnerable groups and most remote communities when they are at risk.

> The financial outlook for the additionality under Component 2 is as follows:

Intervention #	For the Additionality Calculus - Component 2	Amounts in \$M
Baseline #2 + #3 / Co-financing	IFAD - PADES + IFAD - REDE	\$7.0
Baseline #7 / Co-financing	OMVG Salinho Hydroelectric Project	\$5.0
Baseline #8 / Co-financing	Adaptation Fund / West African Development Bank (BOAD)	\$4.0
	TOTAL Co-financing from the Baseline (\$M)	\$16.0
Leveraged co-financing	UNDP TRAC	--
This project	LDCF	\$2.065
	TOTAL PROJECT COST under C2	\$18.1M

> The adaptive scenario: Functional Climate Services for adaptation planning and EWS

Adaptation and other benefits expected to be generated: The key Outcome under Component 2 of this LDCF project is the strengthening of key planning process within the country's sectors by fully taking climate change into account. This will put Guinea-Bissau in a better position to face its climatic challenges. By Project end, and if the project can minimally achieve its goals, Guinea-Bissau should be able to develop and explore at least some of the applications listed in the **PRODOC table below**.

PRODOC Table 13. Specific applications of whether and climate information systems and information

Count	<i>Applications that are likely within reach for Guinea-Bissau, if the project is successful</i>
(i)	an early warning system for severe weather;
(ii)	real-time weather and hydrological monitoring
(iii)	weather forecasting capabilities (Numerical Weather Prediction)
(iv)	agro-meteorological information and services (including integrated crop and pest management);
(v)	applications related to building and management of infrastructure
(vi)	tailored products for the mining planning and management
(vii)	risk informed land, air and maritime transport management
(viii)	integrated water resources management
(ix)	adaptive coastal zone and land management
(x)	adaptation planning and policy making processes
	<u>Refer to PRODOC Section 3) LONG-TERM SOLUTION AND BARRIERS TO ACHIEVING IT > The Solution.</u>

> The adaptive scenario: The Project reaches its goals and this is adequately documented

The present outcome is 100% additional (or full cost), to the extent that it would not make sense ?without LDCF?. The same applies to the project management costs (PMC). Nevertheless, a few baseline initiatives are well aligned with it and provide some co-financing, as follows:

The financial outlook for the additionality under Component 3 (plus PMC) is as follows:

Intervention #	For the Additionality Calculus - Component 3 + PMC	Amounts in \$M
Baseline #2 + #3 / Co-financing	IFAD - PADES + IFAD - REDE	\$2.1
Baseline #7 / Co-financing	OMVG Saltinho Hydroelectric Project	\$2.0
Baseline #8 / Co-financing	Adaptation Fund / West African Development Bank (BOAD)	\$0.5
	TOTAL Co-financing from the Baseline (\$M)	\$2.6

Intervention #	For the Additionality Calculus - Component 3 + PMC	Amounts in \$M
Leveraged co-financing	UNDP TRAC for Project Management Costs (PMC)	\$0.592
This project	LDCF (Component 3 and PMC)	\$0.546
	TOTAL PROJECT COST under C3 + PMC	\$3.74M

7) Innovativeness, sustainability and potential for scaling up

Ensure the innovativeness of the project's implementation strategy and activities is important to leverage greater results and promote new technologies, approaches and concepts that will help the deployment of solutions to many development's most pressing needs. Therefore, coming up with out of the box ideas and concepts was an important factor considered during the PPG's project design process. One of the outcomes was the innovative implementation strategy divided in 3 phases, with two mid-term reviews and a close monitoring plan. This approach will contribute to reducing the risks identified during the project design and that can challenge the project implementation and outcome achievement.

Moreover, the project's activities will help the local institutions to implement a demand-driven approach to the development of climate information services. This is a new perspective for the institutions in Guinea-Bissau and will promote a shift on the current strategy for developing products in the country. With this approach, the future climate information services and products produced by the national institutions will be based on the needs of the potential clients, making it tailored and facilitating the commercialization. Additionally, the project outputs and activities foreseen the support for start-ups working with climate information services. Working with young, driven and entrepreneur people will promote the innovation and creative solutions for climate monitoring, information services and ultimately, climate change adaptation measures.

Regarding its sustainability, the project will ensure it by investing in capacity building at all levels, with a special emphasis on gender matters, participation and replication of successful models and interventions, improving and strengthening knowledge and understanding of medium to long-term climate-related disaster risks to local communities. The project will then bring knowledge and experience to the climate change observation network and climate information services in Guinea-Bissau, helping to ensure its potential for scaling up through a strong community engagement.

[1] Maplecroft. *Climate Change Vulnerability Index 2014*. Available at:

<

https://reliefweb.int/sites/reliefweb.int/files/resources/Climate_Change_Vulnerability_Index_%202014_Map_0.pdf>

[2] Secretary of State for Environment and Sustainable Development ? Environment Directoriat. *Second National Communication on Climate Changes in Guinea-Bissau*. February, 2011.

[3] Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham, and P. Urquhart, 2014: Africa. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1199-1265. Available at: <
https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap22_FINAL.pdf>

[4] Ministry of Natural Resources and Environment, Government of Guinea-Bissau. *National Programme of Action of Adaptation to Climate Change*. December 2006.

[5] ?Density? here refers to the distance between stations so as to ensure adequate coverage for the measurements. The optimal spatial distribution

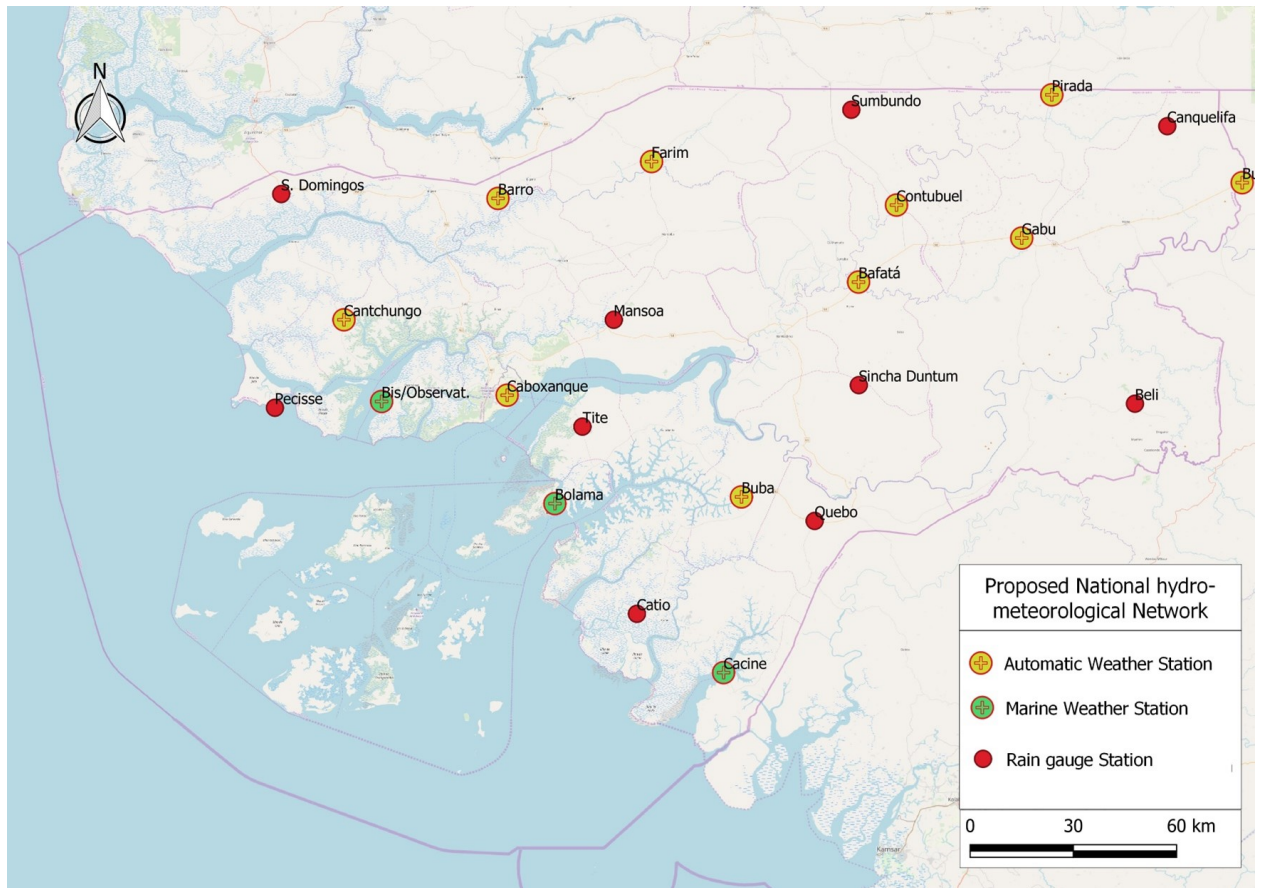
of stations in any given geography can be initially determined through modelling software on a map. What is optimal for Guinea-Bissau needs though to considers other parameters, such as funds? availability and security.

[6] World Meteorological Organization. *Guidelines on Frameworks for Climate Services at the National Level*, 2012. Available at:
<<https://gfcs.wmo.int/sites/default/files/events/Regional%20Workshop%20on%20Climate%20Services%20at%20the%20National%20Level%20for%20the%20LDCs%20in%20Asia/GuidetoClimateServiceattheNationalLevelFinalOctober2012.pdf>>

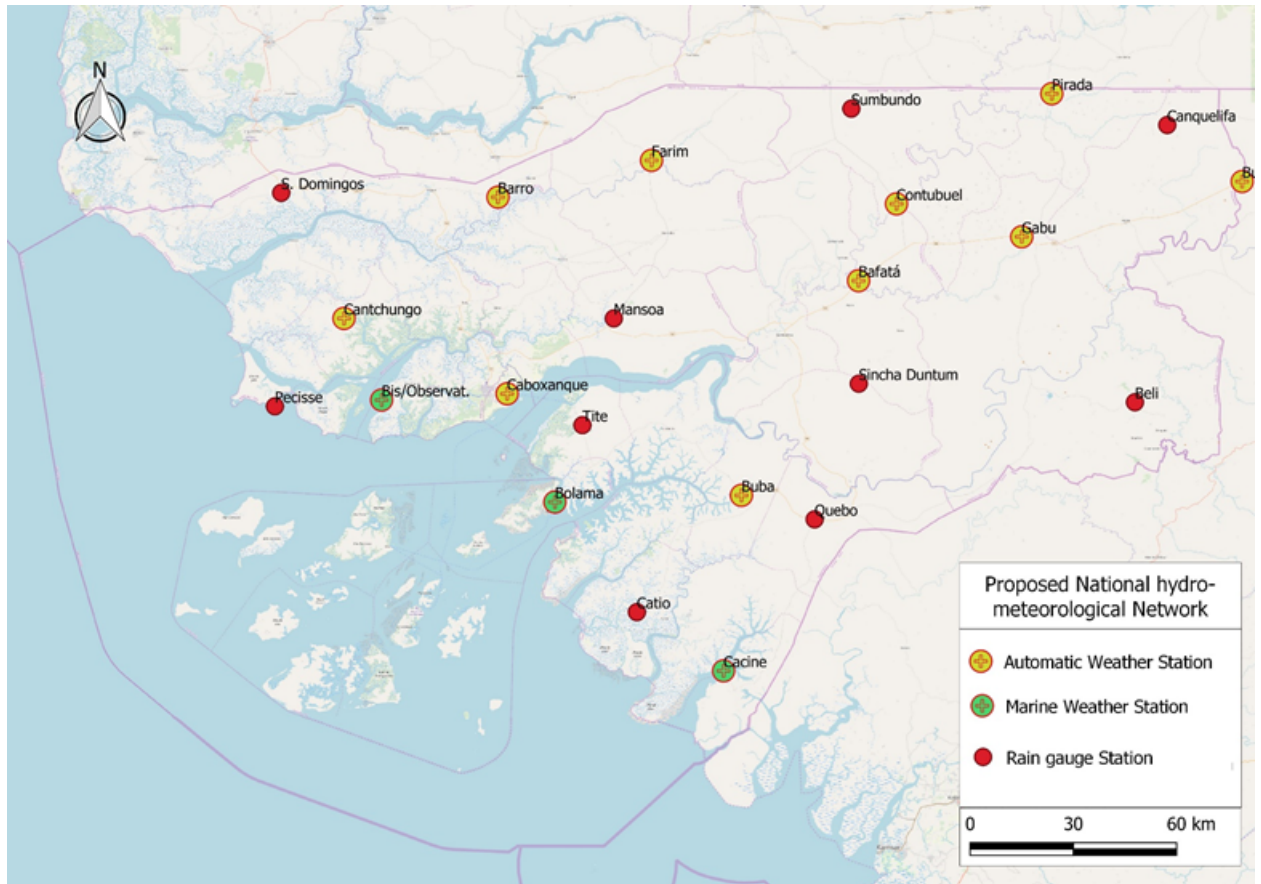
1b. Project Map and Coordinates

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

1. Proposed Automatic and Marine Weather and Rain Gauge Stations



2. Proposed Acoustic Limnigraph and Tidal Gauge Stations



1c. Child Project?

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

N/A

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

[PRODOC Section 4\) Stakeholders](#) and [ANNEX 4: Stakeholder Engagement Plan](#) covers all the content related to stakeholder engagement and makes reference to the stakeholder consultations during the PPG process. Additionally, refer to [ANNEX 14: Results from Communities Consultations](#) inside the Project Document (ProDoc)

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Please see [ANNEX 4: Stakeholder Engagement Plan](#) which has been uploaded to GEF Portal (Roadmap section)

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

Please see [ANNEX 4: Stakeholder Engagement Plan](#) which has been uploaded to GEF Portal (Roadmap section)

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor; No

Co-financier;

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

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

From [PRODOC Section 5\) GENDER EQUALITY AND WOMAN?S EMPOWERMENT](#).

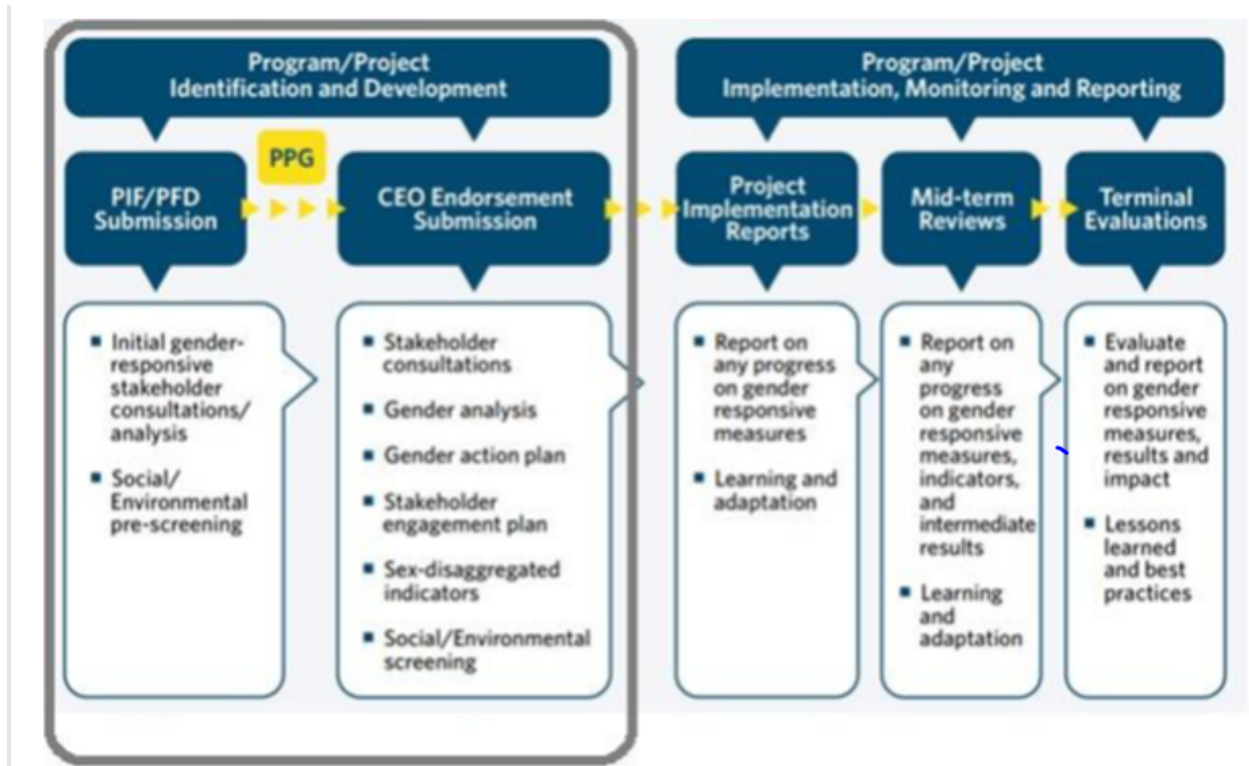
The impacts of climate change on human life in Guinea-Bissau are severe and therefore it has become urgent to focus on people-oriented climate change solutions. The gender dimension of resilience and adaptation strategies to climate change, including extreme weather events, early warning and disaster management must be given particular attention.

As women play an essential role in Guinea-Bissau's society and make up a large number of the poor communities that depend on natural resources for their livelihood, they face higher risks and burdens from climate change impacts, such as hazards and extreme weather conditions. Gender inequalities may be exacerbated by climate change and women will have a higher time, stress and work burden than men. Therefore, any measure to foster climate resilient development needs to be gender-responsive and include women's active involvement in planning, implementation and monitoring to achieve more efficient and sustainable results.

During the project preparation phase, gender related vulnerability assessments have been conducted in urban and rural communities in four (4) project areas (Cacheu, Bafata, Gabu and Oio regions) in order to point out specific climate information needs, risk knowledge and disaster preparedness of communities as well as engendered power relations in Guinea-Bissau's society.

A detailed **Gender Mainstreaming Plan** (included in the PRODOC in Annex 9: Gender Analysis and Gender Action Plan) was developed to ensure gender mainstreaming in the project. The results of the assessment have informed the identification and development of gender-sensitive adaptation measures and strategies to be supported by this LDCF project in order to address the gender-related climate risks and vulnerabilities of the project sites. The required actions to address gender gaps are organized and planned in a budgeted gender action plan that will be incorporated in the project implementation plan and detailed in the total budget. Specific gender goal indicators include the collection of gender-disaggregated data and a strong monitoring and evaluation mechanism to regularly monitor and assess the achievement of the gender based expected results and advance gender mainstreaming and social equity (based on GEF Core Gender Indicators).

PRODOC Figure 11 shows the process of gender mainstreaming and how GEF guidance applies.



Note: Adapted from a GEF publication: GEF Secretariat (2017): Guidance to Advance Gender Equality in GEF projects and programs

For specific gender-sensitive indicators, see Gender Action Plan in the PRODOC (Annex 9). The document has been uploaded to GEF Portal and can also be accessed directly via this link:
https://gefportal.worldbank.org/api/spapi/LoadDocument?fileName=https%3A%2F%2Fworldbankgroup.sharepoint.com%2Fsites%2Fgefportal%2FGEFDocuments%2F8d05241d-83c8-e811-813e-3863bb2e1360%2Fceoendorsement%2F_ANNEX%209%20-GENDER%20ANALYSIS%20AND%20GENDER%20ACTION%20PLAN%20.docx

Gender M&E indicators, were included in the project's Logical Framework in order to assess the project's progress on promoting gender equality and improvements in women's participation in decision-making process, as follows: Several gender sensitive indicators were included in the Logical Framework, which has 11 indicators and 3 sub-indicators, or 14 in total. Of the 11 indicators, 2 include explicit gender disaggregation. Of the 3 indicators and sub-indicators, 1 is suitable to monitor gender. The above is a strong token of gender mainstreaming for a project tagged as 'G2a' for its gender mark

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;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women No

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

Yes

4. Private sector engagement

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

The project aims to provide an important boost to the climate and early warning systems, which will inform decisions made by the government for early advice and planning, but also support the private sector, encompassing the Civil Society Organisations and Community Based Organisations. Private actors increasingly rely on climate information to guide their business, investment and expansion plans. Those private actors are an important recipient of some of the activities, but are also seen as key for ensuring the long-term sustainability of the project.

Developments on the meteorological network implemented in the past were not able to sustain their operation in the long term. Learning from those experiences and to avoid this situation, the project will, from the onset, look at various options for sustainable financing of operations by involving the private sector. This could be achieved through service agreements, tailoring of sector-specific advisory for planning, and public-private partnership.

The needs assessment to be conducted will determine whether current needs are being met, what are the gaps, but also seek to determine opportunities for private partnerships and the willingness and ability to pay for certain services, or find solutions to remove barriers to using those services, including capacity development. The project will conduct a number of awareness activities, some of them targeting the private sector to make sure that they are informed on the available climate services and the benefits of using them.

Refer to PRODOC Annex 14b for additional information on the role of the private sector.

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):

From [PRODOC Section 3\) Risks](#). For more information refer to [PRODOC ANNEX 5: UNDP Risk Log](#) and [ANNEX 8: Social and Environmental Screening Procedure \(SESP\)](#)

As per UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Management responses to critical risks will also be reported to the GEF in the annual PIR.

Number of risks identified: A total of 9 project level risks apply to the project at CEO Endorsement stage:

? At PIF stage: 6 risks had been identified, all of which were validated with the responses (i.e. the risk mitigation measures) either strengthened and/or re-contextualized at PPG stage, given the time elapsed since PIF approval.

? At PPG stage, 3 new risks were added to the project's risk table

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
1	Unavailability of requisite human resources and data	Technical	Identified at PIF stage and validated at PPG stage, but the impact rating was adjusted.	Likelihood - 3 Impact ? 3 Level - Moderate	The issue of the unavailability of requisite human resources will be mitigated by recruitment of international consultants who will work closely with in-country counterparts and by targeted capacity building activities. Where possible, the acquisition of services, rather than complicated systems requiring high levels of IT capacity will be prioritized. Training activities of local personnel will also be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas, this includes support for learning and scholarship programs to help build the cadre of trained technical expertise.
2	Local IT, telecommunications and technical infrastructure are weak e.g. international bandwidth and local mobile telecommunications networks	Technical	Identified at PIF stage and validated at PPG stage, but the impact rating was adjusted.	Likelihood - 3 Impact ? 3 Level - Moderate	The use of the mobile telecommunications network for observation network implementation will be prioritized since that infrastructure will, over time, provide the most robust power, communications, and security setup for the network hardware. Cloud-based services will also be used for computing systems to minimize this risk at the local, computer room level.

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
3	Insufficient institutional support and political commitments can affect the implementation of the project by destabilizing institutions and creating barriers towards a more collaborative framework for climate services and EWS	Political	Identified at PIF stage and validated and updated at PPG stage, but the impact rating was adjusted.	Likelihood - 2 Impact ? 3 Level - Moderate	<p>The proposed project is strongly supported by Government and other key stakeholders and development partners. The project, in conjunction with UNDP, will therefore take advantage of this opportunity to seek substantial support from the Governments and forge strong partnership with other development partners. Direct linkages to existing and planned baseline development activities implemented by Government, securing of the necessary co-financing, as well as local buy-in will also minimize this risk. It will also be important to establish buy-in from all government departments early as the project will utilize data and information from a wide range of departments.</p> <p>During the PPG process, a strong effort was made to engage and raise awareness of key stakeholders and national institutions that could benefit from the project. The response was very positive, and the representatives of these institutions were very open about their willingness to cooperate and contribute to the project implementation. The inputs gathered during the interviews and both workshops were included in the project design, so their views could be reflected, contributing to create a more consolidated institutional framework.</p>

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
4	<p>Work progresses in a compartmentalized fashion and there is little integration</p> <p>e.g. government departments refuse to share data and information</p>	Political	Identified at PIF stage and validated at PPG stage, but the impact rating was adjusted.	<p>Likelihood - 2</p> <p>Impact ? 3</p> <p>Level - Moderate</p>	By ensuring that sensitization on the impact of climate change on sectors and related capacity building across a range of sectors, as well as through the development of tailored climate products (e.g developing products based on internationally available data), these issues can be mitigated. Project activities focused on creating institutional integration and a collaborative framework have been defined and will be implemented by the project in order to mitigate this risk.
5	Non-compliance by primary proponents for the successful implementation of this project	Political	Identified at PIF stage and validated at PPG stage, but the impact rating was adjusted.	<p>Likelihood - 2</p> <p>Impact ? 3</p> <p>Level - Moderate</p>	<p>Ensuring that the project is designed and implemented in a participatory and inclusive manner, following established UNDP procedures, will mitigate the risk. Since the activities correspond to urgent needs as expressed by the primary proponents the risk of non-compliance should be reduced.</p> <p>The Project Board is a means to approve of and apply adaptive management measures related to management arrangements in case there are critical challenges.</p>

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
6	Climate shock occurring during the design and implementation phase of the Project	Environmental	Identified at PIF stage and validated at PPG stage, but the impact rating was adjusted.	Likelihood - 2 Impact ? 3 Level - Moderate	<p>Government priorities may have to temporarily adjust to respond to shocks. And as a result there may be some delays as more urgent priorities need to be addressed by stakeholders (e.g. disaster risk management services, government preparedness/response measures to the COVID-19 pandemic)</p> <p>Related to extreme weather events, timing of equipment installation will be informed by seasons - minimizing impact. Regarding COVID-19, uncertainties persist particularly on the African continent and Guinea-Bissau has a concerning number of cases relative to its population. UNDP will fully adhere to Government guidelines to contain the spread of the virus, in planning its activities. To the extent possible, the project will employ virtual means for consultations with government and capacity building.</p>

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
7	Sustainability of investment due to inadequate security and O&M	Technical	Identified at PPG stage	Likelihood - 3 Impact ? 4 Level - Substantial	This risk will be mitigated through the proposed phased approach related to equipment and installation under Component 1, as well as specific activities aimed at creating awareness and a sense of ownership within the communities where the equipment will be located. The project will have a step-by-step development of protocols for successfully engaging local communities and awareness raising about the importance of caretaking and maintaining the equipment. A robust stakeholder and local community's engagement plan implemented will also mitigate risk. Importantly, site selection will be contingent on a costed O&M plan with roles and responsibilities clearly defined.
8	The project's capacity building investment will likely have very limited impact in the provision of climatic / early warning services, due to the very low absorptive capacity of individuals and institutions in Guinea-Bissau, and the important capacity gap to be bridged.	Technical	Identified at PPG stage	Likelihood - 3 Impact ? 4 Level - Substantial	Several activities designed for the project will focus on capacity building and knowledge sharing, including sending out capable individuals to study abroad and obtain post-graduate degrees in relevant areas for the project. This will aim at reducing the capacity gap and build national capacity to ensure the sustainability of the project.

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
9	Technical institutions are not well-prepared for implementing a demand-driven approach to their core and potential services.	Organizational	Identified at PPG stage	Likelihood - 3 Impact ? 4 Level - Substantial	As the project proposes a demand-driven approach for the establishment of climate information services, the institutions might not be prepared to implement it. This risk will be mitigated through the project design, with activities of capacity-building, engagement of stakeholders and knowledge sharing, to introduce the concept and help its implementation.
10	Unavailability of requisite human resources/capacity and data could lead to unintended social and/or environmental impacts.	Identified at PPG stage	Social and Environmental	Likelihood = 3 Impact = 3 Level - Moderate	The issue of the unavailability of requisite human resources will be mitigated by recruitment of international consultants who will work closely with in-country counterparts through targeted capacity building activities; this has been built into the project's design. Where possible, the acquisition of services, rather than complicated systems requiring high levels of IT capacity will be prioritized. The project was also designed such that training activities of local personnel will be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas, this includes support for learning and scholarship programmes to help build the cadre of trained technical expertise.

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
11	In the selection of pilot intervention areas, the project might unintentionally cause inequitable or discriminatory adverse impacts on affected populations.	Identified at PPG stage	Social and Environmental	<p>Likelihood = 2</p> <p>Impact = 3</p> <p>Level - Moderate</p>	This risk will be managed through the Stakeholder Engagement Plan developed during the PPG (ProDoc Annex 4). Site-level Stakeholder Engagement Plans will be prepared during project implementation, as noted in the ProDoc. EWS communication strategies and comprehensive local disaster management will be developed hand in hand with stakeholders to avoid that no one is left behind. The project will showcase and pilot the proper installation of EWS communication and local DRR. However, its scope is limited, and it is recommended that a dedicated DRR project is designed as soon as funding is available, building on the early results of this project.
12	The particular challenges faced by women might not be effectively incorporated into the EWS or adaptation planning.	Identified at PPG stage	Social and Environmental	<p>Likelihood = 2</p> <p>Impact = 3</p> <p>Level - Moderate</p>	Specific study on gender needs and gender differentiated conditions in climate events and EWS was carried out during the PPG, and a Gender Mainstream Action Plan designed and included in this project for risk mitigation. The project design includes strong awareness raising components which will enable both, men and women to better understand the impact of extreme weather on their livelihood and security and gender specific needs. It was also designed to enhance female participation in all stages of EWS to overcome the limited victim role towards active community engagement and decision making by and for women (including quotas).

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
13	Construction at sites, once selected, might have localized negative impacts (social and/or environmental), e.g. debris resulting from installation of equipment, and/or OHS risks.	Identified at PPG stage	Social and Environmental	<p>Likelihood = 1</p> <p>Impact = 4</p> <p>Level - Low</p>	The site selection process will include SES considerations (e.g. with exclusionary criteria), and procedures for screening site-specific potential social/environmental impacts will be conducted for each site after its selection. These measures will be integrated into the ProDoc (in forthcoming revisions). A project-wide ESMF was determined to be unnecessary, though site-specific (targeted) management plans might be necessary for SES compliance, based on the findings of the screening that are carried out during implementation.
14	The adaptation planning supported by the project (including the national development plans under output 2.2) might unintentionally lead to downstream impacts on people or the environment.	Identified at PPG stage	Social and Environmental	<p>Likelihood = 1</p> <p>Impact = 4</p> <p>Level - Low</p>	The process for selecting the plans/policies will include SES considerations (e.g. with exclusionary criteria), and procedures for screening the potential asocial/environmental impacts will be conducted for each selected plan/policy. These measures will be integrated into the ProDoc (in forthcoming revisions). The need for targeted/scoped SESA will be confirmed during the screening of each plan/policy supported by the project.

#	Risk	Type	Risk Identification and validation	Impact, Likelihood, Risk Level	Mitigation
15	Climate or other (ie COVID) occurring during the implementation phase of the Project	Identified at PPG stage	Social and Environmental	Likelihood = 2 Impact = 3 Level - Moderate	Related to extreme weather events, timing of equipment installation will be informed by seasons, minimizing impact. Regarding COVID-19, uncertainties persist particularly on the African continent and Guinea-Bissau has a concerning number of cases relative to its population. UNDP will fully adhere to Government guidelines to contain the spread of the virus, in planning its activities. To the extent possible, the project will employ virtual means for consultations with government and capacity building.

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.

Refer to [PRODOC Section VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS](#) for all details.

The coordinating role of the Ministry of Environment and Biodiversity (MAB), which will lead the project from the part of government, as well as of the General Directorate of Water Resources, which will play an essential role as both beneficiary and main responsible party.

The National Project Director will chair the PSC to ensure government ownership and engagement of national authorities in the project's business.

Section 1: General roles and responsibilities in the projects' governance mechanism

Implementing Partner: The Implementing Partner for this project is the Ministry of Environment and Biodiversity (MAB). The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document. The project will be implemented in partnership with the Ministry of Transport and Telecommunications which is the institutional umbrella of the National Institute of Meteorology.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Overseeing the management of project risks as included in this project document and new risks that may emerge during project implementation.
- Procurement of goods and services, including human resources.
- Financial management, including overseeing financial expenditures against project budgets.
- Approving and signing the multiyear workplan.
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

UNDP: is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. **The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project.** UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

Section 2: Segregation of duties and firewalls vis-?-vis UNDP representation on the project board:

As noted in the [Minimum Fiduciary Standards for GEF Partner Agencies](#), in cases where a GEF Partner Agency (i.e. UNDP) carries out both implementation oversight and execution of a project, the GEF Partner Agency (i.e. UNDP) must separate its project implementation oversight and execution duties, and describe in the relevant project document a: 1) Satisfactory institutional arrangement for the separation of implementation oversight and executing functions in different departments of the GEF Partner Agency; and 2) Clear lines of responsibility, reporting and accountability within the GEF Partner Agency between the project implementation oversight and execution functions.

In this case, UNDP's implementation oversight role in the project ? as represented in the project board and via the project assurance function ? is performed by Environment Programme Analyst UNDP's execution role in the project (as requested by the implementing partner and approved by the GEF) is performed by the Operations Manager, which must be different than the UNDP person performing the assurance function listed above], who will report Deputy Resident Representative.

Section 3: Roles and Responsibilities of the Project Organization Structure:

a. Project Board: All UNDP projects must be governed by a multi-stakeholder board or committee established to review performance based on monitoring and evaluation, and implementation issues to

ensure quality delivery of results. The Project Board (also called the Project Steering Committee) is the most senior, dedicated oversight body for a project.

The two main (mandatory) roles of the project board are as follows:

- 1) **High-level oversight of the execution of the project by the Implementing Partner** (as explained in the [?Provide Oversight?](#) section of the POPP). This is the primary function of the project board and includes annual (and as-needed) assessments of any major risks to the project, and decisions/agreements on any management actions or remedial measures to address them effectively. The Project Board reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports, evaluations, risk logs and the combined delivery report. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results.
- 2) **Approval of strategic project execution decisions of the Implementing Partner** with a view to assess and manage risks, monitor and ensure the overall achievement of projected results and impacts and ensure long term sustainability of project execution decisions of the Implementing Partner (as explained in the [?Manage Change?](#) section of the POPP).

In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address any high-level project issues as raised by the project manager and project assurance;
- Provide guidance on evolving or materialized project risks and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required, within the parameters outlined in the project document, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by UNDP by UNDP and the donor and refer such proposed major and minor amendments to the UNDP BPPS Nature, Climate and Energy Executive Coordinator (and the GEF, as required by GEF policies);
- Ensure coordination between various donor and government-funded projects and programs;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financed activities and realisation of co-financing amounts of this project;
- Appraise annual work plans prepared by the Implementing Partner for the Project; review combined delivery reports prior to certification by the implementing partner;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;

- Review combined delivery reports prior to certification by the implementing partner;
- Provide high-level direction and recommendations to the project management unit to ensure that the agreed deliverables are produced satisfactorily and according to plans;
- Address project-level grievances;
- Approve the Inception Report, GEF annual project implementation reports, mid-term review and terminal evaluation reports;

Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.
- Review and update the project risk register and associated management plans based on the information prepared by the Implementing Partner. This includes risks related that can be directly managed by this project, as well as contextual risks that may affect project delivery or continued UNDP compliance and reputation but are outside of the control of the project. For example, social and environmental risks associated with co-financed activities or activities taking place in the project's area of influence that have implications for the project.

Composition of the Project Board: The composition of the Project Board must include individuals assigned to the following three roles:

1. Project Executive: This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Executive usually is the senior national counterpart for nationally implemented projects (typically from the same entity as the Implementing Partner), and it must be UNDP for projects that are direct implementation (DIM). In exceptional cases, two individuals from different entities can co-share this role and/or co-chair the Project Board. If the project executive co-chairs the project board with representatives of another category, it typically does so with a development partner representative. The Project Executive is: Ministry of Environment and Sustainable Development (MEDD).

2. Beneficiary Representative(s): Individuals or groups representing the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often representatives from civil society, industry associations, or other government entities benefiting from the project can fulfil this role. The Beneficiary representative (s) is/are the 5 prefectures and the 8 communes involved in the project, and the CSA platform (to be created under output 1.1).

3. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is/are: UNDP Resident Representative.

b. Project Assurance: Project assurance is the responsibility of each project board member; however, UNDP has a distinct assurance role for all UNDP projects in carrying out objective and independent

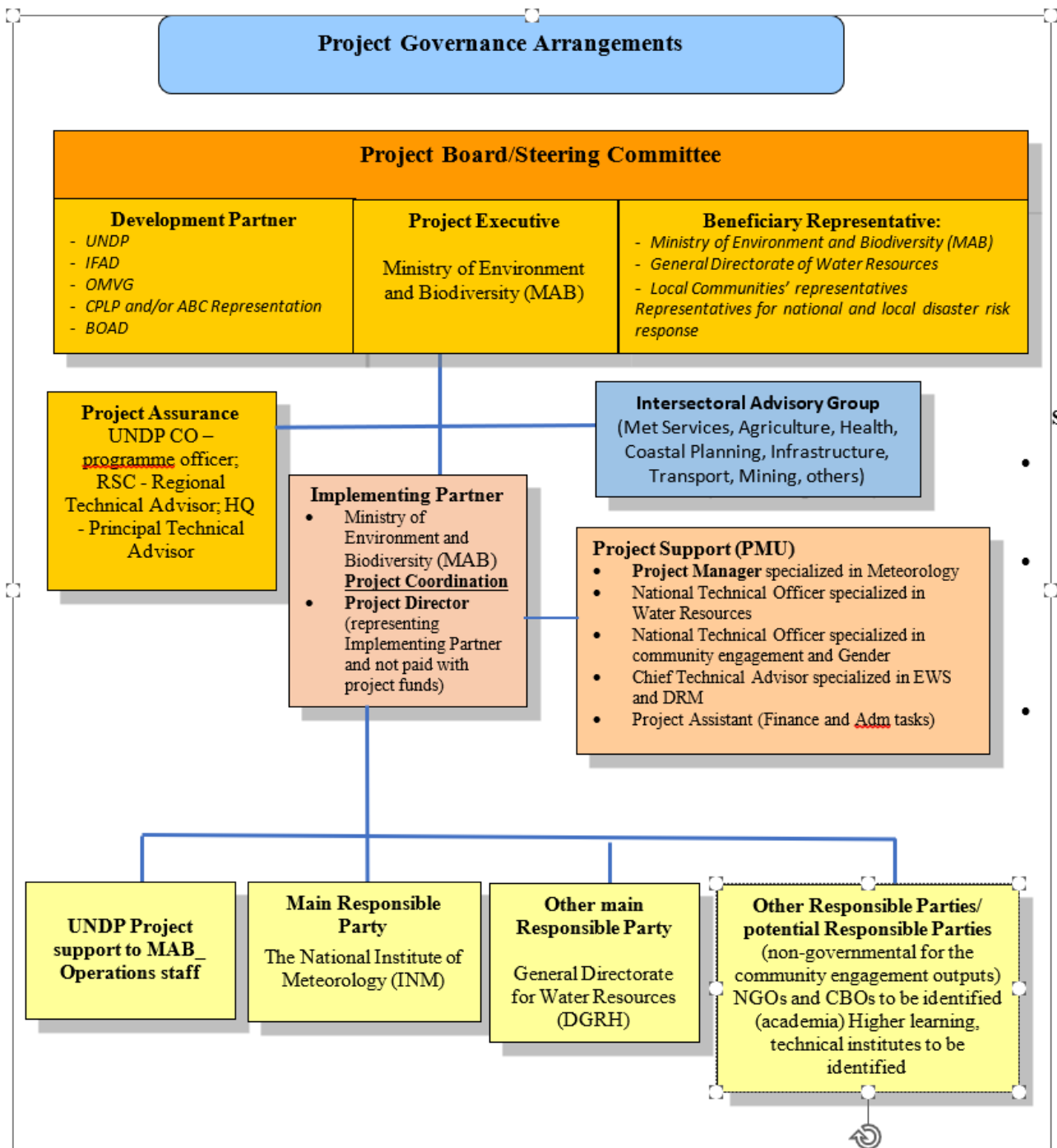
project oversight and monitoring functions. UNDP performs quality assurance and supports the Project Board (and Project Management Unit) by carrying out objective and independent project oversight and monitoring functions, including compliance with the risk management and social and environmental standards of UNDP. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. Project assurance is totally independent of project execution.

A designated representative of UNDP playing the project assurance role is expected to attend all board meetings and support board processes as a non-voting representative. It should be noted that while in certain cases UNDP's project assurance role across the project may encompass activities happening at several levels (e.g. global, regional), at least one UNDP representative playing that function must, as part of their duties, specifically attend board meeting and provide board members with the required documentation required to perform their duties. The UNDP representative playing the main project assurance function is/are: *Mamadou Cir? Camara, Environment Programme Analyst*.

c. Project Management ? Execution of the Project: The Project Manager (PM) (also called project coordinator) is the senior most representative of the Project Management Unit (PMU) and is responsible for the overall day-to-day management of the project on behalf of the Implementing Partner, including the mobilization of all project inputs, supervision over project staff, responsible parties, consultants and sub-contractors. The project manager typically presents key deliverables and documents to the board for their review and approval, including progress reports, annual work plans, adjustments to tolerance levels and risk registers.

designated representative of the PMU is expected to attend all board meetings and support board processes as a non-voting representative.

The primary PMU representative attending board meetings is: *The Project Manager*



The UNDP Resident Representative assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the GEF-specific requirements and UNDP's Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A representative of the UNDP Country Office will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.

UNDP project support: The Implementing Partner and GEF OFP have requested UNDP to provide support services in the amount of \$74,145 for the full duration of the project, and the GEF has agreed for UNDP to provide such execution support services and for the cost of these services to be charged to the project budget. **however, that such costs will not be charged to the project budget but will be fully covered by non-GEF resources.**

The execution support services ? whether financed from the project budget or other sources - have been set out in detail and agreed between UNDP Country Office and the Implementing Partner in a Letter of Agreement (LOA). This LOA is attached to this Project Document. To ensure the strict independence required by the GEF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independent from the GEF-specific oversight and quality assurance services.

7. Consistency with National Priorities

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

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

The project strategy and proposed outputs are consistent with national development priorities, and have close substantive and institutional links and complementarities with the primary national and international development strategies and plans.

Refer to **PRODOC Section 5) FIT TO NATIONAL POLICIES, NAPA PRIORITIES AND SDGS**, where the following policies, plans and strategies are mentioned, along with their consistency with the project:

- The First (2005), Second (2011) and Third (2018) National Communications to the UNFCCC
- The NAPA (2006),
- The Intended Nationally Determined Contributions (2015)
- Disaster Risk Reduction Strategy (2013)
- The Guinea-Bissau National Poverty Reduction Strategy Document 2 (DENARP II)
- "Terra Ranka" Program 2015-2025
- United Nations Development Assistance Framework (UNDAF, 2016-2020)

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.

Guinea-Bissau EWS Project revolves around the concept of "Climate Information Services" and its crucial importance in climate change adaptation and effective climate disaster response. Delivering improved Climate information Services, which the project aims to achieve, can be characterized almost in its entirety as a "knowledge management service" which will be enhanced by several knowledge management products that the project will produce. These included e.g. results from consultancies, systems that will be

built up as a result of project activities, training that will be provided in connection with it, among other types of related activities. It is therefore important to note that KM is included not just in Component 3, but also embedded in various activities under Components 1 and 2, as described further down in a Matrix.

The details of and the deliverables from these activities are clearly described in the PRODOC, in Section II-2) Expected Results, and their timeline is set out in Annex 2 (MULTI YEAR WORK PLAN).

In order to respond to the comment from GEF Secretariat, the following topics are generally relevant for KM and Communications/Outreach in the EWS Project for Guinea-Bissau:

General KM Strategy

The project's general KM mechanism will allow stakeholders to assess and document in a user-friendly form and share best and successful practices and lessons with relevant stakeholders and the other relevant initiatives in the region. Among other things, the project will seek to establish effective feedback mechanisms and knowledge management structures to optimally deliver key messages on how to reduce people's exposure to climate risks and related threats. This will also help ensure that resources are used most-cost effectively and that project activities can continually be re-adapted to serve the greatest number of people through the most effective messaging and delivery possible.

More specifically, three outputs are foreseen under Component 3, of which the first is clearly dedicated to M&E. The second output (3.2: Project lessons and knowledge codified and disseminated nationally and internationally) includes one important activity related to best practices and lessons learning and will ensure that the project connects with other countries and stakeholders within the CIRDA network[1]. The third output has a clear focus the development of the project's overall knowledge management mechanism. It includes specific activities that will ensure the assessment, documentation and sharing of best and successful practices and lessons learned with key stakeholders and other relevant initiatives in the region.

Key KM Elements in the Project's Strategy (matrix)

[Cross-reference to PRODOC Table 14 with the same title as above]

KM Elements	How these elements are present in the project strategy
<p>Capacity Building: Building the capacity of various stakeholders, including recipient countries, to manage and utilize environmental resources effectively.</p> <p>Learning: Activities that aim to institutionalize learning before, during, and after the implementation of the GEF project. This includes lessons learned from successes and failures, which are then integrated into the design and implementation of new projects.</p>	<p>The project has a strong learning element in its activities, including through general and specific capacity building activities.</p> <p>The following <u>Activities</u> under Components 1 and 2 that involve training and capacity building (and by default also learning) are worth highlighting as an example:</p> <ul style="list-style-type: none"> • All activities under Output 1.8) Development and implementation of a capacity building program to provide the Guinea Bissau with the required capacity to operate and maintain the observation network and develop services). • All activities under Output 1.9) Strengthened community demand and development of participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level. • All activities under Output 2.2) Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process. <p>Additionally, in the design of the project, lessons that could be learned from past initiatives and baseline projects were duly considered. The actual lessons learning activities are planned under Component 3.</p> <p>By default, The Mid-Term Review and Terminal Evaluation exercises include lessons learning and their follow up. These are also M&E Activities, so their budgets serves both the KM and the M&E purposes and it is not totally possible to separate them.</p>
<p>Information Management: Systematically collecting, managing, and making information accessible to all stakeholders. This can include databases of project results, environmental data, and other relevant information.</p> <p>Knowledge Sharing: GEF encourages sharing of knowledge across projects, countries, stakeholders, and partners to enhance global and local environmental outcomes. This could involve dissemination through reports,</p>	<p>Climate information services are by default very data intensive. Information Management is therefore embedded in all of the prescribe methodologies for developing these services. The approach is to gradually build national capacity to deliver climate information services, as outlined in the project's TOC and phased strategy.</p> <p>Key stakeholders will be encouraged to adopt the concept of Open Data with respect to hydro-meteorological data of public interest and to the extent that climate information services are regarded as a key public good. Therefore, knowledge sharing is also embedded in several activities.</p> <p>The following <u>Activities</u> under Components 1 and 2 that involve information management and knowledge sharing are worth highlighting as an example:</p> <p>1.6.1 Preliminary design of the data management infrastructure (DMI)</p>

⁷ CIRDA stands for Climate Information for Resilient Development in Africa. See e.g. <https://www.adaptation-undp.org/projects/cirda>.

KM Elements	How these elements are present in the project strategy
workshops, conferences, and online platforms.	<p>1.6.4 Commissioning, transfer and training [for the data management infrastructure (DMI)]</p> <p>1.6.5 Design the open climate data portal (OCDP)</p> <p>2.1.2 Open data frameworks and policies</p> <p>2.1.3 Institutional development towards a client centered approach</p>
Innovation: Supporting the development and application of innovative solutions to environmental challenges and to sharing these innovations across its network.	<p>As highlighted further up in Section 1a > 7) Innovativeness, sustainability and potential for scaling up, innovation is an essential part of the project strategy, includes an integrated agenda of modernizing climate information services in Guinea-Bissau. Ensuring the innovativeness of the project's implementation strategy and activities is important to leverage greater results and promote new technologies, approaches and concepts that will help the deployment of solutions to many <u>development's</u> most pressing needs.</p> <p>As it is concepts such as telemetry, Open Data and others are still new in Guinea-Bissau. The project strategy has clear plans embedded in project activities for making use of relevant methodologies that will gradually bring innovation to national climate information services.</p> <p>As an example, <u>Activity 2.4.7</u> foresees: "Development of prototypes" -- more specifically, in view of the development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital, etc.) identified in coordination with the NAP process.</p>
Networks and Partnerships: Establishing and maintaining networks and partnerships that facilitate knowledge exchange and collaboration between different actors in the environmental sector.	<p>The UNDP and the GEF LDCF are supporting a set of NIM Climate Information and Early Warning System projects (12 at total) and a coordinating regional component (CIRDA) which has the objectives to enhance coordination among the 12 NIM projects, increase cost effectiveness and, most importantly, provide the twelve countries where these projects are being implemented with a regional network of people who know how to access and master relevant technologies and a cohort of technical advisors. This alone constitutes an efficient knowledge management mechanism for exchange of experience and lessons learning.</p> <p>As described in the component 3, this project will be linked to the regional coordinating program (CIRDA), and through the knowledge management (KM) mechanism established by the CIRDA, it will benefit from lessons and experiences from the 12 Country projects which are at a very advanced state of implementation.</p>

Key KM and deliverables and timelines

Cross-reference to PRODOC Box 1 ("About Knowledge Management Mechanism and related Activities"), reproduced herein. Under the Box, the following table is included in the PRODOC. It contains core KM deliverables, their timelines and associated budgets.

KM tag for activities under relevant outputs and their timeline		Notional KM BUDGET
Under Output 1.6) Design and installation of data processing facilities, open climate data portal (OCDP), and forecasting system <i>[Key KM deliverable(s) by end of PHASE 1: Data management infrastructure (DMI) designed and improved, personnel trained in managing it and the open climate data portal (OCDP) is subsequently designed.]</i>		\$52,500
1.6.1	Preliminary design of the data management infrastructure (DMI)	
1.6.4	Commissioning, transfer and training [for the data management infrastructure (DMI)]	
1.6.5	Design the open climate data portal (OCDP)	
Under Output 1.8) Development and implementation of a capacity building program to provide the Guinea Bissau with the required capacity to operate and maintain the observation network and develop services <i>[Key KM deliverable(s) by end of PHASE 3: (i) Selected individuals, women included, receive specialized technical training in climate information services and related topics. (ii) Innovation in climate information services is incentivized through grants for applied research that directly contribute to project goals.]</i>		\$592,000
1.8.1	Identify staffing needs and capacity requirements	
1.8.3	Training of trainers (to operate and maintain the observation network and develop services)	
1.8.5	Summer school & selection of candidates	
1.8.6	Master courses	
1.8.7	Customized applied Research	
Under Output 1.9) Strengthened community demand and development of participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level <i>[Key KM deliverable(s) by end of PHASE 3: Community supported climate information services and protocol-based EWS are emplaced through focused training.]</i>		\$114,900
1.9.1	Stakeholder mapping and design of community engagement process	
1.9.4	Train the trainers [for contributing to the community's engagement in the development of climate information services]	
1.9.8	Assessing the current community demand	
1.9.1	Stakeholder mapping and design of community engagement process	
Under Output 2.1) Institutional strengthening the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services. <i>[Key KM deliverable(s) by end of PHASE 2: Community supported climate information services and protocol-based EWS are emplaced through focused training.]</i>		\$40,000
2.1.1	Institutional landscaping and Gap Analysis	
2.1.2	Open data frameworks and policies	
2.1.3	Institutional development towards a client centered approach	
2.1.4	Strengthening institutional coordination and cooperation	
2.1.5	Regional integration	
Under Output 2.4) Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital, ...) identified in coordination with the NAP process <i>[Key KM deliverable(s) by end of PHASE 3: (i) localized methodologies for climate vulnerability and risk mapping developed and results widely shared; (ii) new tailored climate information products for the users in the priority vulnerable sectors and locations.]</i>		\$341,000
2.4.1	Develop localized methodologies for climate hazard mapping	
2.4.2	Investigate local practices on adaptive capacity and hazard reduction	
2.4.3	Develop localized methodologies for climate vulnerability and risk mapping	
2.4.4	Agenda for the future	
2.4.5	Setup of a multidisciplinary mentoring platform for market driven development of weather and climate information products	
2.4.6	National call for the guided development	
2.4.7	Development of prototypes	
Under Output 2.5) Development of an efficient and sustainable mechanism for sharing climate products and early warning information <i>[Key KM deliverable(s) by end of PHASE 2: Community supported climate information services and protocol-based EWS are emplaced through focused training.]</i>		\$750,000
2.5.1	Assessment of existing EWS systems and protocols	
2.5.2	Develop and implement forecasting components	

KM tag for activities under relevant outputs and their timeline		Notional KM BUDGET
2.5.3	Develop communication and diffusion	
2.5.4	Future development plan	
2.5.1	Assessment of existing EWS systems and protocols	
Under Output 3.2) Project lessons and knowledge codified and disseminated nationally and internationally. / Key KM deliverable(s) by end of PHASE 3: Accessible report on "best-practices" and "lessons-learned" prepared and discussed with key stakeholders.		NOTE: Costs included in the project's M&E budget
3.2.1	National Inception workshop	
3.2.2	Preparation of accessible report on "best-practices" and "lessons-learned"	
3.2.3	Circulation of report on "best-practices" and "lessons-learned"	
3.2.5	Closure workshop with all involved stakeholders for discussing "lessons-learned", follow-up initiatives and the project's sustainability strategy.	
Under Output 3.3) Wider public awareness of climate services available and the benefits of their use achieved through comprehensive multimedia outreach and education campaigns / Key KM deliverable(s) from of PHASE 1 onwards and on a rolling basis: Accessible report on "best-practices" and "lessons-learned" prepared and discussed with key stakeholders.		\$125,000
3.3.1	Build and maintain a web presence and community outreach through electronic means	
3.3.2	Create and implement a national awareness campaign about EWS and climate information services created by the project	

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Refer to [PRODOC Section VI. MONITORING AND EVALUATION \(M&E\) PLAN](#) and [ANNEX 3: Monitoring Plan](#), where the monitoring and evaluation plan is described. A summary is reproduced below from [PRODOC Table 18](#).

PRODOC Table 18: Mandatory GEF M&E Requirements and M&E Budget

Monitoring and Evaluation Budget for project execution:		
GEF M&E requirements to be undertaken by Project Management Unit (PMU)	Indicative costs (US\$)	Time frame
Inception Workshop and Report	USD 10,766	Inception Workshop within 2 months of the First Disbursement
M&E required to report on progress made in reaching GEF core indicators and project results included in the project results framework	USD 25,000	Annually and at mid-point and closure.
Preparation of the annual GEF Project Implementation Report (PIR)	None	Annually typically between June-August
Monitoring of environmental and social risks, and corresponding management plans as relevant	USD 20,000	On-going.
Supervision missions	None ^[1]	Annually
Learning missions	None	As needed
Independent Mid-term Review (MTR):	USD 70,000	June 05, 2026
Independent Terminal Evaluation (TE):	USD 40,000	March 05, 2029

Monitoring and Evaluation Budget for project execution:		
GEF M&E requirements to be undertaken by Project Management Unit (PMU)	Indicative costs (US\$)	Time frame
Two assessments during project to view condition and functionality of equipment	USD 13,000	Between 2nd and 3rd PIR and 4th and 5th PIR.
TOTAL indicative COST	USD 178,766 (2.9% of total project cost)	

[1] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

[1] Excluding project team staff time and UNDP staff time and travel expenses.

[2] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

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 (LDCE/SCCF)?

The objective of this project is to strengthen the climate monitoring capabilities, early warning systems and information for responding to climate shocks and planning adaptation to climate change in Guinea-Bissau. All components of the project are expected to bring about significant socioeconomic benefits to the country, particularly component 1 and 2.

The outcome of Component 1 is enhanced capacity of national hydro-meteorological (NHMS) and environmental institutions to monitor extreme weather and climate change. In this context, this LDCE intervention will finance additional investments in hydro-meteorological equipments to help improve the climate monitoring network in Guinea-Bissau, building upon the investments supported by the baseline projects in climate monitoring and related issues. The establishment and maintenance of the climate monitoring network in Guinea-Bissau is essential for the country to develop its own capacity to analyse and produce climate information, which will contribute to several socioeconomic benefits.

The outcome related to Component 2 is 'efficient and effective use of hydro- meteorological and environmental information for decision-making early warnings and mainstreaming CC in the long-term development plans'. This is to be achieved by supporting a diverse set of initiatives that will work on building national capacity and mechanisms to develop and maintain climate information products in a sustainable manner, as well as promoting the mainstreaming of the climate information produced.

Moreover, the project will be able to support and enhance technology transfer through different opportunities of south-south and triangular cooperation. Different projects, institutions and countries can be seen as potential partners of the project and will help the achievement of the project's objective and outcomes.

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			

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.

Please see the full Social and Environmental Screening Report uploaded to the GEF Portal.

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 1: Unavailability of requisite human resources/capacity and data could lead to unintended social and/or environmental impacts.	I = 3 L = 3	Moderate	Principle 1 (Human Rights), Question P.2 and Question P.3	<p><u>Description and Assessment:</u></p> <p>This risk is rated as moderate and it is related to the project's technical risk #1, although this one covers a different aspect, namely the difficulties that duty bearers may have in ensuring that project's socio-environmental safeguards can be adequately upheld, and socio-environmental risks mitigated.</p> <p><u>Management Measures:</u></p> <p>The management strategy for this risk is similar to that of technical risk #1, but oriented to socio-environmental safeguards. More specifically, the present risk will be mitigated through the recruitment of international consultants who will work closely with in-country counterparts and through targeted capacity building activities. the focus will be on developing skills of the national project team and key government and NGO personnel. They will be specifically trained in themes such as gender equality, women's empowerment, human rights and socio-environmental impact assessment.</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 2: In the selection of pilot intervention areas, the project might unintentionally cause inequitable or discriminatory adverse impacts on affected populations and their human rights.	I = 2 L = 5	Moderate	Principle 1 (Human Rights), Question P.5	<p><u>Description and Assessment:</u></p> <p>Pilot intervention areas will be defined at project start and the selection of site will be initially based on technical criteria. More specifically, the prioritization of sites for the installation of equipment will consider: 1) the suitability of the instruments for the particular environment, 2) required human capacity to maintain and operate the instruments, 3) required (financial) resources to operation the instruments, 4) information services required. This is stated in the PRODOC Section III-2 (Project Sites). The stated criteria are the ideal one for the project, in view of generating climate models and providing EWS and climate services across the country. Yet, the choice of project sites will result in the engagement of certain communities more directly as custodian of equipment to the expense of others. Also, EWS system will end up being more accurate in project sites than in other sites, even though the quantity and distribution of equipment across the national territory is meant to provide the ideal national coverage. Therefore, it can be assumed that certain inequities will necessarily be committed in the choice of sites (likelihood = 5), but with a low impact that can be managed in different ways (impact = 2).</p> <p><u>Management Measures:</u></p> <p>The point of departure for managing this risk is the Stakeholder Engagement Plan developed during the PPG (PRODOC Annex 4). Site-level Stakeholder Engagement Plans</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
				will be prepared during project implementation to ensure that no one is left behind, as noted in the PRODOC, in particular under Output 1.9 (Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level). Additionally, EWS communication strategies and comprehensive local disaster management will be developed hand in hand with the stakeholders to ensure that no one is left behind (Activity 2.5.3 - Develop communication and outreach). The project will highlight showcases of good practices concerning stakeholder participation in EWS communication and local DRR.

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 3: The particular challenges faced by women and other minority groups might not be effectively incorporated into the EWS or adaptation planning and this may result in further gender-based discrimination and hardship, as well as possible grievances.	I = 4 L = 2	Moderate	Principle 2 (Gender), Question P.8, Question P.9 and Question P.10; Principle 3 (Accountability), Question P.14	<p><u>Description and Assessment:</u></p> <p>During PPG consultation with local communities (described in PRODOC Annex 14) some of the local women that were interviewed had expressed preoccupation with possible gender-based discrimination during project implementation. More specifically, they were worried about two possible situations: (1) the custodianship of hydro-meteorological equipment could end up being dominated by men, resulting in unequal access to resources and an unequal sharing of the project's potential benefits. (2) women also expressed fear of being left alone by men in the case of disaster situations, due to their lack of understanding of what vulnerability is. This event did not constitute a project grievance but was interpreted a simple concern being expressed by a few female stakeholders with respect to hypothetical situations that could occur during project implementation. Through project design, several measures have since then been included in project activities to avoid gender-based and other forms of discrimination, in particular through the Gender Action Plan (PRODOC Annex 9). Therefore, the risk in question here is residual, given the safeguards in place. The risk's impact may be high (I = 4), but the likelihood is rather low (L = 2).</p> <p><u>Management Measures:</u></p> <p>Project design includes strong awareness raising components which will enable both, men and women to better understand the impact of climatic hazards on their</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
				<p>livelihood and security, as well as the gender specific needs in this context. It was also designed to enhance women's participation in all stages of the development of EWS to overcome constraints linked to their potential role as victims and promote a more proactive engagement of women in decision-making processes relating to climate change adaptation and DRR. During project Inception, the Gender Action Plan will be revisited and, where needed, stronger measures at the level of activities will be implemented in connection with awareness-raising events actions, and through the development of EWS and plans at the local level. Additionally, Site-level Stakeholder Engagement Plans will be prepared during project implementation to ensure that no one is left behind, as noted in the PRODOC, in particular under Output 1.9 (Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level).</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
<p>Risk 4: Construction at sites, once selected, might have localized negative impacts (social and/or environmental), e.g. debris resulting from installation of equipment, and/or OHS risks.</p>	I = 3 L = 5	Substantial	<p>Standard 1, Question #1.1 and Question #1.2, Standard 3, Question #3.2 and Question #3.4 and Question #3.7, Standard 7, Question #7.6, Standard 8, Question #. 8.2.</p>	<p><u>Description and Assessment:</u></p> <p>In PRODOC Section III-2 (Project Sites), there are indications on the number of hydrometeorological and maritime stations to be rehabilitated and priority sites (n=41 ?see PRODOC Table 8, followed by Tables 9 and 10 for locations). In most case, only small rehabilitation or construction works will be needed for stations to become operational. In some cases, such infrastructures would boil down a fixing protective box with the hydrometric equipment under a bridge and linking it to solar panel placed on the top of a pole. In other cases, it would imply erecting or rehabilitating a small masonry booth of less than 3 square meters in size. The precise location for the installation of hydrometeorological equipment will only be defined during project implementation. Therefore, site-specific potential impacts can only be fully assessed during implementation when more information on project plans has been developed. Yet, it is expected that the impact will be limited and manageable.</p> <p><u>Management Measures:</u></p> <p>Project Outputs 1.1 through 1.5 includes activities for the procurement and installation or rehabilitation (as appropriate) of equipment and protective infrastructure relevant to the hydro-meteorological monitoring network in Guinea-Bissau. Under those, the fifth standard activity relates to the Rehabilitation of infrastructure. This is where measures to mitigate the present</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
				<p>Risks are described in the PRODOC. Such measures include the development of Local ESIA (Environmental and Social Impact Assessment) in project sites (following a simple and standardized methodology) and focusing on potential negative impacts of rehabilitation and small construction works of hydro-meteorological stations. The Local ESIAs will be followed by the development and implementation of Small Construction Impact Management Plans in each of the sites where the rehabilitation of hydro-meteorological stations is foreseen. The Plans will also follow a simple and standardized methodology. More specifically, potential negative impacts of building or rehabilitating hydrometeorological and maritime stations in priority sites will be managed through the application of best practices for building codes relating to small fit-for-purpose infrastructures. In the absence of such codes in Guinea-Bissau, codes from other countries can be applied.</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 5: Some of project activities will cause noise, pollution, traffic and will require storing or transporting of hazardous materials.	I = 2 L = 5	Moderate	Standard 2, Question #2.4, Standard 3, Question #3.2 and Question #3.5.	<p><u>Description and Assessment:</u></p> <p>Various activities foreseen under the project will involve the use of means transportation (airplanes, motor vehicles, tractors, etc.), which will result in the emission of greenhouse gases (GHG), although it is assumed to be limited in scale. Additionally, the rehabilitation of meteorological stations may involve the substitution of mercury thermometers by digital ones. If not done properly, the decommissioning of these thermometers could result in pollution by mercury.</p> <p><u>Management Measures:</u></p> <p>GHG that the project will generate can be compensated. Those that are linked to the use of airplanes for transporting project personnel and consultants (likely the most significant FHG emissions) can be measured according to standard methodologies. Most airlines already offer the possibility of compensating emissions through ticket purchase. Other emissions linked to ground transportation can be equally measured through the maintenance of car logs and equally compensated. As for the transportation and decommissioning of mercury thermometers, careful handling and safe storage should avoid the most immediate pollution by mercury and other materials. Collaboration with the Minamata Focal Point within the Ministry of Environment and Biodiversity will ensure the best possible outcome for the task.</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 6: The project will take place in hazardous areas (e.g. prone to flooding or of difficult access) and possibly in sites of cultural significance, and it might be required to engage security personnel, because equipment may be at risk of vandalization, possibly exacerbating conflicts locally, if stakeholder engagement is not sufficiently thorough.	I = 4 L = 4	Substantial	Standard 2 Question #2.1, Standard 3 Question #3.8, Standard 4, Question #4.1 and Question #4.3.	<p><u>Description and Assessment:</u></p> <p>The project will be required to measure hydro-meteorological conditions and maritime conditions in areas that are prone to flooding, storms and which are of difficult access (e.g. under high bridges, in remote areas of river banks, on islands, etc.). Some of these sites may be of cultural significance for certain ethnic groups, although this would need to be confirmed through Local Surveys. In any case, risks need to be investigated and mitigated. The risk of vandalization of equipment is quite prominent in the project strategy, although it is not a social-environmental risk, acts of vandalism may have as background social discontent, whether with the project and targeting the project. The project management unit is expected to ensure that equipment purchased with project funds remain protected and operational. They may assess that security personnel may need to be engaged in the safeguarding of equipment to avoid theft and vandalization. This may, in turn also generate discontent. Although this risk has been assessed as substantial, its description points out to risks hypothetically generating other risks, although still as speculation. The actual level of the present risk will need to be reassessed during and throughout implantation.</p> <p><u>Management Measures:</u></p> <p>Several measures already described under previous risks will help manage this complex risk. They include: (i) the updating of the Stakeholder Engagement Plan</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
				<p>that had developed during the PPG and its implementation (PRODOC Annex 4), as well as of the Gender Action Plan (PRODOC Annex 9);</p> <p>(ii) the development and implementation Site-level Stakeholder Engagement Plans, described under Output 1.9 (Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level); (iii) the development and implementation of EWS communication strategies and comprehensive local disaster management will be developed hand in hand with the stakeholders to ensure that no one is left behind (Activity 2.5.3 - Develop communication and outreach); and finally (iv) the development of Local EISIA's will be followed by the development and implementation of Small Construction Impact Management Plans in each of the sites where the rehabilitation of hydro-meteorological stations is foreseen. Where possible, community-based custodians should be engaged for protecting equipment rather than security personnel. Whether this is viable will depend on the success of a number of activities aimed at the engagement and capacity development of local stakeholders.</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 7: Some of project activities might cause occupational and safety risks due to physical hazards related to installation and maintenance of equipment.	I = 4 L = 2	Moderate	Standard 7, Question #7.6.	<p><u>Description and Assessment:</u></p> <p>As described further up, the project will operate in areas that are prone to hazards and some of which are of difficult access. Reaching those areas may represent a risk to occupational and safety risks due to physical hazards related to installation and maintenance of equipment.</p> <p><u>Management Measures:</u></p> <p>Ensuring that personnel use protective gear that is suitable to condition and that they receive training in Health, Safety and Environment is quite important. This training can be provided by UN Security. There is no need to specify it as a plan or training to be specifically developed for the project.</p>

<i>Risk Description (broken down by event, cause, impact)</i>	<i>Impact and Likelihood (1-5)</i>	<i>Significance (Low, Moderate Substantial, High)</i>	<i>Comments (optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
Risk 8: Climate or other (ie COVID) shocks occurring during the implementation phase of the Project	I = 3 L = 2	Low	Standard 2, Question #2.2	<p><u>Description and Assessment:</u></p> <p>Concerning climate shocks, it is considered that the occurrence of an extreme weather events could increase stakeholder's expectations towards the project. Stakeholder could e.g. demand that the project produces results faster than what it is meant to, or that the project's strategy should focus much more on practical DRM outcomes, rather than focusing on the gradual development of a solid basis for it through climate observations and EWS. This is a hypothetical risk, and its likelihood is low. As for health-related shocks, we mention that since 2020, Covid 19 has become an important health concern for Guinea-Bissau and the world. For the project, a specific annex had been developed for assessing Covid-19 risk and proposing measures for addressing project needs in connection with the pandemic (Annex X). Currently, the risk is receding, and it is considered low. Yet, it needs to be closely monitored.</p> <p><u>Management Measures:</u></p> <p>Concerning the risk of climate shocks, there is little that the project can do to avoid it such shocks. What the project can do is already foreseen under previous risks, which is the engagement of stakeholders, so that their expectations are more in tune with what the project can deliver. As for the covid19 risk, ensuring that personnel use protective gear that is suitable to condition and that they receive training in Health, Safety and Environment is quite important and it has already been</p>

<i>Risk Description</i> <i>(broken down by event, cause, impact)</i>	<i>Impact and Likelihood</i> <i>(1-5)</i>	<i>Significance</i> <i>(Low, Moderate Substantial, High)</i>	<i>Comments</i> <i>(optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
				foreseen in connection with the previous risk.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
PIMS 5443 - Guinea Bissau PIMS 5443 - ESMF - SUBMISSION-June 2023_REV- MA	CEO Endorsement ESS	
PIMS 5443 - GBissau EWS_SESP_ for clearance- 22Feb2023 (1)	CEO Endorsement ESS	

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

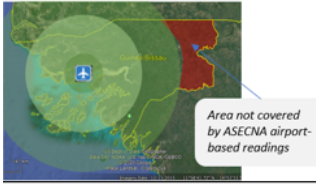
This project will contribute to the following Sustainable Development Goal (s): *SDG 1, 2, 3, 5, 6, 9, 11, 13, 14 and 15*

This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): Outcome UNDAF 4) Public institutions, civil society organizations, and the private

sector promote the preservation and development of biodiversity, and the prevention and management of disaster risks (from UNDAF, 2016-2020).

> Linkages to UNDP's Strategic Plans, the outgoing one (2018-2021) and the one under development (2022-2025), with a core focus on 'Building resilience': strengthening the capacity of countries, institutions and people to prevent, mitigate and respond to diverse risks including crisis, conflict, natural disasters, climate and social and economic shocks.

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
<p><u>Project Objective:</u></p> <p>To strengthen the climate monitoring capabilities, early warning systems and information for responding to climate shocks and planning adaptation to climate change in Guinea-Bissau.</p>	<p><u>Mandatory Indicator 1:</u> # direct project beneficiaries disaggregated by gender (individual people)</p>	<p><i>TOTAL: 234 people:</i></p> <p><i>109 women</i></p> <p><i>125 men</i></p> <p><i>(corresponding to those directly consulted by the project during the PPG)</i></p>	<p><i>TOTAL: Approx. 50,000</i></p> <p><i>26,000 women (based on the current demographic sex ratio)</i></p> <p><i>24,000 men</i></p> <p><i>(corresponding to half of the estimated number of potential clients for improved weather and climate monitoring information in specific applications)</i></p>	<p><i>TOTAL: Approx. 100,000 people</i></p> <p><i>52,000 women (based on the current demographic sex ratio)</i></p> <p><i>48,000 men</i></p> <p><i>(corresponding to the estimated number of potential clients for improved weather and climate monitoring information in specific applications)</i></p>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
	<p><u>Mandatory Indicator 2:</u> # indirect project beneficiaries disaggregated by gender (individual people)</p> <p>-</p>	<p>TOTAL: 4,260 people:</p> <p>3,190 women</p> <p>1,070 men</p> <p>(corresponding to those indirectly consulted by the project during the PPG)</p>	<p>TOTAL: At least 700,000 people:</p> <p>364,000 women (or 52%, based on the current demographic sex ratio)</p> <p>336,000 men</p> <p>(corresponding to those with access to climate information being broadcasted through radios by Phase II)</p>	<p>TOTAL: 1,63 million indirect beneficiaries (or 89% of the population)</p> <p>0.85 million women (or 52%, based on the current demographic sex ratio)</p> <p>0.78 million men</p> <p>(corresponding to those with access to community and private radios)</p>
	<p><u>Mandatory GEF Core Indicators 3:</u> Area of landscapes under improved practices (hectares; excluding protected areas)</p>	<p>Approx. 3.0 million hectares (or approx. 80% of the country's surface)</p> <p>(corresponding to the country's surface currently covered by minimally accurate meteorological observations based on ASECNA airport based reading as of 2019)</p> 	<p>3.6125 million hectares</p> <p>(corresponding to the country's surface, including a 20% maritime surface)</p>	<p>3.6125 million hectares of land plus the bulk of the EEZ</p> <p>(corresponding to the country's surface and its maritime area)</p>
Project component 1	Transfer of technologies for climate monitoring infrastructure			

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
Project Outcome 1) Enhanced capacity of national hydro-meteorological (NHMS) and environmental institutions to monitor extreme weather and climate change	<i>Indicator 4: Number of hydro-meteorological stations upgraded and functioning</i>	<i>0 Automatic Acoustic Limnigraphic stations</i> <i>0 Automatic Acoustic Tidal Gauge Stations</i> <i>0 Automatic Rain gauge Stations</i> <i>0 Automatic Weather Stations</i> <i>0 maritime weather stations (AWS430)</i> <i>MetCast observation console (MCC301) in the 0 ports of Guinea-Bissau</i>	<i>6 Automatic Acoustic Limnigraphic stations</i> <i>1 Automatic Acoustic Tidal Gauge Stations</i> <i>5 Automatic Rain gauge Stations</i> <i>5 Automatic Weather Stations</i> <i>1 maritime weather stations (AWS430)</i> <i>MetCast observation console (MCC301) in the 3 ports of Guinea-Bissau</i>	<i>15 Automatic Acoustic Limnigraphic stations</i> <i>3 Automatic Acoustic Tidal Gauge Stations</i> <i>10 Automatic Rain gauge Stations</i> <i>10 Automatic Weather Stations</i> <i>3 maritime weather stations (AWS430)</i> <i>MetCast observation console (MCC301) in the 6 ports of Guinea-Bissau</i>
	<i>Indicator 5: Number of local observers and maintenance staff trained and participating in Summer and Master courses</i>	<i>0 candidates selected for Master courses</i> <i>0 participants in summer courses</i>	<i>Up to 5 candidates selected for Master courses, broken-down by gender</i> <i>20 participants in summer courses, broken-down by gender</i>	<i>Up to 10 candidates selected for Master courses, broken-down by gender</i> <i>40 participants in summer courses, broken-down by gender</i>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
	<i>Indicator 6: % of the equipment installed by the project still functioning at the end of the project</i>	<i>Not applicable (project not started)</i>	<i>100% (by mid-term all equipment is installed and new)</i>	<i>85% (with the status quo of difficult maintenance of equipment, it is likely that some equipment may be malfunctioning, but the aim is to do better than other projects, where approx. 50% is already malfunctioning by project end)</i>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
Outputs to achieve Outcome 1	<p>Output 1.1) Installation or rehabilitation (as appropriate) of 15 Automatic Acoustic Limnigraphic stations (with data logger and telemetry)</p> <p>Output 1.2) Installation or rehabilitation (as appropriate) of 3 Automatic Acoustic Tidal Gauge Stations (with data logger and telemetry)</p> <p>Output 1.3) Installation or rehabilitation (as appropriate) of 10 Automatic Rain gauge Stations (with data logger and telemetry)</p> <p>Output 1.4) Installation of 10 Automatic Weather Stations (with data logger and telemetry)</p> <p>Output 1.5) Procurement and installation of 3 maritime weather stations (AWS430), maritime observation console (MCC401), MetCast observation console (MCC301) in the 6 ports of Guinea-Bissau</p> <p>Output 1.6) Design and installation of data processing facilities, open climate data portal (OCDP), and forecasting system</p> <p>Output 1.7) Procurement of weather forecasting services</p> <p>Output 1.8) Development and implementation of a capacity building program to provide the Guinea-Bissau with the required capacity to operate and maintain the observation network and develop services</p> <p>Output 1.9) Strengthened community demand and development of participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level</p>			
Project component 2	Climate information integrated into priority development plans and early warning systems to support the NAP process			

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
Outcome 2) Efficient and effective use of hydro-meteorological and environmental information for decision-making, early warnings and mainstreaming CC in the long-term development plans	<i>Indicator 7: Number of national, sectoral and sub-national plans informed by accurate and up-to-date climate information</i>	<i>No plans informed by accurate and up-to-date climate information</i>	<i>At least 3</i> <i>(considering that at least the national development plan and 1 or 2 subsidiary plans will be updated in the next 3-4 years)</i>	<i>At least 4, ideally 6.</i> <i>(considering the following as the most likely to be updated in the next 5-6 years: National development plan, Environmental Management, NBSAP, Agricultural strategy/plan, and Water resources plan, coastal zone planning)</i>
	<i>Indicator 8: Number of tailored climate information products developed</i>	<i>An agro-hydro-meteorological bulletin is provided by the Multidisciplinary Working Group / National Meteorology Institute and hydrological bulletins are provided by the DGRH</i>	<i>At least 3</i> <i>(considering that some of the specific applications of whether and climate information systems mentioned further up, counting 10, will be developed by Phase II)</i>	<i>At least 5</i> <i>(or approximately half of the specific applications of whether and climate information systems)</i>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
	<i>Indicator 9: A efficient and sustainable mechanism for sharing climate information products and early warning information is created</i>	<i>0 mechanism for sharing climate information products and early warning information is created</i>	<i>A mechanism climate information products and early warning information is created</i>	<i>A mechanism climate information products and early warning information is functioning</i>
Outputs to achieve Outcome 2	<p>Output 2.1) Institutional strengthening the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services</p> <p>Output 2.2) Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process</p> <p>Output 2.3) Development of a sustainable financing mechanism for the climate information production and dissemination systems</p> <p>Output 2.4) Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,?) identified in coordination with the NAP process</p> <p>Output 2.5) Development of an efficient and sustainable mechanism for sharing climate products and early warning information</p>			
Project component 3	Monitoring, evaluation and Knowledge management.			

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
<u>Outcome 3)</u> Lessons learned by the project through participatory M&E, with special attention to gender mainstreaming, are made available to support the financial sustainability of the strategy	<i>Indicator 10: Number and type of targeted institutions with increased capacity to assimilate and forecast climate and environmental information</i>	0 <i>(project not started)</i>	Up to 2 <i>(Institutions such as the National Meteorological Institute and the DGHR have the capacity to assimilate climate and environmental information and will be directly benefitting from the project by then)</i>	Up to 5 <i>(considering a broader range of national and potentially also sub-national institutions)</i>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
	<p><i>Indicator 11: Wider public awareness:</i></p> <p><i>(a) number of awareness and education campaigns</i></p> <p><i>(b) number of people participating in the awareness-raising activities</i></p> <p><i>(c) Number of products developed for disseminating project lessons and knowledge</i></p>	<p><i>(a) 0 (project not started)</i></p> <p><i>(b) 125 directly consulted men</i></p> <p><i>109 directly consulted women</i></p> <p><i>(c) 0 (project not started))</i></p>	<p><i>(a) 2</i></p> <p><i>(b) 2000 (ratio 60/40)</i></p> <p><i>(c) 1</i></p> <p><i>(Each campaign includes ten communities at least, each community 100 people=</i> $2 \times 10 \times 100 = 2000$</p> <p><i>Ratio: 60% men, 40% women is considered a viable parity indicator given the baseline)</i></p> <p><i>(a) 2</i></p> <p><i>(b) 2000 (ratio 60/40)</i></p> <p><i>(c) 1</i></p> <p><i>(Each campaign includes ten communities at least, each community 100 people=</i> $2 \times 10 \times 100 = 2000$</p>	<p><i>(a) 4</i></p> <p><i>(b) 4000 (ratio 60/40)</i></p> <p><i>(c) 2</i></p> <p><i>(Each campaign includes ten communities at least, each community 100 people=</i> $4 \times 10 \times 100 = 4000$</p>

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
			<i>Ratio: 60% men, 40% women is a good parity indicator)</i>	
Outputs to achieve Outcome 3	<p>3.1. Project activities and impacts on global, national and local adaptation benefits of climate information and EWS are assessed and monitored.</p> <p>3.2. Project lessons and knowledge codified and disseminated nationally and internationally</p> <p>3.3. Wider public awareness of climate services available and the benefits of their use achieved through comprehensive multimedia outreach and education campaigns</p>			

[1] According to the National Regulatory Authority for Information Technology and Communication, in 2012 community and private radios reach 89% of the population.

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).

Comments at PIF Stage

1a) STAP Comments at PIF Stage and UNDP's response

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
Overall STAP assessment at PIF stage: <u>Minor issues to be considered during project design</u>		

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[GENERAL]</p> <p>STAP welcomes the UNDP proposal "Strengthening climate information and early warning systems for climate resilient development and adaptation to climate change in Guinea". The project targets the agricultural and mining sectors, as they represent some of the most important economic areas of the country, yet also some of the most vulnerable to changing rainfall patterns and overall water availability.</p> <p>While STAP finds the PIF to be reasonably sound and well-developed, we would like to offer a number of suggestions to strengthen the project; that may be incorporated during the process of project development:</p> <p>[#1] It is important to distinguish between different areas of application of climate information and decisionmaking contexts ? specifically between responding to acute hazards (early warning systems) and considering climate risks in long-term planning (for</p>	<p>Response to Point #1)</p> <p>The different areas of application of climate information were duly considered in the PRODOC, as well as the needs and demands that this represents for different decisionmaking contexts, sectors etc.</p> <p>However, the state of development of Guinea-Bissau's climate services is still very incipient and therefore, more basic needs are to be attended to first, before a segmentation of and sophistication of climate services can be considered.</p> <p>In connection with it, we make reference to PRODOC Figure reproduced below, in which Category 1 corresponds to the ability to deliver a basic range of climate data and products, to participate in regional climate forums, and to engage in limited interactions with end-users.</p> <p>Given the poor state of the state of the hydrology and meteorology observation and monitoring network, and the data processing capabilities at the hydrology and the meteorology institutes in Guinea-Bissau, the baseline scenario in the country is not yet sufficiently advanced to fully comply with CATEGORY 1.</p> <p>With this project, Guinea-Bissau is seeking the LDCF resources to overcome the immediate barriers</p>	<p><u>PRODOC Figure 6:</u></p> <p>PRODOC Section 4) BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS</p> <p>> <u>State climate information services</u></p> <p>-</p> <p>-</p> <p>-</p> <p><u>PRODOC Section IV. RESULTS AND PARTNERSHIPS > 1) EXPECTED RESULTS</u></p> <p>-</p> <p><u>Description of Outputs under Components 1 and 2.</u></p>

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>example water resource management). They have</p> <p>different needs and challenges particularly with regard to institutional frameworks and capacity, as well as</p> <p>the base of climate and hydro-met information needed. This needs to be reflected both in Component 1 ?with regard to the equipment proposed, as well as Component 2? particularly Outputs 2.1 and 2.4.</p>	<p>linked to policy, institutional and infrastructural aspects of its current climate monitoring systems, as well as to improve key stakeholders? overall knowledge and capacity related to climate monitoring and climate information services, including early warning systems.</p> <p>Assumptions: A central concept to the project is therefore Climate Information & Early Warning Systems (CI & EWS), noting that climatic EWS intrinsically depends on reliable CI for being effective, which in turn depends on the robustness of hydro-meteorological data and on the human capacity to monitor, analyze and communicate this data to the relevant audiences. In this light, the following aspects are relevant to the project?s scope and they constitute the project?s core assumptions:</p> <p>(i) Climate information has several other applications, besides EWS, and Guinea-Bissau is yet to explore these applications by gradually building its capacity to render climate information services;</p> <p>(ii) Early Warning Systems and Frameworks are needed in Guinea-Bissau to prevent climate-driven disasters, but the scope of this project foresees only a few initial and more pressing actions within the themes of disaster risk management (DRM) and its interface with climate change adaptation;</p> <p>(iii) Climate information is directly dependent on the effectiveness of the country?s hydrology and meteorology observation and monitoring network, which in Guinea-Bissau is in at a rather low state of development and maintenance;</p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
	<p>(iv) By significantly strengthening Guinea-Bissau's capacity to generate and disseminate reliable climate information ? and to render climate information services ? the hydro-meteorological services in Guinea-Bissau will be contributing to the development and adaptation of a suite of economic sectors in the country, including, to name a few: transportation (air, land and water), agriculture, fisheries, infrastructure, education, health, water supply & sanitation (WATSAN), biodiversity conservation & ecosystem services, etc.; and finally</p> <p>(v) Guinea-Bissau has many pressing needs within the mentioned sectors and development investments are being made in them, some of which constitute the financial baseline for this project.</p> <p>In light of the above assumptions, the project has been proposed in phases</p> <p><u>More specifically on how this is reflected in the Project Strategy and the Component.</u></p> <p>Component 1 focuses on building up the climate observation network, without which climate information cannot be produced (Outputs 1.1 through 1.6). Component 1 also foresees a strong element of human capacity development See e.g. descriptions for Outputs 1.8 and 1.9:</p> <p><i>Output 1.7 Procurement of weather forecasting services</i></p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
	<p><i>Output 1.8 Development and implementation of a capacity building program to provide the Guinea-Bissau with the required capacity to operate and maintain the observation network and develop services</i></p> <p><i>Output 1.9 Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level</i></p> <p>Output 2.4 is considered and proposed within the above logic and it foresees the ?Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,,?) identified in coordination with the NAP process.</p> <p>At the same time, because forecasts services are important and somewhat urgent, not least also for EWS, options were assessed. Considering that the national capacity to produce forecasts will not be in place before the end of Phase I, Output 1.6 foresees the ?Development or procurement of weather forecasts services? in view of a quick operationalization of such services, until national capacity is sufficiently in place. In this manner, a segmentation of services can already happen early in the project, while other aspects of national capacity are being addressed.</p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
	<p>A similar logic concerning institutional frameworks and capacity also applies to the concepts behind Output 2.3 <i>?Development of a sustainable financing mechanism for the climate information production and dissemination system?.</i></p> <p>Finally, the overall institutional development has been considered and core activities with this aim were foreseen under Outputs 2.1 and 2.2:</p> <p><i>Output 2.1 Institutional strengthening the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services</i></p> <p><i>Output 2.2) Development of the National FrameworkFramework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process</i></p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#2]</p> <p>With regard to early warning systems, it is important to include education and communication of vulnerable communities so that their ability to interpret, and confidence in warning information is enhanced.</p> <p>In a number of instances, farmers may be reluctant to use EWS if they have found weather forecasts to be unreliable in the past (e.g. farmers waited to do a certain activity because of a rainfall forecast on a certain day which did not materialize, and from that moment onwards stopped using forecasts altogether). Hence, as a large part of this project relies on climate information dissemination, it will be essential to integrate stakeholders in the development process so that they understand the nature of the information provided and can make better use of it. Further, while the PIF notes the expense involved in (Doppler) weather radar; the alternative of using lightning data needs to be properly assessed in terms of the precipitation characteristics in Guinea.</p>	<p>Response to Point #2)</p> <p>Stakeholders have been duly integrated in the development process of the project. Refer to Section 2 in this document for all relevant references.</p> <p>It is also worth mentioning that field level consultations were carried out during the PPG and the team covered approximately 80% of all locations where current observation stations exist (functional or not) and they consulted local stakeholders, women included with a gender equality mainstreaming approach in view.</p> <p>Local communities, including women, will be involved in the project as recipients of climate information, as caretakers of equipment and, where possible also, as innovators with respect to climate information services and EWS.</p> <p>Refer to standard Activity 6 under Outputs 1.1 through 1.6:</p> <p><i>Activity 1.X.6) Commissioning and transfer: ?[...] Especial attention will be given to train local operators and developers in the management and use of the systems. Therefore this activity will be related and carried out in coordination to activity 2.5.2.</i></p> <p><i>The ownership of the station will pass to the community after successful tests during official inauguration in the</i></p>	<p>-</p> <p><u>PRODOC Section IV. RESULTS AND PARTNERSHIPS > 1) EXPECTED RESULTS</u></p> <p>-</p> <p><u>Description of Outputs 1.8 and 1.9</u></p>

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
	<p><i>presence of the community. A ceremony will be organized, and a memorandum will be signed between the institutions and the hosting community. Caretakers will be elected who will be maintaining the site. ?</i></p> <p>We also highlight the following Outputs and, in particular, the set of activities foreseen under them:</p> <p><i>Output 1.9) Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level</i></p> <p><i>Output 2.4) Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,,?) identified in coordination with the NAP process</i></p> <p>The state of development of Guinea-Bissau's technical capacities is still very incipient; the operation and maintainance of a weather radar station (Doppler) cannot be achieved with the current capacities, and most likely neither with the capacities that are expected to be generated within the next 5 years through the project. Therefore, early warning systems will be fed with observed data and weather data to be procured as a service (Refer to Output 1.7).</p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#3]</p> <p>With regard to the use of climate information to support long-term planning and resilience interventions,</p> <p>it would be useful to draw upon the recent literature that describes robust conclusions with regard to climate</p> <p>change outcomes for the region. See, for example, Sylla, Mouhamadou Bamba, Nellie Elguindi, Filippo</p> <p>Giorgi, and Dominik Wisser. "Projected robust shift of climate zones over West Africa in response to</p> <p>anthropogenic climate change for the late 21st century." Climatic Change 134, no. 1-2 (2016): 241-253.</p>	<p>Response to Point #3)</p> <p>Recent investigation on the impact of climate change in the climate zones of West Africa indicate a significant climate shift towards more semi arid and arid conditions (Sylla, Mouhamadou & Elguindi, Nellie & Giorgi, Filippo & Wisser, Dominik. (2015). Projected robust shift of climate zones over West Africa in response to anthropogenic climate change for the late 21st century. Climatic Change. 134. 10.1007/s10584-015-1522-z.)</p> <p>Land owners using weather and climate information, based on experience, tradition and intuition, perceive that this is no longer a reliable approach. Incorporating climate information on long term planning has been demonstrated with success and is becoming mainstream in developing countries (Coughlan, K.J. & Huda, Samsul. (2008). Use of weather and climate information for agricultural planning and decision making. Journal of agrometeorology. 249-260.).</p> <p>A recent study focusing on farmers in Burkina Faso showed that farmers who received climate information, coupled with agricultural advices, showed a great understanding on how such information can be translated into adaptation strategies (Refer to Lugen M., Diaz J., Sanfo S. & Salack S. (2018), Using climate information and services to strengthen resilience in agriculture: The APTE-21 project in Burkina Faso, KLIMOS Working Paper n°15, KLIMOS-ACROPOLIS, Brussels, Belgium.).</p> <p>The proposed approach in the Outcome 2 takes into account these conclusions and the proposed project design has</p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
	relied on the robust recommendations emerging from previous experiences.	
<p>[#4]</p> <p>STAP commends the forward-thinking approach of this project to ensure the greatest penetration of rural areas through the use of cell-phones. A number of projects across Africa are underway to implement EWS, and not only for climate. Some projects in East Africa use cell-phone based approaches to rapidly communicate the emergence of pests and diseases. Linking with these projects may be relevant, if not in their outputs, at least in terms of lessons learnt.</p>	<p>Response to Point #4)</p> <p>Activity 2.5.3) Develop communication and diffusion is focused on ensuring penetration in rural areas relying on sufficient cell phone coverage. This approach follows the successful experiences in East and West Africa applying GSM technologies for warning pests, diseases, and floods.</p>	

STAP Comments	Responses	Document references
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#5]</p> <p>A number of new hydrological monitoring stations and automatic weather stations are planned to be constructed. While it has been mentioned that personnel will be trained to operate these, it will be first essential to gain a better understanding of why already existing structures have deteriorated to the point of being unusable. Similarly, it would be important to assess the reasons why agro-meteorological support to farmers is currently ineffective.</p>	<p>Response to Point #5)</p> <p>The inception mission and the field-level consultation mission during the PPG revealed that one of the critical success factors is to ensure full community engagement, a sense of ownership vis-?-vis equipment entrusted to community members and a bottom up approach that considers the needs of communities and climate information clients. Several sites that were visited during the field mission confirmed that the failure to ensure these elements would lead to total deterioration and vandalization of donated infrastructure.</p> <p>These observations lead to specifically define output 1.9 as a customized community approach model and protocol to be developed. This proposed approach and innerent protocol will create the best conditions possible so that communities develop a sense of ownership of both equipment and products and act following a beneficiary and client-based aproach instead of a project-based approach.</p>	

GEF Secretariat Comments to the PIF, 18 Dec 2018.	Responses	Document references

Review item 2 under PartII, pertaining to the baseline scenario, should be addressed in further detail by CEO endorsement. As indicated, by CEO Endorsement, the Secretariat would appreciate further details and further development of the rationale linking the proposed LDCF initiative to the two infrastructure projects, as well as elaboration on the adaptation benefits delivered by this project specifically relating to these baseline investments.	This is addressed in the PRODOC. Refer also to relevant sections reproduced herein in Part I, Sections 2, 5 and 6.	PRODOC Section 4) BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS > Baseline finance
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Germany welcomes the proposal, which aims to strengthen climate monitoring capabilities, early warning systems and information for responding to climate shocks and planning adaptation to climate change in Guinea Bissau. Germany particularly welcomes that the project contributes to respond to the climate information needs identified through the NAPA and that will set solid foundations for the successful implementation of several priorities of the INDC and Guinea Bissau 2025 development strategy.

Germany would like to make the following recommendations on how the project proposal document could be further refined:

Germany welcomes the **distinct focus of the proposal on the private sector**. As the proposal outlines, the **private sector will benefit from improved access to climate and weather data**. The private sector is also meant to contribute financially to the provisioning of such services, thereby enabling the emergence of a market for climate services in Guinea Bissau that will help to generate consequent revenues to support the sustainability of the climate information and early warning system. However, Germany would welcome that it is **described more clearly which private entities are able and willing to pay for such services**, and that it becomes more **clear whether sufficient resources can be mobilized to ensure sustainability of climate services**. This matter should be addressed under ?risks?.

The project will explore different applications of climate information systems. and information for commercial or private sector use during implementation, which could generate revenue for met services the generation of tailored climate products. In section 3 (The Long-term solution and Barriers to achieving it), examples of applications are mentioned. Beyond food security and Early Warning Systems (EWS) for managing climate-induced disasters ? which would be the primarily focus of the grant -- the following income-earning sectors can also eventually benefit from climate information and have been considered: commercial agriculture; building and management of infrastructure; mining and oil & gas operations; land, air and maritime transport management; integrated water resources management; and certain aspects of coastal zone and land management.

However, it will take a while before these sectors are sufficiently developed in Guinea-Bissau, and before they can come to demand climate information services and effectively pay for them. We stress that is the long-term perspective. Currently, the climate services are fully public. We expect that a minimum of 10 to 15 years of development would be needed before a sufficient resources can be mobilized from climate service users and some level of cost-offsetting can be achieved. Financial sustainability targets of for climate services in a country like Guinea-Bissau should be very modest because of the low baseline.

In section ?The State climate information services?, we outline the typical pathway that countries pursue when developing national climate services. A figure is included in the mentioned section to illustrate the hierarchy of levels of services according to categories. Given the poor state of the state of the hydrology and meteorology observation and monitoring network in Guinea-Bissau, and the data processing capabilities at the hydrology and the meteorology institutes in Guinea-Bissau, we stress that the baseline scenario in the country is not yet sufficiently advanced to fully comply with CATEGORY 1, which corresponds to the ability to deliver a basic range of climate data and products, to participate in regional climate forums, and to engage in limited interactions with end-users. The level of service that includes specialized climate products that may be interesting to the private sector belong to

CATEGORY 4. There is a long way to go for Guinea-Bissau.

At the same time, the implementation strategy is divided in 3 phases, with two mid-term reviews and a close monitoring plan. This approach will contribute to reducing the risks related to long term O&M of investments that can challenge the project implementation and outcome achievement. The knowledge management component will document the evidence base to support further upscaling and replication, including for instance for climate information for additional public and private sector actors.

Specific segments of the private sector that may eventually become clients to climate services include, for instance, companies engaged in agriculture, renewable energy production (in particular solar and wind), mining, fisheries and maritime transport, but also telecommunications. Specific products from climate services will be identified in the framework of the result 2.4 and will be tackling specific vulnerable sectors and actors. It is not possible at this stage to identify specific private sector entities that could immediately enter into cost-sharing agreements. However, the mentioned sectors are currently experiencing fast growth in Guinea-Bissau.

Also, Activity 2.5.3 (on Development communication and outreach) mentions: "Within this activity, additional effort will need to be carried out for consulting other exposed sectors (industry, transport, agriculture, media, etc).

In addition, the project will be implemented synergistically with another the LDCF-funded project titled "Strengthening the adaptive capacity and climate resilience of Guinea-Bissau vulnerable coastal communities to climate risks", which engages with similar sectors, including the tourism sector that should also be mentioned. In this way, both projects can present to companies the potential investments in CI&EWS to build resilience.

Extensive consultations with private sector in this regard were not possible during the PPG period, due to civil unrest, followed by the COVID-19 pandemic and related restrictions for containment of the virus. Guinea-Bissau has experienced, and continues to experience, a concerning number of cases relative to its population.

	<p>While there is potential to attract private sector resources for sustainability, the project is not hinged on this. Risks related to sustainability in general however are well noted, and a new risk was added to the risk log (see Risk 7).</p>
<p>Germany recommends that the project proposal describes how newly installed equipment can be protected against damage or being stolen. This matter can be addressed under 'risks'. Building ownership among local communities can be one promising approach in this context.</p>	<p>Risk 7 of the project is 'Sustainability of investment due to inadequate security and Operations & Maintenance [O&M]'. This risk will be mitigated through the proposed phased approach related to equipment and installation under Component 1, as well as specific activities aimed at creating awareness and a sense of ownership within the communities where the equipment will be located.</p> <p>The project will have a step-by-step development of protocols for successfully engaging local communities and awareness raising about the importance of caretaking and maintaining the equipment. With a robust plan for engaging stakeholders and local communities in implementation, it is expected that the mentioned risk will be mitigated.</p> <p>More importantly, site selection will be contingent on a costed O&M plan with roles and responsibilities clearly defined.</p> <p>Activities that develop institutional capacity also includes those under Output 2.5. They mention: 'early warning: communication and outreach implies that a set of stakeholder-focused activities for integrating climate information in early warning by means of customized messaging and dissemination are developed.' The mentioned output focuses the decision-making process at all levels from the individuals at remote communities to the policymakers.</p> <p>Activities related to the communication strategy that includes advocacy, partnership and mediation and conflict resolution tools, such as with local communities, will also contribute to sustainability of the equipments as part of their monitoring and maintenance beyond the project life cycle.</p>

Regarding the capacity building activities Germany recommends that the proposal specifies the concrete target audience (types and approximate number of institutions and stakeholders) to be trained under subcomponents 1.7, 2.1 and 2.2 of the project, also noting that and how women will be addressed by trainings.	Training activities have been further elaborated including types of training and target audiences. These include for example technical training for O&M, development of tailored products, and application of climate information. Women are viewed as key actors of proactive engagement in the Early Warning Systems and disaster management. A Gender Assessment and Action Plan for the project has been developed and is included in the submission package. It seeks engagement of women in training activities and integrates the economic activities (small scale farmers, subsistence economy) and social role (caretaking of household, children, elderly) of women, mainly in rural/ semi-urban communities into the core EWS program and activities for Guinea-Bissau, following recent best practice from other countries in the region and beyond. Related gender disaggregated indicators and targets are also captured in the logframe.
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<p>1. Belgium: Beginning next year EU will invest in early warning systems for agriculture and the proposal seems rather expensive in comparison ? Please justify</p>	<p>This is noted. UNDP started coordinating with EU already. A meeting was held with EU Guinea Bissau in February 2021 to inform about the ongoing projects including the pipeline and information was shared. A second meeting was held the same month with a specific research project ?DeSIRA? funded by the EU, which aiming at installing a network of tide gauges and the development of a marine and coastal observation system.</p> <p>UNDP will continue exchanging with all the relevant stakeholders, inducing EU on agriculture, to seek complementarity. The project will also engage with other sectors such as mining and transportation. During the project development phase, an assessment was conducted as to the needs of government related to EWS equipment and capacity building, the project description has been carefully elaborated concerning details on the types of equipment and support to be provided during implementation.</p> <p>In addition, it should be stressed that the LDCF project does not have a narrow focus on EWS, but a much broader focus on raising the level of climate information and early warning systems involving the meteorological and hydrological services, and by considering the very low baseline that the current services find themselves in.</p> <p>Descriptions in PRODOC section 4 (Baseline scenario and any associated baseline projects) have been revised to better explain what this means for both water and meteorology services and institutions.</p>
<p>2. Belgium: Is our impression correct that the co-financing would come from other projects (agriculture, fisheries, rice) that would profit from the EWS and don't we need co-financing for the meteorological systems themselves? ? Please advise</p>	<p>Co-financing has been provided by the Ministerio de Agricultura e Desenvolvimento Rural (IFAD through PADES and REDE Projects), Secretaria de Estado do Ambiente e Biodiversidade, Ministerio dos Recursos Naturais e Ambiente and UNDP. Indeed, co-financing is largely related to the sectors benefiting from the EWS. The Ministry of Transport and Telecommunications ? National Institute of Meteorology, however, is the Implementing Partner for the project and therefore has an integral role. There are technical and financial challenges that the project will seek to address with the partner, which can strengthen its capacity in its role going forward.</p>

<p>3. The sustainability of the systems doesn't look very well secured ? Please elaborate on sustainability considerations</p>	<p>Sustainability was an important consideration in the development of the project, and it is cross cutting alongside the 3 components with very specific actions for the upscaling and sustainability in the component 3. The sustainability strategy of the project includes a phased approach related to equipment and installation under Component 1, as well as specific activities aimed at creating awareness and a sense of ownership within the communities where the equipment will be located. The project will have a step-by-step development of protocols for successfully engaging local communities and awareness raising about the importance of caretaking and maintaining the equipment. These steps include:</p> <ol style="list-style-type: none"> 1. Establish an observation network, with operations and maintenance (O&M) and financing plan 2. Implement data transmission systems (telemetry) and data processing/managing infrastructure. 3. Produce forecasts based on models. 4. Establish and produce specialized climate services, which may include early warning systems. 5. Develop response capacity. i.e. understanding and knowing how to make use of climate information products and take adequate actions. <p>These steps will be followed for the three main domains of weather/climate, hydrology and marine services. In each of these domains, topics such as infrastructure, human resources, funding, institutional framework and operational strategy, procedures and protocols will have to be analyzed and specific plans more closely defined and implemented by the project team. This requires capacity that is currently not in place in Guinea-Bissau. Therefore, there is an important role for technical assistance in this project. In addition, a gradual approach to capacity development will ensure that technology uptake and stakeholder engagement will have the best chances of success.</p> <p>With a robust stakeholder and local community's engagement plan implemented with the project, the risk will be mitigated. Importantly, site selection will be contingent on a costed O&M plan with roles and responsibilities clearly defined.</p>
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Comments at PIF Stage

1a) STAP Comments at PIF Stage and UNDP's response

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
Overall STAP assessment at PIF stage: <u>Minor issues to be considered during project design</u>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
[GE NE RA L] ST AP wel com es the UN DP prop osal "Str engt hening clim ate info rmat ion and earl y war ning syst ems for clim ate resil ient dev elop men t and ada ptati on	<p>Response to Point #1)</p> <p>The different areas of application of climate information were duly considered in the PRODOC, as well as the needs and demands that this represents for different decisionmaking contexts, sectors etc.</p> <p>However, the state of development of Guinea-Bissau's climate services is still very incipient and therefore, more basic needs are to be attended to first, before a segmentation of and sophistication of climate services can be considered.</p> <p>In connection with it, we make reference to PRODOC Figure reproduced below, in which Category 1 corresponds to the ability to deliver a basic range of climate data and products, to participate in regional climate forums, and to engage in limited interactions with end-users.</p> <p style="text-align: center;"><i>PRODOC Figure 6.</i></p> <p style="text-align: center;"><i>Hierarchy of national climate services</i></p>	<p><u>PRO</u> <u>DOC</u> <u>Figu</u> <u>re 6:</u></p> <p>PRO DOC Secti on 4) BAS ELI NE SCE NAR IO AND ANY ASS OCI ATE D BAS ELI NE PRO JEC TS</p> <p>> <u>State</u> <u>clima</u> <u>te</u> <u>infor</u> <u>mati</u> <u>on</u> <u>servi</u> <u>ces</u></p> <p>-</p> <p>-</p>

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>to climate change in Guinea". The project targets the agricultural and mining sectors, as they represent some of the most important economic areas of the country, yet</p>	<div data-bbox="370 457 1409 1207"> </div> <p>Source: World Meteorological Organization. Guidelines on Frameworks for Climate Services at the National Level, 2012. Available at: https://gfcs.wmo.int/sites/default/files/events/Regional%20Workshop%20on%20Climate%20Services%20at%20the%20National%20Level%20for%20the%20LDCs%20in%20Asia/GuidetoClimateServicesattheNationalLevelFinalOctober2012.pdf</p> <p>Given the poor state of the state of the hydrology and meteorology observation and monitoring network, and the data processing capabilities at the hydrology and the meteorology institutes in Guinea-Bissau, the baseline scenario in the country is not yet sufficiently advanced to fully comply with CATEGORY 1.</p> <p>With this project, Guinea-Bissau is seeking the LDCF resources to overcome the immediate barriers linked to policy, institutional and infrastructural aspects of its current climate monitoring systems, as well as to improve key stakeholders' overall knowledge and capacity related to climate monitoring and climate information services, including early warning systems.</p>	<p>-</p> <p><u>PRO</u> <u>DOC</u> <u>Section</u> <u>IV.</u> <u>RES</u> <u>ULT</u> <u>S</u> <u>AND</u> <u>PAR</u> <u>TNE</u> <u>RSH</u> <u>IPS</u> <u>> 1)</u> <u>EXP</u> <u>ECT</u> <u>ED</u> <u>RES</u> <u>ULT</u> <u>S</u></p> <p>-</p> <p><u>Desc</u> <u>ription</u> <u>of</u> <u>Outp</u> <u>uts</u> <u>unde</u> <u>r</u> <u>Com</u> <u>pone</u> <u>nts 1</u> <u>and</u> <u>2.</u></p>

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>also som e of the mos t vuln erab le to cha ngin g rain fall patt erns and over all wat er avai labil ity.</p> <p>Whi le ST AP find s the PIF to be reas ona bly sou nd and well - dev elop ed, we wou</p>	<p>Assumptions: A central concept to the project is therefore Climate Information & Early Warning Systems (CI & EWS), noting that climatic EWS intrinsically depends on reliable CI for being effective, which in turn depends on the robustness of hydro-meteorological data and on the human capacity to monitor, analyze and communicate this data to the relevant audiences. In this light, the following aspects are relevant to the project's scope and they constitute the project's core assumptions:</p> <ul style="list-style-type: none"> (i) Climate information has several other applications, besides EWS, and Guinea-Bissau is yet to explore these applications by gradually building its capacity to render climate information services; (ii) Early Warning Systems and Frameworks are needed in Guinea-Bissau to prevent climate-driven disasters, but the scope of this project foresees only a few initial and more pressing actions within the themes of disaster risk management (DRM) and its interface with climate change adaptation; (iii) Climate information is directly dependent on the effectiveness of the country's hydrology and meteorology observation and monitoring network, which in Guinea-Bissau is in at a rather low state of development and maintenance; (iv) By significantly strengthening Guinea-Bissau's capacity to generate and disseminate reliable climate information ? and to render climate information services ? the hydro-meteorological services in Guinea-Bissau will be contributing to the development and adaptation of a suite of economic sectors in the country, including, to name a few: transportation (air, land and water), agriculture, fisheries, infrastructure, education, health, water supply & sanitation (WATSAN), biodiversity conservation & ecosystem services, etc.; and finally (v) Guinea-Bissau has many pressing needs within the mentioned sectors and development investments are being made in them, some of which constitute the financial baseline for this project. <p>In light of the above assumptions, the project has been proposed in phases</p> <p><u>More specifically on how this is reflected in the Project Strategy and the Component.</u></p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018		
<p>ld like to offe r a num ber of</p> <p>sug gest ions to stre ngth en the proj ect; that may be inco rpor ated duri ng the proc ess of proj ect dev elop men t:</p> <p>[#1] It is imp orta nt to disti ngui</p>	<p>Component 1 focuses on building up the climate observation network, without which climate information cannot be produced (Outputs 1.1 through 1.6). Component 1 also foresees a strong element of human capacity development See e.g. descriptions for Outputs 1.8 and 1.9:</p> <p><i>Output 1.7 Procurement of weather forecasting services</i></p> <p><i>Output 1.8 Development and implementation of a capacity building program to provide the Guinea-Bissau with the required capacity to operate and maintain the observation network and develop services</i></p> <p><i>Output 1.9 Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level</i></p> <p>Output 2.4 is considered and proposed within the above logic and it foresees the "Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,?) identified in coordination with the NAP process.</p> <p>At the same time, because forecasts services are important and somewhat urgent, not least also for EWS, options were assessed. Considering that the national capacity to produce forecasts will not be in place before the end of Phase I, Output 1.6 foresees the "Development or procurement of weather forecasts services" in view of a quick operationalization of such services, until national capacity is sufficiently in place. In this manner, a segmentation of services can already happen early in the project, while other aspects of national capacity are being addressed.</p> <p>A similar logic concerning institutional frameworks and capacity also applies to the concepts behind Output 2.3 "Development of a sustainable financing mechanism for the climate information production and dissemination?".</p> <p>Finally, the overall institutional development has been considered and core activities with this aim were foreseen under Outputs 2.1 and 2.2:</p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
sh bet wee n diff eren t area s of appl icati on of clim ate info rmat ion and dec ision mak ing cont exts ? spec ifica lly bet wee n resp ondi ng to acut e haza rds (earl y war ning syst ems	<p><i>Output 2.1 Institutional strengthening the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services</i></p> <p><i>Output 2.2) Development of the National FrameworkFramework for Climate Services to strengthen the integration of climate information into planning, including the Integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process</i></p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>) and</p> <p>cons ideri ng clim ate risk s in long - term plan ning (for exa mpl e wat er reso urce man age men t). The y hav e</p> <p>diff eren t nee ds and chal leng es parti cula rly with rega rd to</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>insti tutio nal fra me wor ks and capa city, as well as</p> <p>the base of clim ate and hydr o- met info rmat ion nee ded. This nee ds to be refle cted both in Co mpo nent 1 ?wit h rega rd to the equi</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
pme nt prop osed , as well as Co mpo nent 2? parti cula rly Out puts 2.1 and 2.4.		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#2]</p> <p>With regard to early warning systems, it is important in include education and communication of vulnerable communities so that their ability to interpret, and confidence in war</p>	<p>Response to Point #2)</p> <p>Stakeholders have been duly integrated in the development process of the project. Refer to Section 2 in this document for all relevant references.</p> <p>It is also worth mentioning that field level consultations were carried out during the PPG and the team covered approximately 80% of all locations where current observation stations exist (functional or not) and they consulted local stakeholders, women included with a gender equality mainstreaming approach in view.</p> <p>Local communities, including women, will be involved in the project as recipients of climate information, as caretakers of equipment and, where possible also, as innovators with respect climate information services and EWS.</p> <p>Refer to standard Activity 6 under Outputs 1.1 through 1.6:</p> <p><i>Activity 1.X.6) Commissioning and transfer: ?[...]Especial attention will be given to train local operators and developers in the management and use of the systems. Therefore this activity will be related and carried out in coordination to activity 2.5.2.</i></p> <p><i>The ownership of the station will pass to the community after successful tests during official inauguration in the presence of the community. A ceremony will be organized, and a memorandum will be signed between the institutions and the hosting community. Caretakers will be elected who will be maintaining the site. ?</i></p> <p>We also highlight the following Outputs and, in particular, the set of activities foreseen under them:</p> <p><i>Output 1.9) Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level</i></p>	<p>-</p> <p><u>PRO</u> <u>DOC</u> <u>Section</u> <u>IV.</u> <u>RES</u> <u>ULT</u> <u>S</u> <u>AND</u> <u>PAR</u> <u>TNE</u> <u>RSH</u> <u>IPS</u> <u>> 1)</u> <u>EXP</u> <u>ECT</u> <u>ED</u> <u>RES</u> <u>ULT</u> <u>S</u></p> <p>-</p> <p><u>Desc</u> <u>ription</u> <u>of</u> <u>Outp</u> <u>uts</u> <u>1.8</u> <u>and</u> <u>1.9</u></p>

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>ning info rmat ion is enh ance d.</p> <p>In a num ber of inst ance s, far mer s may be relu ctan t to use EW S if they hav e foun d wea ther fore cast s to be</p> <p>unre liabl e in the past (e.g. far mer</p>	<p><i>Output 2.4) Development of new tailored climate information products for the users in the priority vulnerable sectors and locations (Protected Areas, world importance biodiversity spots, agriculture, fisheries and natural capital,,?) identified in coordination with the NAP process</i></p> <p>The state of development of Guinea-Bissau's technical capacities is still very incipient; the operation and maintainance of a weather radar station (Doppler) cannot be achieved with the current capacities, and most likely neither with the capacities that are expected to be generated within the next 5 years through the project. Therefore, early warning systems will be fed with observed data and weather data to be procured as a service (Refer to Output 1.7).</p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>s wait ed to do a cert ain acti vity beca use of a rain fall fore cast on a cert ain</p> <p>day whi ch did not mat erial ize, and fro m that mo men t onw ards stop ped usin g fore cast s alto geth er).</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>Hence,</p> <p>as a large part of this project relies on climate information dissemination, it will be essential to integrate</p> <p>stakeholders in the development process so that they und</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>erst and the natu re of the info rmat ion prov ided and</p> <p>can mak e bett er use of it. Furt her, whil e the PIF note s the exp ense invo lved in (Do pple r) wea ther rada r; the</p> <p>alter nati ve of</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
usin g light ning data nee ds to be prop erly asse ssed in term s of the prec ipita tion char acte risti cs in Gui nea.		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#3]</p> <p>With regard to the use of climate information to support long-term planning and resilience interventions, it would be useful to draw upon the recent literature</p>	<p>Response to Point #3)</p> <p>Recent investigation on the impact of climate change in the climate zones of West Africa indicate a significant climate shift towards more semi arid and arid conditions (Sylla, Mouhamadou & Elguindi, Nellie & Giorgi, Filippo & Wisser, Dominik. (2015). Projected robust shift of climate zones over West Africa in response to anthropogenic climate change for the late 21st century. Climatic Change. 134. 10.1007/s10584-015-1522-z.)</p> <p>Land owners using weather and climate information, based on experience, tradition and intuition, perceive that this is no longer a reliable approach. Incorporating climate information on long term planning has been demonstrated with success and is becoming mainstream in developing countries (Coughlan, K.J. & Huda, Samsul. (2008). Use of weather and climate information for agricultural planning and decision making. Journal of agrometeorology. 249-260.).</p> <p>A recent study focusing on farmers in Burkina Faso showed that farmers who received climate information, coupled with agricultural advices, showed a great understanding on how such information can be translated into adaptation strategies (Refer to Lugen M., Diaz J., Sanfo S. & Salack S. (2018), Using climate information and services to strengthen resilience in agriculture: The APTE-21 project in Burkina Faso, KLIMOS Working Paper n°15, KLIMOS-ACROPOLIS, Brussels, Belgium.).</p> <p>The proposed approach in the Outcome 2 takes into account these conclusions and the proposed project design has relied on the robust recommendations emerging from previous experiences.</p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>that desc ribe s robu st con clus ions with rega rd to clim ate</p> <p>cha nge outc ome s for the regi on. See, for exa mpl e, Syll a, Mo uha mad ou Ba mba , Nell ie Elg uind i, Fili ppo</p> <p>Gior gi,</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>and Do mini k Wis ser. "Pro ject ed robu st shift of clim ate zon es over Wes t Afri ca in resp onse to</p> <p>anth ropo geni c clim ate cha nge for the late 21st cent ury. "</p> <p>Cli mati c Cha nge</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
134, no. 1-2 (201 6): 241- 253.		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#4]</p> <p>ST AP com men ds the the for war d- thin king appr oac h of this proj ect to ensu re the grea test pen etrat ion of rura l area s thro ugh the use of cell- pho nes. A num ber of proj</p>	<p>Response to Point #4)</p> <p>Activity 2.5.3) Develop communication and diffusion is focused on ensuring penetration in rural areas relying on sufficient cell phone coverage. This approach follows the successful experiences in East and West Africa applying GSM technologies for warning pests, diseases, and floods.</p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>ects acro ss Afri ca are und erw ay to impl eme nt EW S,</p> <p>and not only for clim ate. Som e proj ects in East Afri ca use cell- pho ne base d appr oac hes to rapi dly</p> <p>com mun icat e</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>the eme rgen ce of pest s and dise ases . Lin king with thes e proj ects may be rele vant , if not in</p> <p>their outp uts, at least in term s of less ons lear nt.</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>[#5]</p> <p>A num ber of new hydr olog ical mon itori ng stati ons and auto mati c wea ther stati ons are plan ned to be cons truct ed. Whi le it has bee n men tion ed that pers onn el will be train</p>	<p>Response to Point #5)</p> <p>The inception mission and the field-level consultation mission during the PPG revealed that one of the critical success factors is to ensure full community engagement, a sense of ownership vis-?-vis equipment entrusted to community members and a bottom up approach that considers the needs of communities and climate information clients. Several sites that were visited during the field mission confirmed that the failure to ensure these elements would lead to total deterioration and vandalization of donated infrastructure.</p> <p>These observations lead to specifically define output 1.9 as a customized community approach model and protocol to be developed. This proposed approach and innerent protocol will create the best conditions possible so that communities develop a sense of ownership of both equipment and products and act following a beneficiary and client-based aproach instead of a project-based approach.</p>	

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
<p>ed to oper ate thes e, it will be first</p> <p>esse ntial to gain a bett er und erst andi ng of why alre ady exis ting stru ctur es hav e dete rior ated to the poin t of</p> <p>bein g unu sabl e. Sim ilarl</p>		

ST AP Co mm ents	Responses	Docu ment refer ence s
<i>STAP Scientific and Technical screening of the Project Identification Form (PIF), dtd. 18 May 2018</i>		
y, it wou ld be imp orta nt to asse ss the reas ons why agro - met eoro logi cal sup port to far mer s is curr entl y inef fecti ve.		

1b) GEF Secretariat Review at PIF Stage and UNDP's response

GEF Secretariat Comments to the PIF, 18 Dec 2018.	Responses	Document references

<p>Review item 2 under PartII, pertaining to the baseline scenario, should be addressed in further detail by CEO endorsement. As indicated, by CEO Endorsement, the Secretariat would appreciate further details and further development of the rationale linking the proposed LDCE initiative to the two infrastructure projects, as well as elaboration on the adaptation benefits delivered by this project specifically relating to these baseline investments.</p>	<p>This is addressed in the PRODOC. Refer also to relevant sections reproduced herein in Part I, Sections 2, 5 and 6.</p>	<p>PRODOC Section 4) BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS</p> <p>> Baseline finance</p>
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ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: 150,000				
N?	Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
		Budgeted Amount	Amount Spent To date	Amount Committed
1	Preparatory Technical Studies and Reviews	59,876	59,876	0
2	Formulation of the UNDP-GEF Project Document, CEO Endorsement Request, and Mandatory and Project Specific Annexes	56,602	56,602	0
3	Training, Workshops and Conferences	33,522	33,456	66
Total		150,000	149,934	66

ANNEX D: Project Map(s) and Coordinates

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

Please See 1b or [PRODOC Annex 1: Project Map and Geospatial Coordinates of project sites](#).

GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. These IDs are available on the [GeoNames? geographical database](#) containing millions of placenames and allowing to freely record new ones. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com> Please see the Geocoding User Guide by clicking [here](#).

Location Name

Latitude

Longitude

Geo Name ID

Location &
Activity
Description

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USD Eq.)																		M&E	Sub-To
		Component 1									Component 2					Component 3					
		Outcome 1									Outcome 2					Outcome 3					
		Output 1.1	Output 1.2	Output 1.3	Output 1.4	Output 1.5	Output 1.6	Output 1.7	Output 1.8	Output 1.9	Output 2.1	Output 2.2	Output 2.3	Output 2.4	Output 2.5	Output 3.2	Output 3.3				
Contractual services- Company	Blended national / international teams of consultancy in Phases I, II and III in connection with Activities 1.9.1 through 1.9.7 – that is, all activities under Output 1.9) Strengthen community demand and develop participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level. The different consultancies and the training of trainers that are involved may be broken-down into more than one lot to be tendered out. All activities will be screened for gender sensitivity and will be participatory and locally adapted. Budget amount: USD67,500 (Y1,Y2); USD20,000 (Y3,Y4); USD24,000 (Y5,Y6) National technical assistance consultancy in connection with Output 1.9) Strengthened community demand and development of participative community driven monitoring of Climate Information Services as well as EWS response capacities at local/site level. The aim is to develop community actions to assess the demand for climate information services and involve communities in the design and testing of information products. Implementation during Phases I, II and III. Budget amounts: USD12,500 (Y1,Y2); USD20,000 (Y3,Y4); USD 17,500 (Y5,Y6)									383,000.00									383,000		
Contractual services- Company	Blended national / international teams of consultancy in Phases I, II and III in connection with Activities 2.2.1 through 2.2.6 – that is, all activities under Output 2.2) Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process. The different consultancies, and the embedded training / capacity development, may be broken-down in more than one lot to be tendered out. All activities will be screened for gender sensitivity and will be participatory and locally adapted. Budget amount: USD10,000 (Y2,Y3,Y4); USD15,000 (Y5,Y6) Costs of legal advisory professional services under Output 2.2) Development of the National Framework for Climate Services to strengthen the integration of climate information into planning, including the integration of climate risks into the GB 2025 development strategy and related operational programs in coordination with the NAP process. The focus on proposing changes to the legal and policy frameworks and the negotiation of collaboration MoUs with relevant entities. This will be implemented together with Activity 1.6.5) Design the open climate data portal (OCDF) – with respect to data sharing frameworks and policies. Budget amount: USD10,000 (Y2, Y3)											80,000.00							80,000		
Contractual services- Company	Blended national / international teams of consultancy in Phases I, II and III in connection with Activities 2.3.1 through 2.3.6 – that is, all activities under Output 2.3) Development of a sustainable financing mechanism for the climate information production and dissemination system. Activity 2.3.1 proposes assessments and the guided process of developing a business plan – and doing it regularly. It may me done separately by individual consultants. The different consultancies may come with embedded training / capacity development, may be broken-down in more than one lot to be tendered out. All activities will be screened for gender sensitivity and will be participatory and locally adapted. Budget amount: USD20,000 (Y1,Y2); USD10,000 (Y3,Y4); USD2,500 (Y5,Y6) Web and data platform in connection with Output 2.3) Activity 2.6.1) Design the open climate data portal (OCDF). Development and maintenance foreseen during the project's lifetime. Budget amount: USD10,000 (Y1,Y2)												85,000.00						85,000		
Contractual services- Company	Blended national / international teams of consultancy in Phases I, II and III of the project in connection with Activities 2.1.1 and 2.1.5 – that is, all activities under Output 2.1) Institutional strengthening of the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services. All activities will be screened for gender sensitivity and will be participatory and locally adapted. Refer to PRODOC descriptions where a coordinated approach to activities and the use of their respective budgets is described. Budget amount: USD35,000 (Y1,Y2); USD20,000 (Y3,Y4); USD25,000 (Y5,Y6) Costs of legal advisory professional services under Activities 2.1.1 and 2.1.5 – that is, all activities under Output 2.1) Institutional strengthening of the institutional framework for collection of climate data, for the production and dissemination of climate information products and decision making for early warning of the national hydrology and meteorology services. The focus on proposing changes to the legal and policy frameworks and the negotiation of collaboration MoUs with relevant entities. This will be implemented together with Activity 1.6.5) Design the open climate data portal (OCDF) – with respect to data sharing frameworks and policies. Budget amount: USD30,000 (Y2).										190,000.00								190,000		

[illegible]

[illegible]

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used

by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

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

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).