

Integrated transboundary water resources management in the Corubal basin between Guinée and Guinée-Bissau

Part I: Project Information

GEF ID

10508

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Integrated transboundary water resources management in the Corubal basin between Guinée and Guinée-Bissau

Countries

Regional, Guinea, Guinea-Bissau

Agency(ies)

IUCN

Other Executing Partner(s)

Executing Partner Type

OMVG (Organisation de Mise en Valeur du Fleuve Gambie); Ministry of Environment,
Water and Forestry (Guinée); Ministry of Energy and Natural Resources and the Others
Ministry of environment and Biodiversity (Guinée-Bissau)

GEF Focal Area

International Waters

Taxonomy

Stakeholders, Focal Areas, International Waters, Strategic Action Plan Implementation, Freshwater, River Basin, Transboundary Diagnostic Analysis, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Civil Society, Community Based Organization, Non-Governmental Organization, Communications, Awareness Raising, Local Communities, Type of Engagement, Information Dissemination, Partnership, Participation, Private Sector, SMEs, Individuals/Entrepreneurs, Beneficiaries, Gender Equality

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

567,000.00

Submission Date

3/12/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-5	GET	1,000,000.00	6,000,000.00
IW-3-6	GET	2,000,000.00	6,000,000.00
IW-3-7	GET	3,300,000.00	14,149,000.00
Total Project Cost (\$)		6,300,000.00	26,149,000.00

B. Indicative Project description summary

Project Objective

Securing the integrated and sustainable use of natural and water resources in the Corubal Basin through enhanced transboundary cooperation and governance

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Corubal River Basin development assessment and planning	Technical Assistance	Outcome 1.1: The Corubal Basin threats and potential for development is assessed and planned	Output 1.1.1: a Transboundary Diagnostic Analysis (TDA) is performed, published, approved and signed at Ministerial level by the two countries	GET	2,000,000.00	8,000,000.00
			Output 1.1.2: a Strategic Action Plan (SAP) is developed, approved and signed at Ministerial level by the two countries.			

Component 2 - Governance and institutional strengthening	Investment	Outcome 2.1. Improved governance and cooperative framework of the Corubal basin	Output 2.1.1. Approval at the Ministerial level of an updated and revised version of the agreement between the two countries on the management of the Corubal Basin signed in 1978	GET	3,200,000.00	10,849,000.00
		Outcome 2.2: 667,000 Hectares of lands, including protected areas, are under improved practices and 26,562 hectares of land are restored	Output 2.1.2. A Corubal River basin management commission is established between the two countries			
		Outcome 2.3: 263,997 people (163,997 women and 100,000 men) are benefiting from land restoration and improved land management practices	Output 2.2.1 A resource mobilization strategy for the basin is developed and implemented across the various sectors relevant to the Basin			
			Output 2.2.2: An innovative financing mechanism including private sector partners in the identified sectors (outputs 2.2.1) is established in order to stimulate restoration and improved land management practices in the basin.			
			Output 2.3.1. Capacity building of the various stakeholders in the agriculture, water resources management, the energy sector and the forestry sector.			

Component 3 - Knowledge Management, Monitoring and Evaluation and Communication	Technical Assistance	Outcome 3.1: Project results are known and disseminated at the national, basin and regional level	Output 3.1.1. A project monitoring-evaluation system is developed and implemented	GET	800,000.00	6,000,000.00
		Outcome 3.2 Project lessons learned and best practices are consolidated and disseminated for replication	Output 3.1.2. The project's communication strategy is developed and implemented			
			Output 3.2.1. A knowledge management strategy developed and implemented, including information sharing			
			Output 3.2.2. The project contributes to the IW-Learn platform of the GEF (1% of the project)			
			Output 3.2.3. Valued knowledge for national and local capacity building in land and water resources management.			
			Output 3.2.4. Best practice guidelines for IWRM, including guidelines for water flow management, erosion control, pollution reduction, and protection of critical flora and fauna			
Sub Total (\$)				6,000,000.00	24,849,000.00	

Project Management Cost (PMC)

GET	300,000.00	1,300,000.00
Sub Total(\$)	300,000.00	1,300,000.00
Total Project Cost(\$)	6,300,000.00	26,149,000.00

C. Indicative 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(\$)
Others	Organisation pour la Mise en Valeur du Fleuve Gambie (OMVG)	Grant	Investment mobilized	7,500,000.00
Donor Agency	African Water Facility (AWF)	Grant	Investment mobilized	3,500,000.00
Recipient Country Government	Republic of Guinée-Bissau	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Républic of Guinée	In-kind	Recurrent expenditures	1,500,000.00
GEF Agency	IUCN (Regional Partnership on Water and the Environment in West and Central Africa-PREE-ACO)	In-kind	Recurrent expenditures	1,500,000.00
Donor Agency	European Union	Grant	Investment mobilized	10,649,000.00
Total Project Cost(\$)				26,149,000.00

Describe how any "Investment Mobilized" was identified

The project will be transboundary and through its activities, it will ensure that investment planned by OMVG, the African Water Facility (manage by the African Development Bank) and the European Union (through the IANDA Guinée Project) to the level of USD 21,649,000. These investments are related to water resources management (OMVG, AWF) and restoration activities (European Union). The project will ensure these are brought into the transboundary framework that will be established under this GEF 7 financing.

D. Indicative 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(\$)
IUCN	GET	Regional	International Waters	International Waters	6,300,000	567,000	6,867,000.00
Total GEF Resources(\$)					6,300,000.00	567,000.00	6,867,000.00

E. Project Preparation Grant (PPG)
PPG Required



PPG Amount (\$)				PPG Agency Fee (\$)			
200,000				18,000			
Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
IUCN	GET	Regional	International Waters	International Waters	200,000	18,000	218,000.00
Total Project Costs(\$)					200,000.00	18,000.00	218,000.00

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
517,000.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

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

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
517,000.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Boe-Tchetché National Park	342670	National Park	176,800.00						
Cufada Lagoon	342673	Protected Landscape/Seascape	89,000.00						
Dulombi-Salifo National Parke	33050	National Park	251,200.00						

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
50000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
26,562.00			

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5,000.00			

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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5,000.00

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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13,438.00

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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150000.00

0.00

0.00

0.00

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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150,000.00

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Type/Name of Third Party Certification

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

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

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

Title	Submitted
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Indicator 7 Number of shared water ecosystems (fresh or marine) under new or improved cooperative management

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem	Corubal			
Count	1	0	0	0

Indicator 7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)


Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Corubal	1			

Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem Rating (Expected at PIF) Rating (Expected at CEO Endorsement) Rating (Achieved at MTR) Rating (Achieved at TE)

Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministeral Committees (IMC; scale 1 to 4; See Guidance)

Shared Water Ecosystem Rating (Expected at PIF) Rating (Expected at CEO Endorsement) Rating (Achieved at MTR) Rating (Achieved at TE)

Corubal	1				
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Indicator 7.4 Level of engagement in IWLEARN throgth participation and delivery of key products(scale 1 to 4; see Guidance)

Shared Water Ecosystem Rating (Expected at PIF) Rating (Expected at CEO Endorsement) Rating (Achieved at MTR) Rating (Achieved at TE)

Corubal	1				
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

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

Female	163,997			
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Male	100,000			
Total	263997	0	0	0

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

The calculation of core indicators is based on an extrapolative and aggregative methodology of the different important or critical ecosystems whose dynamics are closely linked to the Corubal River. The calculation is therefore done by subtracting and then summing the areas whose biological diversity is to be strengthened, conserved or restored. As far as protected areas concerned, the areas considered are those under the direct influence of Corubal. The unprotected areas were calculated on the basis of anthropogenic pressures and climate change on natural resources and the importance of these ecosystems for the improvement of Corubal and ecosystem governance. Estimates will be refined during the PPG phase.

Part II. Project Justification

1a. Project Description

1a. *Project Description.*

Context of the project

The Corubal River or the Koliba (also called Tominé in some parts of its circuit in Guinea) is a West African river shared between Guinea and Guinea Bissau. Its watershed covers 24,000 km² and is crossed by several climate-ecological[1] zones. Its vegetation cover is diverse and largely constituted of rare and endangered species[2] and diversified fauna[3]. The Corubal basin possesses a significant surface water potential submitted to a tropical regime with strong annual variations. It has several afluentes including Oulandji, Kantoutou, Katyaourou, Kalandji, Doussoussou, Fefiné, Bissari, Mebouro, Seli, Cùmbacó. Its tributaries feed vast floodplains, lakes and lagoons, among which are Ramsar sites such as Wendu Tcham, Wendu Leidi, Cufada[4].

The Corubal watershed fulfils important economic and social functions. It is an important reserve of freshwater for human consumption, agriculture (irrigation), fisheries and hydroelectricity development. Economic activities in the basin are steered by the sectors of agriculture, fisheries, forestry, livestock farming and various ecosystem services (gathering, hunting, oyster farming, etc.). These all depend on the availability of the basin's natural and water resources. Emerging economic sectors such as industry, energy production, mining, tourism and recreation are directly dependent on the availability of water and natural resources. Their development constitutes in the absence of good governance and integrated management, a threat to the sustainability of the resources. The pressure on the basin's natural and water resources is linked to rapid population growth and urbanization, increasing demand for food, growing water demand for agriculture, demand for energy, and livestock intensification. Combined with climate change, these factors constitute a real threat to the sustainable development of the Corubal Basin and the integrity of its natural resources. The Corubal River Bassin has also a great potential for hydroelectric development (for example the hydroelectric dam construction project in Saltinho).

The Corubal River rises near Labe in the Fouta Djallon highlands of Guinea and flows generally in an east-west direction. The Corubal river is highly dependent on its tributaries. Upstream, at the Fouta Djallon highlands, the wellbeing of the “têtes de sources” imposes the water flows rate at these catchment areas. The more these areas are degraded, the less the quantity of water that is produced to supply the water catchement of the river. During its course from the highlands to the sea, it receives water from many other tributaries which determine its volume and its flow. The Corubal is therefore fundamentally dependent on the state of its tributaries which themselves depend on the climatic conditions, the uses of the populations and soil conditions.

Freshwater constitutes an important resource in the Corubal for agriculture and rural development, in that, with the increasing scarcity of rainfall, the surface and groundwater of the Corubal allows the development of agriculture in all seasons and the food self-sufficiency of the populations of the basin and beyond. In addition, the Corubal has enormous potential for the development of hydroelectricity. Guinea has yet a project of hydroelectric dam construction in Saltinho.

The Basin activities are also put at risk by flooding, drought, the loss of biodiversity, environmental degradation and water pollution (WorldBank, 2017). Annual rainfall[5] has dropped, bringing with it the decline in average flows and freshwater supply. The decrease[6] observed in rainfall, impacts the average annual discharge, which has ranged from 22.71 km³ in 1958 to 11.87 km³ in 1977 in Saltinho. The combination of regressive dynamics linked to climatic factors (decrease in rainfall) and hydrological factors (decrease in flows and discharges) affects biological diversity throughout the basin and has dramatically reduced the endemism rate. Therefore, climate change affects both the quantity and quality of water, water functioning and regime, governance and sustainable management of water resources and habitats.

The Corubal watershed fulfils important economic and social functions: it is an important reserve of freshwater for human consumption, agriculture (irrigation), fisheries and hydroelectricity development for the two countries. In fact, several small-scale irrigation projects have been developed in Guinea and to a lesser extent in Guinea Bissau. In addition, the Corubal has enormous potential for the development of hydroelectricity (eg: Saltinho hydroelectric dam project). These activities are developed without adequate and joint planning between the two countries. This leads to a negative influence on the water dynamics not only of the entire catchment area, but also in the entire water course. That is why the project is necessary to develop and implement a common framework of agreements on integrated transboundary water resources management, the establishment of common water resource management tools, and the development and implementation of adaptation approaches to build environmental, social, economic and political stability and resilience.

These dynamics and changes observed in the watershed occur in a context of weak governance and management of natural resources. It concerns in particular the fragmentation and lack of coordination of the institutions in charge of water resources management between the two countries (Niass & Al, 2004), insufficient and inappropriate laws, development policies and programmes in the catchment area. Despite the signing of a joint agreement[7] on the management of the Corubal water resources in 1978 between Guinea and Guinea Bissau, governance and integrated and shared management of water resources remain non-existent, fragmented, national and inadequate. The 1978 agreement is not only inoperative, but also has insufficiencies and inconsistencies in the current context, marked in particular by climate change and pressure on resources. The lack of financial and operational capacities has held back the establishment of institutional instruments that are needed to review the sustainability of potential hydraulic and hydro-agricultural projects within the context of water resources management for the basin (Julien, 2006). These missing institutional instruments affect the effectiveness of water resources governance at the regional level. The overall lack of shared and concerted governance of water resources could exacerbate tensions between Guinea Bissau and Guinea in the long term.

While the challenges faced by the Corubal river basin are regional, the issues at national level, in particular in the catchment areas are different. These national and regional issues all have an impact on how an ecosystem of global significance is managed and generates benefits. The overall objective of the project will be to ensure that water flows from the Corubal river are maintained through efficient transboundary management of the Basin and that economic activities are maintained and developed. In Guinea, the watershed faces much more challenges related to the loss of biodiversity, degradation of forest ecosystems, erosion and sedimentation. The action envisaged here will focus on resolving environmental problems, primarily in order to preserve the river flow, which is critical to economic activities and maintained ecosystem services. In Guinea Bissau, although it is true that ecological problems exist, in particular the progressive salinization of the river, the main issue here will be to secure the populations' access to freshwater resources to guarantee the maintenance of ecosystems and food security on the one hand, and on the other hand to invest in electricity production to support the industrial and craft sector. All this can only be achieved through an enhanced coordination and transboundary management at the basin level.

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

Global environmental and/or adaptation problems

The Corubal river has an important economic potential for the two countries in term of agriculture development, fisheries production, hydroelectricity generation and mining development. However, without adequate shared planning and coordination between the two countries, the basin's ecosystems and economic benefits are at risk.

The river contributes significantly to climate resilience in the light of rainfall decrease and increased droughts by providing the tributary countries with a potentially secure fresh water supply for urban and rural consumption, agriculture, hydroelectric energy production and ecosystem services. Also, currently more than 80% of households income in the region rely on rainfed agriculture. With both countries experiencing energy deficits, the Corubal River also offers the opportunity to harness hydropower for development needs.

Corubal's water resources are threatened by unsustainable exploitation (agriculture, energy, mining), pollution (urban pollution and problems associated with high fluorine content or salinization of water and invasive aquatic plants), impacts of changes in quantity and quality on dependent ecosystems, soil degradation and erosion, silting and sedimentation, eutrophication, loss of biodiversity and climate change^[8] (affecting surface flows, aquifers, groundwater recharge, impacts of floods and droughts). Root causes (other than those related to natural causes/climate change) stem from a lack of knowledge/understanding of water resources in the Corubal, insufficient or non-existent policies regarding water resources (differences/incompatibilities in policies between the two countries) and poor management practices and unsustainable exploitation of land resources. Climate variability exacerbates this situation by causing drought and flooding, negatively affecting flows (Coba, 1992; OMVG, 2011). The irregularity of seasonal rainfall distribution impacts the availability and quality of water resources. The overall decline of precipitation during a long period (1970-2000) has resulted in a generalized decrease of surface flow and a negative water balance (Lopes & Zahiri, 2017; Lubes-Niel & al., 1998).

These causes are aggravated by a general lack of adequate legislative and regulatory frameworks that are needed for the sustainable governance of the Corubal's shared water resources. Addressing these root causes will balance the use of water resources between the countries for both sustainable development and environmental conservation.

The various environment problems, which the basin is facing are summarized below:

The reduction of water quantity and quality

This is one of the greatest threats for the water resources of the basin. Significant seasonal and interannual variations are observed and over a periodicity of 18 years of surveys. Seasonal variations ranging from 5.4 m³ / s of minimum monthly flow to 1600 m³ / s of maximum monthly flow have been observed in Salinho. This inter-seasonal decline in the Corubal's average flow affects its capacity as an ecological regulator for the entire basin and related ecosystems. . Drought cycles since the 1970s have resulted in the over-salting of water and soil as well as their acidification by oxidation with the generalised drawdown of

aquifers and have strongly contributed to the decrease in agricultural productivity in the basin and caused a decrease in food resources while populations increase. Freshwater supplies to lakes and lagoons are reduced and water quality altered. Habitats are affected in some places, causing the reduction of the ecological functions of the watershed, the reduction of productive factors and considerable social and economic consequences in a context characterized by climate change and uncertainties related to productivity.

Saline infiltration, domestic discharges, infiltration of agricultural chemicals (pesticides), mining drainage and chemical products are not adequately considered and treated before entering the watercourse. Mapping, analyzing and understanding the sources and types of problems and factors affecting water quality, identifying solutions and ways to implement them are essential. Improving water quality will have an impact on aquatic and terrestrial ecosystems, basin productivity and food security, aquifer/groundwater quality and population health, maintenance of the overall ecological function of the basin through the ecological health of Ramsar sites.

Silting and sedimentation

This phenomenon, which is one of the key problems in the basin, is characterized by turbidity values that locally attain the concentrations of up to 10 g/l downstream and around the coastal area^[9]. Silting causes discontinuities in the flow and supply of freshwater to the watershed. The changes brought about by the silting up and sedimentation of the Corubal have important social, environmental and economic repercussions. This modification of the river bed caused by increased sediment movement has also caused the loss of biodiversity and terrestrial and aquatic habitats. The accumulation of sandbanks quantitatively reduces the fishing capacity, the supply and storage capacity of freshwater lakes and lagoons. Fish populations have experienced a significant reduction in their stocks. According to the World Bank (2016)^[10], the fish production has declined from 7,324 (2002) to 6,700 (2016) metric tons in Guinea Bissau and from 156,211 (2013) to 128,250 metric tons in Guinea. Finally, this phenomenon is exacerbated by the region's geomorphology (mountains which can exceed 2000m in the upstream part), deforestation, the intensity of the rains and its erosive force underlie the phenomena of silting and sedimentation of the Corubal.

Soil degradation

Downstream, alkalization and sodization are becoming a problem, making the soils more and more unsuitable for cultivation. This is particularly true in the Guinean Bissau part of the watershed. Here, the ecological consequences of the salinization of rice fields are harmful for the mangroves. To compensate the losses of rice fields which have become unproductive due to high salt contents, the local populations remove the deforested mangroves and transform the land into rice fields. With the constant rise of the waters and the fragility of the dikes, however, the newly cleared mangrove areas turned rice fields have also been found after a few years also to be unfit for cultivation and abandoned. The dykes break and the rising water levels result in the opening of new rice fields on the mangroves and progressively their degradation and the erosion and sedimentation of the mouth of the river Corubal.

Loss of habitats and biodiversity

The Corubal Basin is also facing the problem of deforestation and decreasing rainfall (particularly during the great droughts of the 1970s and 1980s), which have caused the loss of habitats and biodiversity. In the terrestrial habitats of the basin, species [11] are severely degraded and even threatened in some areas (Bazzo, 2000). In terms of terrestrial fauna, one records a degradation of the habitats of species such as baboons (*Papio cynocephalus*), green monkeys (*Cercopithecus aethiops*), patas (*Erythrocebus patas*), chimpanzees (*Pan troglodytes*) and black and white colobus (*Colobus polychromos* [12]), Nile crocodile (*Crocodylus niloticus*), hippopotamus (*Hippopotamus amphibius*), elephant (*Loxodonta africana*) and wild dog (*Lycaon pictus*).

Regarding freshwater habitats, species [13] are affected by climate change and anthropogenic actions/activities. The loss of these plant species has had a negative impact on aquatic animal species and on biodiversity in general. In fact, the shrinking of wetlands and their habitats has caused a decrease (in the number) of Palearctic migratory birds wintering there annually. Thus, one notes less and less presence of *Glareola pratincola* (the Collared Gull), *Philomachus pugnax* (the Warrior), *Tringa glareola* (the Woodland Knight), *Himantopus himantopus* (White stilt), *Calidris ferruginea* (Sandpiper cocorli) (Wibe Altenburg & Jan van der Kamp, 1983). Elsewhere, there is a decline in endemism of freshwater fish species, particularly for the species of the family of rivulina (some of which are annual [14]), Cyprinodontidae (Aphyosemion and Epiplatys) and Cyprinidae (Barbus), Mochokidae, Mormyridae, Claroteidae and Cichlidae. This decline in freshwater fish species will have a negative impact on fishing communities in terms of availability of fish resources (and therefore the decrease of revenues provided by these resources for communities), but also in terms of food security. According to the World Bank (2016) [15], the fish production has declined from 7,324 (2002) to 6,700 (2016) metric tons in Guinea-Bissau and from 156,211 (2013) to 128,250 metric tons in Guinea.

With climate change, in particular the salt intrusion up to more than 100 kilometers inland, the invasion of *Typha* and *Salvinia molesta*, fish migrations and the development of their reproductive cycle have decreased significantly [16]. This undoubtedly proves the decline in the ecological and hydrological functions of the watershed following climate crises and human actions. This decline in biodiversity impacts people's livelihoods; this is why we need to restore and maintain the ecosystem services that provide supporting services for the habitats and species to thrive.

Proliferation of invasive hydrophytes

Mainly, *Typha* *Salvinia molesta*, freshwater salad and water hyacinth are increasingly observed in the Corubal basin. The presence of invasive plants and the reduction of river discharge (speed and quantity), the increase in average temperature and consequently the increase in evapotranspiration, have had consequences on wetlands such as the Cufada lagoon and the Wendu Leidi lagoon. In terms of biodiversity, the presence of invasive plants has caused the loss of aquatic species in the watershed, some of them have even disappeared. There has been a rise in salinity. One notes a rise in salinity and/or temporal drying up, and a decrease in flooding. The increase of the salinity creating more favourable conditions for salt-water plants. This results in a dynamic of eutrophication causing a decline of the freshwater fisheries, a decrease in the drinking water capacity for hundreds of thousands of people and in some cases the occurrence of waterborne diseases, a loss of biodiversity and the reduction in, limited access to water for livestock herds, etc.

Roots causes

Unsustainable agriculture practices

One of the major causes of the environment problems faced by the Corubal Basin is the excessive use of unsustainable intensive farming practices to meet the demands of a rapidly growing population. This leads to the decrease of soil productivity, especially in the upstream part of the basin. This has also generated an increase in the use of chemical fertilizers in farming, and has resulted in chemical and toxic contamination of Nitrates (NO₃⁻) and Phosphate (PO₄) of aquifers, surface water and soils. In 2016, 95 000 t of pesticides have been use in the Fouta Djalon with rates of 2 to 5 kg/ha and up to 22 kg/ha for millet fields (World Bank, 2017). The increasing concentration of Nitrates and Phosphate in the water contributes to the eutrophication dynamics of the Corubal. Also, industrial and domestic pollution and dewatering from mining enhance the concentration of Ammoniacal Nitrogen (NH₄), NO₃⁻, PO₄, Phosphorus (PT) and Persistent Organic Products (POPs) in groundwater, surface water and soil. This has had negative consequences on local populations health and wellbeing with the poor quality of drinking water and exposure to pollution-related disease. This also has had negative consequences on aquatic ecosystems, particularly on the reproductive cycle of fish due to the transformation of their metabolism. Water pollution also causes excessive and anarchic development of algae, causing eutrophication and the disappearance of aquatic biodiversity.

Weak management of irrigation infrastructure planning

Over the years, uncontrolled small-scale and large-scale irrigation projects have been developed in Guinea and to a lesser extent in Guinea Bissau. This has resulted in decrease in average annual river discharge, modification of the ecological and hydro physical conditions of the Corubal basin and decline in average river flows and freshwater supply. For instance, in Guinea, the Saléa, Sinthian Baroudi, Oulandji and Wanoumou plains are managed and irrigated using water from the Corubal (FAO, OMVG, Senasol, 1987). More than 18,000 ha have been irrigated using water from the Corubal (Aquastat, 2005) without any integrated and sustainable planning founded on the river basin approach. In Guinea Bissau, water consumption remains low for the main freshwater rivers (Corubal & Gêba). In 1996, water used for irrigation concerned 8562 ha coming from surface water (8%), overflow water (6%) and the combination of surface water and groundwater (86%) (FAO, 2005).

Degradation of forest resources

The highland forests have traditionally played a key role in soil protection/stabilization, erosion and sedimentation inherent to intense rainfall and soil permeability (Orange 2019). The loss of vegetation in the upstream part of the basin has had serious consequences in terms the river flow patterns , the stability of habitats and the maintenance of biodiversity, carbon sequestration and the local water cycle, and negatively influenced the water dynamics of the entire catchment area and people incomes. The vegetation cover along the riverbanks as well as those located further upstream have been degraded for decades. Annual net forest losses^[17] are significant and contribute to accelerated soil degradation, erosion and sedimentation of the main watercourse and its tributaries. At a zonal level, there is significant forest degradation in the upper part of the river, principally in the Fouta Djallon Highlands, where forest has been almost completely cleared in some areas (Orange, 1990; Gupta, 1987). In these highlands, we can observe a transformation of vegetation cover from tropical rainforests constituted of *Parinari excelsa*, *Parkia biglobosa* to savannas and grasslands (GUPTA, 1987). Here too, phenomena such as sedimentation, loss of habitats and biodiversity, erosion and silting have taken considerable proportions. In more downstream areas, deforestation of sub-humid vegetation,

especially mangroves, is occurring due to acidification and salinization of rice fields. As a result, rice production have been declined and habitats for aquatic species (fish, lobster, crustaceans, etc.) have been lost over the years, with the negative impact on livelihoods of local populations, and increases of their vulnerability.

In Guinea-Bissau, forest resources have also been severely degraded due to the intensification of cashew nut cultivation, uncontrolled agriculture and land tenure policies. In reality, there are no land use planning policies in Guinea Bissau and the land law has not yet been promulgated. This leads to unsustainable and indiscriminate exploitation of land and increased pressure on forest resources and sensitive lands.

The loss of plant cover following the increase in the cultivated areas in the highlands of Fouta Djallon (Orange, 1990) and the degradation of the soils becoming loose in places cause erosion and consequently the silting up of the river. In addition, erosion promotes the establishment of invasive plant species such as water hyacinth, typha.

Climate change

Many problems faced by the Corubal basin are due to or amplified by the effects of climate change. In this basin, climate change is characterized by the increase in temperature, decrease in rainfall, drought and flooding, and water scarcity during low flows. This situation, coupled with the absence of a joint agreement for monitoring of the quality and quantity of available freshwater, exchange of information, and sustainable sharing of water resources, , negatively affect the shared governance of the Corubal River Basin.

Barriers

The obstacles to the integrated and sustainable management of the Corubal watershed are numerous. The first limiting factor is the fragmented management of water resources at the national level. Added to this is insufficient scientific knowledge, financial resources, monitoring and political will for integrated, transnational management and sustainable management of the watershed. All these barriers have continued to exist due to policy differences between the two countries, absence of appropriate policies, legislation and management institutions, limited capacities, limited public awareness of water resources systems and their interaction, including with environment and economy.

Barrier 1: Weak institutional governance: No specific governance mechanism exists for the watershed between the two countries (Guinea and Guinea-Bissau). Only a laconic agreement of 1978 provides very vaguely for the modalities of sharing the water resources of the river basin and excludes the implementation of integrated water management tools in order to guarantee both the protection and the improvement of the environment through the conservation of water,

land and biodiversity resources. The overall water management framework of the catchment area remains nationally focused, while implementation at the local is weakly structured and non-functional. Institutional weakness affects the governance of water resources in the basin and limits the generation of sufficient and accurate knowledge about the basin and decision support mechanisms

At the national level, the institutional instruments are weak, embryonic and sectoral. Existing national laws and institutions are inappropriate and non-functional and do not allow consultations between the different actors and the different uses of water in the catchment area. These weaknesses hinder the planning and adoption of sustainable actions for the use of water resources, the conservation and protection of the environment and the restoration of the ecosystems of the Corubal basin. Within this context, there is a clear need for the project to establish a strong common institutional framework, approved and supported by both countries, to better manage the shared water resources of the Corubal.

- **Barrier 2: Non-relevance of existing policy and legal frameworks:** significant legal and regulatory gaps and inadequacies remain in relation to wetland tenure, water law, land law, national planning policies and decentralization. For example, in Guinea Bissau, no legal and legislative provisions for the governance of wetlands and their ecosystems (mangroves) have been developed and implemented. The level of implementation of wetland legislation is national, whereas in Guinea it is more detailed and also concerns the local level. This difference in scales of intervention poses the problem of harmonization of shared governance and management systems. At the national level, the degree of enforcement of existing laws is different between countries and so are the typologies of actors involved in basin management. The rules and responsibilities relating to the (participatory) planning of river basins and the management of natural resources are laconic and do not provide for any transnational provisions and do not allow for the protection of sensitive areas such as river banks, wetlands, etc. The project should contribute to the improvement of the legal and political framework by putting in place legislative and regulatory instruments conducive to the shared and sustainable management of the basin. This will help improve planning among water resources uses, such as in the energy sector in general, and the hydropower sector in particular.

Barrier 3: Environmental degradation and unsustainable land use: Climate change and population growth have increased pressure on land and natural resources and have accelerated their degradation. Land degradation has a significant impact on people's productive and livelihood assets. The loss of soil productivity encourages the use of chemicals in agriculture; which alters the dynamics and quality of water in the watershed. In the Fuuta Djallon, the effects of land degradation are pronounced and the excessive use of pesticides in agriculture promotes the invasion of the entire basin by invasive exotic plants. The presence of invasive plants is also linked to the development of hydro-agricultural dams on the Gambia and Gêba rivers. Degraded lands also facilitate erosion and silting of the river and wetlands and the loss of ecosystems throughout the basin. By focusing on the neutrality of land degradation in the watershed, the project will improve land productivity, help restore vegetation cover and improve water quality, ensure the efficient functioning of the water system and restore aquatic and terrestrial ecosystems and species. This is mainly due to inappropriate agriculture practices and mining activities.

Barrier 4: Insufficient scientific knowledge produced on the watershed: No transboundary diagnostic analysis and few scientific studies have been generated on the Corubal basin. The existing ones have more than 3 decades and do not take into account the various changes that have occurred, mainly the loss of biological diversity, sedimentation of the main river, shrinking of wetlands, pollution, etc. As a result, there is a total absence of ecological, hydrological and pedological monitoring of the Corubal catchment area. The lack of reliable scientific data on the basin is a real obstacle to its integrated and sustainable planning and management, to the equitable use of the various resources available. The establishment of a reliable and regularly updated database will improve the monitoring of all the ecosystems of the catchment area and facilitate good planning of restoration activities, environmental conservation and a sustainable and balanced socio-economic development of the basin.

Barrier 5: Lack of financial resources and integrated management initiatives: There are no funds allocated for integrated transboundary management of the Corubal. The lack of initiatives for the management and protection/restoration of water, ecological and soil resources raises the urgent question of the ecological sustainability of the habitats and species of the basin. Both Guinea Bissau and Guinea do not contribute financially to projects, which will help better manage the water resources in the basin. The financial contribution of the project will enable the establishment of common water resources management plans, the institutionalization of a common framework for the management and development of transboundary water resources, the development and implementation of a common legislative and regulatory framework, the implementation of pilot actions for the conservation and restoration of ecosystems. In addition to setting up these frameworks, it is equally important that the Management fo the Corubal Basin is supported by a financial mechanism that will contribute to transform the practices that are drivers of degradation and unsustainable use of water and natural resources in the Corubal River Basin, and which ultimately lead to reduced water flows, ecosystem services and livelihoods.

The baseline scenario and any associated baseline projects

The initiative to establish a common agency for the management of Corubal's water resources dates back to 1978. Since then, this mechanism for cooperation and governance of the Corubal has not been operational and does not enable a concerted and sustainable management of the river. The difficulties related to the governance of the Corubal that have arisen are solved according to the mechanisms governing the Gambia River. The present project initiative therefore aims at assisting Guinea and Guinea Bissau to establish a cooperation framework addressing the socio-economic, environmental, legal, institutional and operational aspects of sustainable governance of the water resources of the Corubal. The baseline scenario is at two levels: a regional level and a national level.

The table her below shows the strength and weakness of the 1978 agreement:

Strength	Weakness
<p>The agreement provides the legal and institutional framework for cooperation and joint development of the Corubal's water resources</p> <p>Its contains an embryonic institutional arrangements for the sustainable management of the waters of the Corubal.</p>	<p>- The modalities of sharing the water resources of the river basin are very vague</p> <p>The agreement does not have any structured and operational arrangement to guarantee both the protection and the improvement of the environment</p> <p>Despite the existence of this agreement, the overall water management framework of the catchment area remains national and local</p> <p>The operational mechanism for cooperation and governance of the Corubal does not exist</p>

The baseline scenario is analysed and described below at the regional and national levels respectively.

Regional Level:

The Integrated Management of Water and Natural Resources of the Corubal Basin Project is an initiative that aims to establish a strong and sustainable partnership between Guinea and Guinea-Bissau in order to develop cooperatively, participatively and generate substantial socio-economic benefits to contribute to peace and sustainable development. The Corubal project will work to establish a dialogue between the two Countries and ensure a convergence of views and priorities around the river and lead to sustainable socio-economic development through the equitable use of the shared water resources. Officially launched in 1978, the initiative has never achieved a concerted development of and management of the Basin's resources. The legal, operational and institutional framework for cooperation and joint development of the Corubal's water resources suffers from enormous inadequacies. However, the basin could benefit from the cooperative and operational framework, which could provide the Gambia River Basin Development Organization (OMVG).

In addition to this original framework for the transboundary management of the basin, and given the level of degradation of ecosystems the project will build on a number of national and regional initiatives, which have been under implementation in the area. These initiatives have been mainly focused around natural and ecosystems management as well as the development of livelihoods. Livelihoods and economic activities (agriculture, water supply, energy production and supply) are relying on ecosystems services, which degradation must be halted through restoration and improved management. The project will address this, building on the projects and initiatives described below, by updating the cooperation framework between the two countries (component 1) and ensuring there is a sustainable mechanism for enhancing restoration at the basin level in the two tributary countries (component 2).

Natural Resources Development and Management Project (OMVG), 2003-2010: jointly financed by the African Development Fund (ADF), the Islamic Development Bank (IDB) and the OMVG member countries for an amount of US\$ 19.36 million, this project's objective is to increase agro-forestry and pastoral production, encourage the sustainable use of natural resources and improve social infrastructure, as well as the living conditions of the populations in the border areas of the Gambia, Guinea, Guinea Bissau and Senegal. The project has enabled good management of natural resources in the target areas and improved the living conditions of 214,000 people and the sustainable development of 22,000 farms. In addition, it has enabled the restructuring of village communities by revitalizing associations, groups, cooperatives, etc. It has also fostered greater consultation between the various administrations, local authorities and those in charge of groups and associations, with a view to optimum management of shared resources and the resolution of local and regional problems concerning the management and protection of natural resources (phytosanitary control and animal protection). Finally, the project will also promote capacity building of existing operators and the emergence of small and medium-sized enterprises in order to reduce poverty and sustainably improve the living conditions of the population. By opting for integrated and shared management of natural and water resources in the Corubal Basin, this project will strengthen the management and conservation of natural and water resources between Guinea Bissau and Guinea and beyond, including Senegal and the Gambia. It will continue to strengthen the actions and transnational consultation frameworks in place and enhance their dynamism.

Integrated Water Resources Management Project for the Gêba/Kayanga Basin (OMVG) 2009-2013: funded by the African Water Facility (AWF) for 1,585,000 euros (88% of the cost), by the OMVG for an amount of 176,000 euros (9.7% of the project cost) and by the Member States for an amount of 42,000 euros (2.3% of the project cost), the project aims to support the building of a dam in Composta in Guinea Bissau in order to strengthen the freshwater provision in the entire part of the basin located in Guinea Bissau. The construction of the Composta dam will at term ensure an annual fresh water supply of 123 million m³, postpone the saline upwelling (including Corubal), recover 1250 ha of mangrove, secure 1000 ha of lowlands suitable for rice cultivation. In addition, the project will strengthen the dynamics of water provisioning for populations and livestock, support the intensification of agricultural production, research and development on the ecosystems of the basin and related basins (e.g. Corubal), hydro-agricultural developments to limit deforestation around the catchment area. The project is planned to be initiated between 2020 and 2021. It could be complemented with the Corubal integrated water resources management project, in particular in regards to shared and participatory governance, research and development of shared tools for the management of transboundary river basins, the improvement of water discharge and quality, the maintenance of biodiversity, the fight against the loss of ecosystems and species, the improvement of agricultural productivity and the living conditions of the riparian populations of the river basins.

Existing and planned initiatives at national levels

Guinea-Bissau:

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The management of water resources is insufficient due to the absence of information on the real potential, threats and status of the resource. Existing databases cover mostly surface water and give limited attention to groundwater. The main policies related to water resources management are stipulated in the Water Code, approved by the Government in 1992. It establishes the general regime for the management, use and conservation of water resources and determines the institutional framework. Relevant national projects includes **The Guinea-Bissau development program 2015-2025 (TERRA RANKA - new start)**, which focuses on the following actions : (i) Governance of natural resources, protection and conservation of ecosystems, (ii) Improvement of the institutional and regulatory framework for the management of the environment and biodiversity, (iii) Management of protected areas, (iv) Adaptation to climate change: coastal zone, hydro-agricultural sector, sustainable management of forest resources. The Corubal integrated natural and water resources management project reinforces the priorities identified and developed programme/projects in TERRA RANKA, in particular the strengthening of the governance of natural resources, the establishment of an appropriate and efficient institutional framework, the protection of biodiversity, the implementation of sustainable income-generating activities. The budget for the Biodiversity and Natural Capital component of the Terra Ranka project is estimated at USD 87,057,400, of which USD 11,140,200 is available.

Guinea:

The Water Code of Guinea (1994) provides a framework for the management of water resources and water management. The law on the Local Authorities Code (2007) clearly establishes the transfer of competences to the municipalities in the water and sanitation sector. The main tools for water resources programming and management are : Poverty Reduction Strategy (PRS) which serves as a common framework for intervention by all partners; (ii) Programme of Support for Village Communities (PACV) launched in 2000 and which aims to strengthen the exercise of local powers (CRD) to ensure local development and better access to basic infrastructure, particularly water, for the rural population; (iii) National Drinking Water Supply and Sanitation Programme (PNAEPA) which defines the main development guidelines for this sector and sets out a number of principles that will govern the implementation of the public water service. Programme Support for Community Livelihoods at Village level -3rd Phase (PACV3): The programme support for community livelihoods at village level aims to strengthen local governance in rural areas of Guinea and to promote the social and economic empowerment of rural people, including women, youth and other marginalized groups. PACV3 intervenes in the 304 rural municipalities of the country and is funded by the French development agency and the World Bank for a period of 5 years (2016-2020).

Promotion of Sustainable Tourism Development in Badiar National Park 2017-2021: funded by the Islamic Development Bank (IDB) for the amount of USD 3 541 423,23, the project will (i) establish necessary synergies between environmental and tourism activities, and (ii) innovate in the development and promotion of ecotourism in Guinea. Specifically, the project will promote sustainable development of tourism in the Badiar National Park as a mean for reducing the poverty in surrounding communities coupled with effective conservation measures and ecosystem preservations.

Strengthening vegetation protection in the Republic of Guinea 2017-2022 : The objective of the project is to improve the protection of plants and foodstuffs stored in the country at all levels (centralized and decentralized) and to consolidate better phytosanitary coverage. It is financed by the Arab Bank for Economic Development in Africa (BADEA) for a amount of \$ 18 millions. The components of the project are: (i) Consolidation of the regulatory system of vegetation protection; (ii) Protection of stored plants and foods; (iii) Pesticide management and related issues; (iv) Training and research; and (v) Capacity building of the national vegetation protection laboratory.

Programme Support for Community Livelihoods at Village level -3rd Phase (PACV3) 2016-2020: funded by AFD and World Bank for an amount of \$ 33 millions, the programme support for community livelihoods at village level aims to strengthen local governance in rural areas of Guinea and to promote the social and economic empowerment of rural people, including women, youth and other marginalized groups. PACV3 intervenes in the 304 rural municipalities of the country and is funded by the French development agency and the World Bank for a period of 5 years (2016-2020). This project is consistent with the Corubal project as it will strengthen socio-economic development actions in the rural communities of the river basin.

These baseline activities listed at the regional and both national levels have been setting up the basis for sustainable land management, ecosystems restoration on watershed landscapes with a focus on forests landscapes and community based management. While these are needed and will have to be pursued, the purpose of this GEF project focusing on the International Water focal area of the GEF 7 programming strategy is that there is a need to have mechanism enhancing the regulatory and planning framework at the regional level. This will be done by this GEF 7 funded project which will build on these baselines activities to develop a TDA and a SAP, establish a basin commission and a sustainable mechanism which will support the financing of appropriate practices in the basin. These will be in particular targeting land management, agriculture, energy and water resources management activities.

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

The project will ensure that the basin is managed at the transboundary level, by building on the above mentioned initiatives and projects, and the foundation layed out by the 1978 cooperation agreement between the two tributaries countries to the Corubal basin. Without the project, the counterfactual scenario will translate into the following problems:

- Increased reduction of water resources (freshwater) in the river basin, especially in its downstream part ;
- Increased degradation of socioeconomic conditions and livelihoods,
- Increased land degradation, especially salinization in the downstream part;
- Increased degradation of forest cover, especially in the Futta Jalon, where the Corubal gets its source;
- Loss of biodiversity along the basin and its tributary ecosystems, particularly in the National Lagoas of Cufada; Wendu Leidi, Wendu Tcham

The project will aim to reduce these negative impacts by implementing activities that will have three main objectives:

1) Institutional and financial sustainability in the management of the Corubal River Basin: The transboundary status of the Corubal River requires a significant and long-term collaboration between the two tributary countries. Institutional and financial management of the Corubal basin is currently non-existent, although it is essential for the sustainability of natural and water resources. The primary objective of this GEF 7 IW project is to support Guinea and Guinea-Bissau in the development and establishment of institutional and regulatory frameworks for sustainable management of the Corubal river basin. Common and integrated coordination is needed to limit and mitigate the impacts of activities in the basin. A landscape approach will be applied so all the natural ecosystems (including forests and wetlands) related to the Basin sustainability are managed in a sustainable manner in the long run.

2) The establishment and sustainable financing of economic activities in the Corubal river basin: In addition to establishing a sound and robust transboundary governance framework, the sustainability of the basin will depend on the sustainability of the economic activities that will be happening. The project will contribute to the establishment of a financing mechanism that will support entrepreneurs in the sectors identified as the causes of degradation above (ie: agriculture, water management including irrigation and energy generation, and forestry). This mechanism will be geared towards supporting the development of agricultural practices and economic activities aimed at the protection and sustainable management of natural resources. The technical and financial capacities of the main economic and agricultural actors will be strengthened. Small agricultural producers will be trained and equipped with appropriate technologies. They will benefit from the establishment and strengthening of institutions and financing models already present in the basin but underused. This will enable them to have easier access to financing for equipment and small infrastructure needed for economic and agricultural development, in particular. Investments will be supported in the agro-forestry sector but also in the irrigation and energy sector when they have a positive impact on water flows (eg: off-grids energy solution will for example halt deforestation and limit the demand on hydroelectric generation infrastructure). Partnerships will be established or strengthened between the actors of the main value chains in the region (women producers, traders, economic operators) and financing institutions (microfinance, insurance, etc.) to support the sustainable use of appropriate and natural resource techniques. This, within the institutional framework defined above, will ensure that producers and key stakeholders of the Corubal River Basin economy will sustainably implement the tools and technologies developed during the project implementation period.

3) The restoration of degraded ecosystems along the basin in order to increase ecosystem services in the region: In coordination with the actions undertaken to achieve the two above-mentioned objectives, the project will allow the restoration of important ecosystems identified and selected along the Corubal River that will benefit water flows. Such activities will support the restoration of forest areas, reduce soil degradation, and ensure the development of agro-forestry areas is led by local communities. This will be done by the combination of the activities planned under the first two main objectives described in their respective paragraphs above. The project theory of change assumes that an enhanced institutional and regulatory framework combined with a financing mechanism that will support entrepreneurial activities in the region will lead to transforming the practices in a sustainable manner that considers freshwater flows along the basin.

In order to achieve these objectives, the project will be implemented through 3 components:

Component 1: Corubal River Basin development assessment and planning

The basin does not have any assessment made on the status of water resources nor a strategic action plan. This does not permit having investments planned and coordinated in an informed manner. This first component will address this gap. The project will finance the realization of a transboundary diagnostic analysis that will provide the two countries with the necessary data for efficient and appropriate monitoring of the natural resources (water, forest, soil) of the Corubal River basin. In this component (and in link with component 2 and 3), the project will provide the two countries with data for natural and water

resources management and also support the meteorological services for the establishment of a flood and drought warning system (to be funded under the LDCF - See section on coordination), which will benefit the various economic sectors involved (agriculture, water resources management, hydroelectric production, mining). The TDA will be designed with the support of some IUCN tools such as the Restoration Opportunities Assessment Methodologies (ROAM) and the Red List of Ecosystems. The TDA exercise will support having an improved collection and sharing of information and data to enhance the quality of water resources and related ecosystems. In addition, the project will support identifying degraded areas and defining restoration measures in order to better manage water flows and be aware of water quality in the basin. This exercise led in a collaborative and cooperative way among the various stakeholders involved, a Strategic Action Plan (SAP) will be developed at the Basin level.

Outcome 1.1: The Corubal Basin threats and potential for development is assessed and planned

Output 1.1.1: a Transboundary Diagnostic Analysis (TDA) is performed, published, approved and signed at Ministerial level by the two countries

Output 1.1.2: a Strategic Action Plan (SAP) is developed, approved and signed at Ministerial level by the two countries

Component 2 - Governance and institutional strengthening

This Component will develop and structure the governance and cooperation frameworks between the two countries on water resources management. It will be informed by and done in parallel to the TDA/SAP process described in component 1. This project's component will support the establishment of river basin management commission between the two countries. It will also strengthen the capacities of the tributary countries to coordinate the planning and management of the basin in the perspective of the various sectors and activities related to it (energy, water supply, agriculture, mining, natural resources management). For doing so, the project activities will build on the original agreement signed in 1978 between the two countries, which will be improved and revised, taking into consideration the current status and development of the Corubal basin. This component will look at the regulatory framework, which will enable transboundary management of the basin. In addition, this project component will ensure the framework includes a financing mechanism that will support the sustainable development of the Basin, taking into account the needs of the tributary countries to ensure a coordinated sustainable development in the basin. In fact, it is critical that the development of the basin does not rely only on public finance and that a framework or a mechanism that will support entrepreneurs in investing into sustainable practices is established and set for the long run. The financing mechanism will be developed on two folds. First, it will aim at supporting innovative initiatives which reduce impacts (quantity, quality) on water resources and ecosystems in the Corubal. Second, it will support the development of sustainable practices in the sectors that will have been identified as threats to the basin's ecosystems services such as agriculture, water resource management, and energy generation and supply, as well as good forestry practices. The mechanism will support activities in the sectors of agriculture, water resources management, energy supply and forestry sector. The mechanism will support entrepreneurial or small infrastructure work that will have a positive impact on the use of water resources so it contributes to the preservation of ecosystem services in the Corubal river basin. Exact activities and financing modalities will be defined during the PPG but will focus on agroforestry, switching to agriculture practices that are reducing water stress, small irrigation projects (not involving any land use change), off-grid electric projects that will reduce the need to enhance the balance for hydro-power sources. Eligibility criteria as well as the needs of other sectors (eg: extractive, mining) will be refined during PPG after the scoping of this activity is done.

Outcome 2.1. Improved governance and cooperative framework of the Corubal basin

Output 2.1.1. Approval at the Ministerial level of an updated and revised version of the agreement between the two countries on the management of the Corubal Basin signed in 1978

Output 2.1.2. A Corubal River basin management commission is established between the two countries

Outcome 2.2: 667,000 Hectares of lands, including protected areas, are under improved practices and 26,562 hectares of land are restored

Output 2.2.1. Capacity building of the various stakeholders in the agriculture, water resources management, the energy sector and the forestry sector.

Output 2.2.2 A resource mobilization strategy for the basin is developed and implemented across the various sectors relevant to the Basin.

Outcome 2.3: 263,997 people (163,997 women and 100,000 men) are benefiting from land restoration and improved land management practices

Output 2.3.1: An innovative financing mechanism including private sector partners in the identified sectors (outputs 2.2.1) is established in order to stimulate restoration and improved land management practices in the basin.

Component 3 - Knowledge Management, Monitoring and Evaluation and Communication

Given that no planning and improved governance have happened at the transboundary level on this basin, the project will ensure that knowledge is generated and disseminated at the regional level. IUCN tools such as the ROAM and the Red List of Ecosystems will be used in particular, based on IUCN's best practices. This component will ensure that after not only involving the main stakeholders in the decision making related to the planning elements of the project (TDA and SAP), the project disseminates results and best practices at the level of communities but also towards other countries in the region and beyond. The latter will be done by having the project contribute to the IW-Learn (1%). This will be critical for ensuring local ownership but also having a duplication effect with similar actions on other basins.

The outcomes and outputs of this component are:

Outcome 3.1: Project results are known and disseminated at the national, basin and regional level

Output 3.1.1. A project monitoring-evaluation system is developed and implemented

Output 3.1.2. The project's communication strategy is developed and implemented

Outcome 3.2 Project lessons learned and best practices are consolidated and disseminated for replication

Output 3.2.1. A knowledge management strategy developed and implemented, including information sharing

Output 3.2.2. The project contributes to the IW-Learn platform of the GEF (1% of the project)

Output 3.2.3. Valued knowledge for national and local capacity building in land and water resources management.

Output 3.2.4. Best practice guidelines for IWRM, including guidelines for water flow management, erosion control, pollution reduction, and protection of critical flora and fauna.

Based on the above, the project's Theory of Change (ToC) is explained and detailed below:

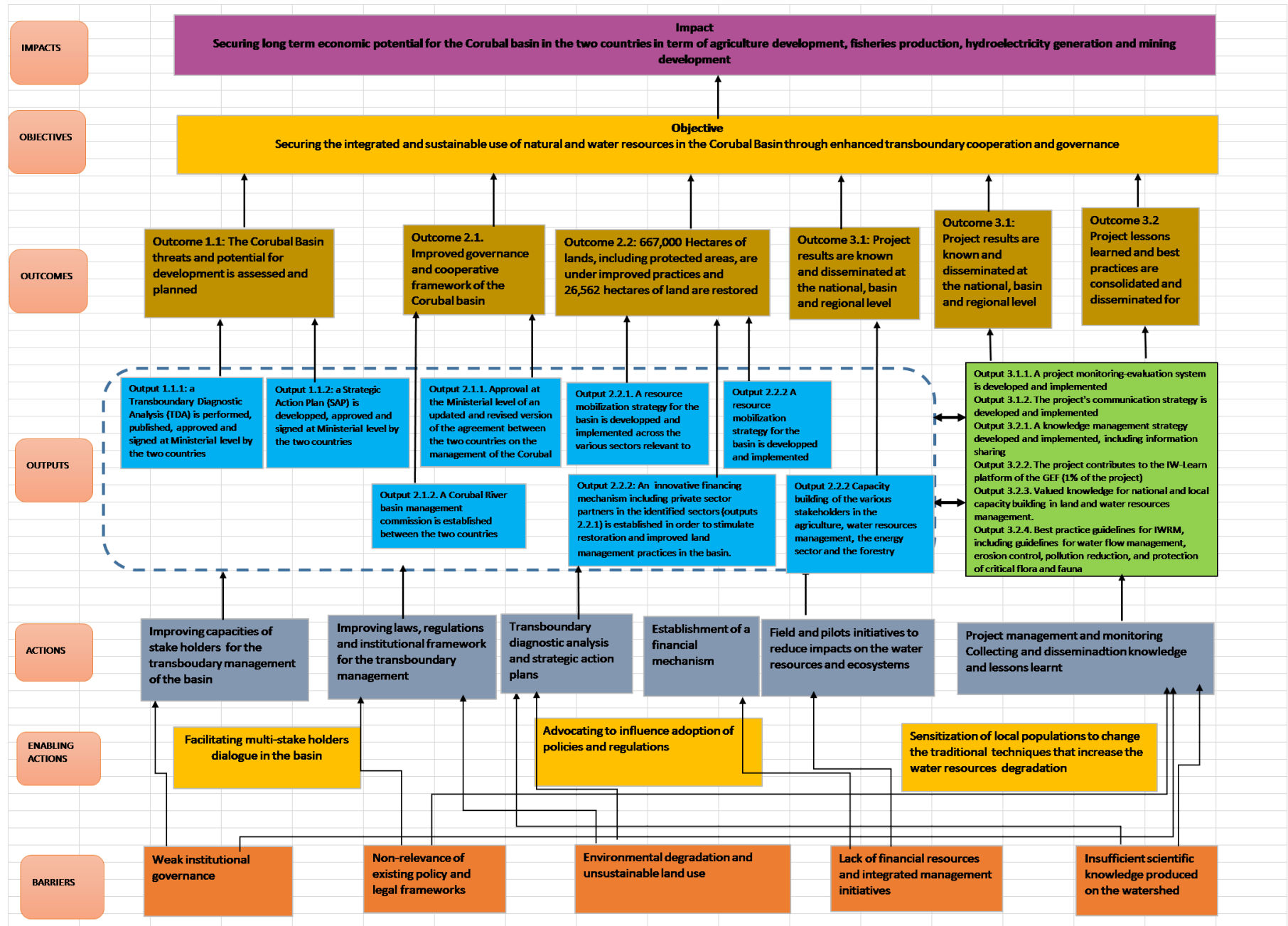
The project overarching objective is to secure long term and sustainable economic development throughout the Corubal River Basin. Despite several initiatives and projects that have taken place in this area, ecosystems services needed to achieve this goal are still at risk due to weak natural resources management. As a result, the basin and its ecosystems are at risk of bad planning of infrastructure development and pollution. These are related to the reduction of water quantity and quality, silting and sedimentation, soil degradation, loss of habitats and biodiversity, and proliferation of invasive hydrophytes. These factors of environmental degradation are caused by the development of non-sustainable agriculture practices, weak management of irrigation infrastructure planning, degradation of forest resources, and climate change. To reduce the risk and enhance ecosystems services, the project will address the main barriers that have been identified that there are 5 barriers: weak institutional governance, non-relevance of existing policy and legal frameworks, environmental degradation and unsustainable land use, and insufficient scientific knowledge produced on the watershed. during the preparation of this PIF.

Declined from this context, and as a direct response to the barriers identified above, the project proposes to have a two pronged approach. On one hand, the project will strengthen the governance and institutional context of the Corubal Basin by leading to the signature of the transboundary diagnostic analysis and a strategic actions plans at the Ministerial level. This will support the establishment of a river basin commission. In doing so, the project will be additional and complementary to the work already undertaken by the countries, which led to the signing of a transboundary agreement in 1978 related to the management of the basin. On the other hand, the project will set the basis for having a sustainable mechanisms related to restoration of ecosystems. For achieving this, and mainly under component 2, the project will develop tools and activities, which will contribute to implementing improved land practices over 667,000 hectares and restore 26,562 hectares of land. In addition to the dissemination of techniques and trainings on improved practices, the project will enhance the involvement of the private sector and enterprises in relevant sector in the basin through the development of an innovative financing mechanism. This specific activity will be the condition for ensuring sustainability of the project's activities beyond the project life. This innovative financing mechanism will be further designed during the project preparation phase. These two sets of activities will be strengthened by a cross-cutting knowledge component, which will inform stakeholders on best practices at both the national and regional levels.

The project will therefore lead to achieve the following outcomes:

- The Corubal Basin threats and potential for development is assessed and planned
- Improved governance and cooperative framework of the Corubal basin

- The financing framework for sustainable development in the basin is established
- Project results are known and disseminated at the national, basin and regional level
- Project lessons learned and best practices are consolidated and disseminated for replication



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

The project is consistent with, and supportive of GEF-7 (2018-2022) Objectives related to the International Waters' focal area, in particular IW- Objective 3-5: Advance information exchange and early warning, IW- Objective 3-6: Enhance regional and national cooperation on shared freshwater and groundwater basins, IW-Objective 3-7 Investments in water, food, energy and environmental security. The table below outlines how the project outputs contributes:

Focal area	Related project outputs
IW- Objective 3-5: Advance information exchange and early warning.	<p>Output 1.1.1: a Transboundary Diagnostic Analysis (TDA) is performed, published and approved at Ministerial level by the two countries</p> <p>Output 3.1.1. A project monitoring-evaluation system is developed and implemented</p> <p>Output 3.1.2. The project's communication strategy is developed and implemented</p> <p>Output 3.2.1. A knowledge management strategy developed and implemented, including information sharing</p> <p>Output 3.2.2. The project contributes to the IW-Learn platform of the GEF (1% of the project)</p> <p>Output 3.2.3. Valued knowledge for national and local capacity building in land and water resources management.</p> <p>Output 3.2.4. Best practice guidelines for IWRM, including guidelines for water flow management, erosion control, pollution reduction, and protection of critical flora and fauna.</p>
IW- Objective 3-6: Enhance regional and national cooperation on shared freshwater and groundwater basins	<p>Output 1.1.2: a Strategic Action Plan (SAP) is developed and approved at Ministerial level by the two countries</p> <p>Output 2.1.1. A Corubal River basin management commission is established between the two countries</p>

	Output 2.1.2. Approval at the Ministerial level of an updated and revised version of the agreement between the two countries on the management of the Corubal Basin signed in 1978
IW-Objective 3-7 Investments in water, food, energy and environmental security.	<p>Output 2.1.3. Capacity building of the various stakeholders in the agriculture, water resources management and energy sector.</p> <p>Output 2.2.1. Financing availability and needs as well as investment opportunities are assessed and mapped</p> <p>Output 2.2.2 A resource mobilization strategy for the basin is developed and implemented</p> <p>Output 2.2.2: An innovative financing mechanism including private sector partners is established</p>

The project is expected to generate substantial co-benefits. The improved governance framework will generate improved water flows in the Corubal water basin downstream. This will reduce the level of salinization that has been increasing over years due to the effects of sea level rise and the reduced amount of freshwater reaching the coastal zone where critical ecosystems such as mangrove or productive landscapes such as rice fields were established. Because of these two consequences, Guinée-Bissau saw its resilience and adaptive capacity to climate change on the coast reducing. Increased salinization of lands has also threatened the production of rice in coastal area that is happening behind mangroves and is determinant to livelihoods in the area. Finally, salinization has also had a significant negative impact on fish stocks in the delta, with a direct negative effects on livelihoods as well. The expected enhancement of water flows this project will trigger will improve the status of biodiversity and livelihoods in the area by maintaining critical ecosystems services.

The improvement of the transboundary governance framework will also have a positive impact on the ecosystem services provided by the forest in the catchment area with a direct positive impact on livelihoods, through better land and forest management. As the water Corubal catchment area in Guinée is the Futa Jallon, the improved governance framework set by this project will support preserving a forest ecosystem, which is the host of many endemic fauna and flora species. This will improve ecosystem services provided by this critical watershed for the region and the economic activities related to it (agriculture, energy generation, etc.). The project will have indirect effects in terms of CO2 emissions reduction as the transboundary governance framework set in this project will ensure appropriate forest and land management.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

In the status quo situation, the Corubal River Basin will not benefit from a solid and updated transboundary management framework and the level of degradation of resources will continue both at the catchment level (in Guinée) and at the basin level downstream (in Guinée-Bissau). This will be the result of poor planning of investments related to energy, water supply, as well as land use for agriculture development. This will have a negative impact on ecosystems services, which will negatively affect economic activities at the national level given the prevalence of the region on agriculture, water and energy supply. It will also have negative impacts ecosystems services that the basin is providing to the Coastal area in Guinée-Bissau, which is critical for agriculture production (eg: rice, fisheries) and livelihoods, as well as biodiversity conservation (eg: mangroves ecosystems). In fact, the Corubal river is a critical ecosystem for reducing salinization in the Coastal areas of Guinée-Bissau where agriculture (eg: rice production) and fisheries are predominant. In Guinée, the level of deforestation in the Futa Jallon affects negatively the reservoir of the Corubal River but also ecosystem services to communities relying on the forests in this area and downstream. In Guinée-Bissau, the limited framework for managing the basin has direct negative consequences on the level of ecosystems services the Corubal river basin can provide, affecting economic activities accordingly down to the coastal area.

GEF funding will enable the establishment of a Corubal Water Resources Management Commission, update and operationalize the agreement initiated in 1978, support the countries in addressing and reversing the degradation tendencies of the basin's resources through integrated and shared management, sustainable use and preservation of freshwater resources, ecosystems and biodiversity. It will support the development of a sustainable financing mechanism established at the basin level and managed under the auspices of the two countries to enhance the implementation of sustainable development activities in critical sectors in the basin (agriculture, water resources management, energy generation and supply).

The project will identify, promote and implement improved land management and restoration practices in the catchment area in Guinea and in the basin downstream, which would not happen otherwise given the current lack of coordination. This improved landscape management will also concern protected areas, which are significant, in particular in Guinée-Bissau with the Dulombo-Boé-Tchetché complex, which has direct ramification with the Niokolo Koba protected area in Senegal and Badiar in Guinea. One of the main innovation the project will promote is through the development and implementation of a financing mechanism that will support the development of improved land management practices in the economic sectors related to agriculture as well as water management and supply. The financing mechanism, which criteria will be designed during the project preparation phase will be fully incremental and innovative compared that would have happened without GEF support to this project in the area of the Corubal river basin.

GEF resources will be incremental to the baseline as per the following:

- i. The project will establish an Integrated and Transboundary Water Resources Governance system which is currently weak and not implemented. For doing so, it will strengthen the 1978 Governance framework which is not under implementation. The project will establish the basis for sustainable transboundary water and natural resources management. This will be done by considering all stakeholders active in the basin in between the two countries. This will be a major breakthrough given the current context. Also, the project will steer the management of the Basin around the establishment of a water commission and design a financial resources mobilization plan for the long term involving both public and private sector.
- ii. The project will be incremental to the baseline scenario established by the 1978 cooperation agreement by enhancing the level of cooperation and development through a signed Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP) approved and signed at the Ministerial level by both countries. This will provide the basis for strengthening the cooperation among the countries through the formalization and establishment of a River Basin

Management commission, which is currently inexistent.

iii. Spatial planning and zoning will be done in a transboundary manner building on the characteristics of both tributaries countries. Related activities will be done to monitor water flows but also other factor relevant to the maintenance of ecosystem services in the basin such as erosion, sedimentation, biodiversity and species monitoring. – This will support identifying and protecting the sensitive areas of the basin and be factored in the basin TDA and SAP.

iv. The project will encourage and facilitate the implementation of sustainable activities throughout the entire basin through the establishment of dedicated financing mechanism. The aim of this project's feature will be to improve agricultural (including fisheries) practices, agricultural activities, water resources management and energy generation and supply activities as these are identified as the main causes to the environmental problems in the basin. The establishment of this financing mechanism, which will complement the set-up of the institutional framework, will ensure there is transformation in the economic activities happening in the basin. The implementation of sustainable activities will be accompanied by restoration actions in degraded sites.

v. In addition to the activities aiming at enhancing the institutional framework, the GEF project presented in this PIF will complement the co-financing activities that are currently focused on natural resources and ecosystem services management. For doing so, the project will provide the foundation for having a sustainable financing mechanism of the activities related to restoration and improved land management in the basin. This mechanism will be designed during the PPG phase, including establishing criteria on how it will support the development of relevant activities in the basin. This feature is innovative as there is no funding mechanism for the Basin at the regional level. However, it will build on the experience and expertise of mechanisms already active at the national level such as the BioGuinée Fund in Guinée-Bissau. Its successful design and implementation will be critical to ensuring the sustainability of the project and activities supported during its lifetime.

vi. Sharing experiences and disseminating good practices throughout the river basin: the project also aims to disseminate good practices throughout the river basin, to develop tools for monitoring and supporting institutions and communities in the sustainable and integrated management of the water resources of the Corubal basin.

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

The proposed project will significantly improve the management of natural and water resources in the Corubal Basin. The project main deliverables under component 1 will be a Transboundary Diagnostic Analysis (TDA) and a Strategic Action Plan (SAP), which will be approved and signed at the Ministerial level in both countries. Through the TDA and SAP, the project will ensure there is sustainable planning based on scientific data and methodologies. This will inform decision making for planning and investment in some specific sectors that have been identified as the sources of ecosystem services reduction having a negative impact on economic activities at the basin level. The project will therefore ensure that planning is made in a sustainable way in the basin but also that there is a financing mechanism that will support sustainable development practices in the sectors of agriculture, water resources management and energy generation and supply. These will be further defined during the project preparation stage. As such, the project will reverse the drivers of degradation and ensure sustainable practices are embedded into a new paradigm under which the basin will be managed, leading to enhanced water resources management and the maintenance of ecosystem services needed for economic activities in the basin.

Consequently, the project will lead to:

- The signing at Ministerial level of a Transboundary Diagnostic Analysis (TDA)
- The signing at Ministerial level of a Strategic Action Plan (SAP)
- 50,000 hectares of restored land
- 250,000 hectares of land under improved practices
- Benefiting the livelihoods of 250,000 people

The SAP will help countries reduce the qualitative and quantitative loss of the basin's water and natural resources and to improve their governance. The political, legal and institutional reforms envisaged within the framework of the Corubal Basin SAP and the strengthening of the capacities of the stakeholders, as well as the availability of efficient management tools, will facilitate the achievement of these objectives for the sustainable management of the natural and water resources of the basin and the environmental sustainability. The GEF grants and co-financing will reinforce the restoration and management actions already planned and will facilitate the adaptation of populations to climate change. Ultimately, the integrated governance of the natural and water resources of the Corubal will enable the establishment of sustainable mechanisms, the monitoring and regulation of the water regime, and the restoration of ecosystems and habitats. In addition, the actions proposed in the SAP will maintain global ecological functions such as migratory bird sanctuaries, freshwater reservoirs and carbon storage, and climate regulation.

The project will also contribute directly to the socio-economic benefits for the people living around the catchment area. By promoting transnational and integrated management of water resources and encouraging the development of pilot initiatives improving the quality of resource management, the project will improve the living conditions of the populations by providing opportunities to improve the livelihoods of the inhabitants of the Corubal Basin countries. The achievement of the project's objectives will also contribute to the achievement of the Sustainable Development Goals (SDG) and several other strategic objectives related to the environment. The initiatives to be adopted will improve livelihoods and provide environmental benefits to communities through access to water and ecosystem services for improved food security and the restoration of productive natural resources.

7) Innovation, sustainability and potential for scaling up.

The project is designed for Securing the integrated and sustainable wise use of water and natural resources in the Corubal Basin through enhanced transboundary cooperation and governance. It will support the establishment and functioning of an agency for cooperation and sustainable management of natural and water resources in the Corubal and the implementation of certain SAP actions. Given the inexistence of a functional management framework for the Corubal basin, the project will initially support the institutionalization and operationalization of a commission in charge of the management of the basin's water resources, the strengthening of the institutional capacities of the stakeholders, the establishment of innovative financing mechanisms for the basin. This latter element related to financing will be critical to ensure sustainability and scaling-up of practices beyond the project lifetime. It will be innovative in the sense that it will provide support to entrepreneurial activities in sectors that are considered a threat to water resources and ecosystems services in the basin. At PIF stage, it has been decided that the focus of this investment part of the project will be on agriculture, water management and supply, and energy as these sectors are the drivers of unsustainable water flows. The project will aim at supporting investments guaranteeing sustainable at the same time sustainable water flows and livelihoods in the basin. The financing mechanism will be build in such a way it mobilizes private sector investments and opportunities, bringing them into the sustainable development of the basin. This, combined with the knowledge management activities to be implemented by component 3, will ensure potential duplication at the basin but also at the national and regional levels.

In addition, the project will generate updated and detailed knowledge on the basin river, a coherent system for monitoring and collecting data and information to strengthen decision-making for basin management. This system will be developed to enhance the process of disseminating environmental information to stakeholders in the region, where information is currently non-existent. By improving access to information, local community projects and management activities will be better understood and the sustainability of project interventions ensured. Indeed, available data on the basin are outdated and incomplete, making difficult any perspective of sustainable and integrated management of the water resources. Therefore, the project will enable the establishment of shared and integrated methods for the management of the river basin and its ecological potential.

[1] From East to West one distinguishes the humid Sudanian, high tropical, Guinean, humid subtropical zones

[2] *Melicia excelsa*, *Antiaris africana*, *Khaya senegalensis*, *Azadirachta africana*, *Sterculia tragacantha*, *Cola cordifolia*, *Daniellia oliverii*, *Parkia biglobosa*, *Pterocarpus erinaceus*, *Terminalia* spp, *Combretum* spp, *Isoberia*, *Cacia sieberiana*, *Erythrophleum guineense*, *Hymenocardia acida*, *Andropogon gayanus* etc.

[3] Haribed Guib (*Tragelaphus scriptus*), the bush pig (*Potamochoerus porcus*), the Lion (*Panthera leo*), the Baboon of Guinea (*Papio papio*), Sitatunga (*Tragelaphus spekei*), Various colobus (*Colobus* spp), the Panther (*Panthera pardus*), the Civet (*Civettictis civetta*), the Burrowing Squirrel (*Protoxerus stangeri*), the Buffalo (*Syncerus caffer*) etc.

[4] These wetlands are extremely rich and varied in biodiversity with a strong seasonal presence of bird species such as the Episcopal Stork (*Ciconia episcopus*), heron goliath (*Ardea goliath*), Shade (*Scopus umbretta*), Tantal ibis (*Ibis ibis*), Fishing eagle (*Haliaeetus vocifer*), Osprey (*Pandion haliaetus*), Manatee (*Trichechus senegalensis*)

[5] The analysis of the spatio-temporal distribution of precipitation shows a generalised reduction in rainfall over the entire watershed for more than four decades. The isohyets have migrated there to the south slightly and caused significant delays in the occurrences of the first rains and their total annual volume.

[6] Climatic instabilities have thus caused a reduction in water resources and biological diversity in the aquatic environment of the watershed (J. SIRCOULON, 1976, 1989; É. SERVAT et al. 1997; JE PATUREL et al. 1997-a; G MAHÉ et al. 2001; G. MAHÉ, 2006).

[7] It is laconic in its entirety and does not envisage any measure of regulation and ecological sustainability. It is only at the national level that public institutions and legislations carry out actions to protect and conserve the Corubal watershed. The 1978 treaty doesn't include the monitoring, collection, processing and exchange of information, sustainable sharing of water resources, monitoring of the quality and quantity of available freshwater, etc. This is particularly problematic given that information sharing plays an important role in the common planning of activities for the conservation, protection and sustainability of transboundary water resources (Hamner & Wolf, 1998; Hamner, J. and Wolf, A. 1998). Hence the importance of supporting the development of a legal framework for the Corubal River and ensuring the development and integrated management of the river's water resources.

[9] Anthony, Edward, 2006. The muddy tropical coast of West Africa from Sierra Leone to Guinea-Bissau: geological heritage, geomorphology and sediment dynamics. African Geoscience Review.

[10] <https://data.worldbank.org/indicator/ER.FSH.PROD.MT?locations=GW>

[11] *Ceiba pentandra*, *Daniella oliveri*, *Parkia biglobosa*, *Bombax costatum*, *Khaya senegalensis*, *Erythrophleum guineense*, *Milicia excelsa*, *Terminalia ivorensis*, *Hymenocardia acida*, *Cordyla pinnata*, *Pterocarpus erinaceus*, *Prosopis africana*, *Imperata cylindrica*, *Andropogon gayanus*, *Penisetum* sp. and *Azelia Africana*.

[12] Habitat loss is linked to deforestation, in particular the indiscriminate exploitation and cutting of species such as Pau Incenso (*Daniella oliveri*), Bissilão (*Khaya senegalensis*), *Lophira lanceolata*, Goiaba de lala (*Schreberia arborea*), Tambacumba (*Parinari macrophila*), Mancone (*Erythrophleum guineense*), Faroba de lala (*Albizia zizia*), Pau Conta (*Azelia africana*), Poilão foro (*Bombax costatum*), Mango de mato (*Cordyla pinnata*), Macite (*Terminalia macroptera*), Faroba (*Parkia biglobosa*), Pau carbon (*Prosopis africana*), Pau sangue (*Pterocarpus erinaceus*), Fidida branca (*Federbia albia*), Mampataz (*Parinari excelsa*), Pau bicho amarelo (*Chlorophora regia*), Pau bicho preto (*Antiaris africana*), Cibe (*Boatlanta rrasus aethiopicum*)

[13] *Pterocarpus santalinoides*, *Napoleonaea vogelii* and *Mitragyna stipulosa* (Sayer et al. 1992), *Rhizophora mangle*, *Rhizophora racemosa*, *Avicennia africana* (Uschakov 1970; Matthes 1993; Diallo 1995), *Dalbergia*, *Sesuvium portulacastrum*, *Paspalum vaginatum*.

[14] During the rainy season, these annual species lay their eggs in the soil of temporary floodplain pools that dry up during the dry season. These eggs hatch with the flooding of the floodwaters during the rainy season (Lévêque et al. 1992)

[15] <https://data.worldbank.org/indicator/ER.FSH.PROD.MT?locations=GW>

[16] As a result, we observe a significant decrease in the populations of *Alestes baremoze*, *Aplocheilichthys spilarchus*, *Auchenoglanis occidentalis*, *Brienomyrus brachyistius*, *Brycinus leuciscus*, *Brycinus longipinnis*, *Carlarius parkii*, *Distichodus rostratus*, *Doumea chappuisi*, *Enteromius niaususnumusus*, *Ethmususia quadrilineatus*, *Labeo senegalensis*, *Malapterurus occidentalis*, *Marcusenius mento*, *Nannocharax ansorgii*, *Neolebias unifasciatus*, *Pellonula vorax*, *Pelmatochromis buettikoferi*, *Pomadasys jubelini*, *Sarotherodon galilaeus*, *Sarotherodon occidentalis*, *Tilapia brevimanus* etc.

[17] Slash and burn agriculture is the main agricultural practice in the basin and is based on the use of fire. Bush fires consume a significant volume of forest annually and remain one of the main causes of biodiversity loss in the basin. The use of fire is uncontrolled and unsafe and contributes significantly to soil depletion, increased greenhouse gas emissions and the accelerated effects of climate change.

The second factor contributing to deforestation is energetic. Indeed, more than 90% of the population uses wood as a source of domestic energy. With population growth, the volume of wood consumed is constantly increasing and accentuates the loss of forests and the degradation of the environment.

Finally, the industrial exploitation of forest resources contributes significantly to deforestation and the loss of biodiversity. Popular species such as *Azelia africana*, *Pterocarpus erinaceus* and *Khaya senegalensis* are being decimated over thousands of hectares.

1b. Project Map and Coordinates

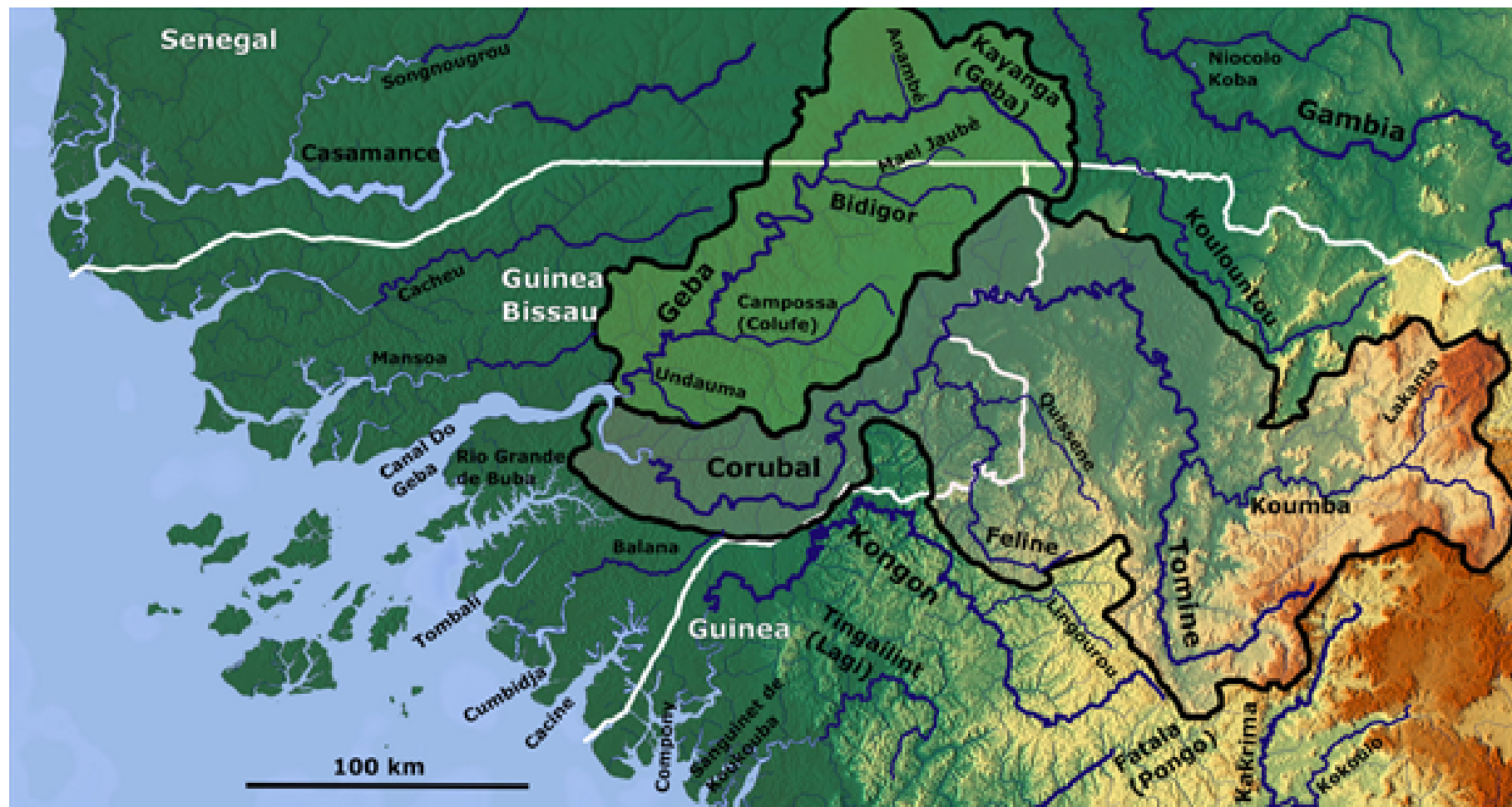
Please provide geo-referenced information and map where the project interventions will take place.

The project covers the entire Corubal basin, i.e. part of north-western Guinea and part of eastern, central and western Guinea Bissau. The catchment area is located in a humid region where annual rainfall averages vary between 2000-2500 mm or more. It is characteristic of a humid tropical two-season climate with average annual temperatures above 26° C. The average number of annual precipitation days exceeds 125 (FAO, 2017) and evapotranspiration is everywhere greater than 1458 mm.

The Tominé river has its source at 1000m of altitude on the western versant of the cuirassed plateau located at the North of Téliimélé. Oriented NE-SW for the first 60 kilometers, it takes a general direction So-N for the remaining 80 kilometers before Gaoual. In its upper part, it rapidly descends the western foothills of Fouta Djallon (16m/km of inclined plane) and reaches coast 200 km later after only 50 kilometers. The main tributary is the Koumba, which it receives one kilometer before Gaoual. At the confluence, the Tominé drained a catchment area of 3300 km². After crossing Gaoual (at an altitude of 80 m), it becomes the Koliba and then, in Guinea Bissau, the Rio Corubal which hardly reaches the Atlantic Ocean.

Administratively, the basin covers the administrative regions of Labé, Boké in Guinea, Gabu, Tombali, Quinara, Bafata in Guinea Bissau. Geomorphologically and geographically, the Corubal has its source in the Fouta Djallon highlands at an altitude of more than 1500 mm and flows westwards the lowlands where it rarely reaches 40 m at its confluence with the Gêba at some 70 km from the Atlantic Ocean. This morphology facilitates the drainage of large quantities of freshwater from the uplands to the lowlands and thus replenishes a complex of wetland ecosystems and promotes the existence of a rich and diversified biodiversity.

From a hydro-geomorphological and geological point of view, the region is characterised by a relief formed by micro-watersheds draining small tributaries of the Corubal (Seli and Fefine in particular). All along the watershed, gallery or riparian forests are encountered. The connectivity between the natural environments and ecosystems is assured for the terrestrial area by the gallery forests and for the aquatic area by the various watercourses. The volumes of superficial and subterranean water resources depend largely on the preservation of forest ecosystems that prevent soil erosion and facilitate the percolation of precipitation.



2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

Stakeholder Engagement during Project Identification		
Stakeholder	Role	Means of participation
General Directorate of the Environment - DGE	Provide answers to all questions relating to environmental legislation and the various international environmental conventions, to the state of environmental degradation.	Meetings, documents, legal texts
General direction of sustainable development	To clarify the government's vision of socially equitable and ecologically sustainable development.	Meetings, documents, legislation, government program
General Directorates of Agriculture	Bring elements of understanding on the country's agricultural policy, the situation of arable land throughout the national territory, changes in agricultural practices on landscapes and ecosystems	Mapping of arable land, actual situation of fertility and land degradation. In addition, the directorate will share knowledge on land management, farmers' networks.
General Directorates of Fauna and Forests - DGFF.	Provide a baseline situation of the forests of Guinea Bissau and Guinea, describe the main tendencies affecting the country's fauna, characterize the threatening habitats in the entire Corubal watershed.	Georeferenced forest data, forest and fauna laws.
General directorates of hydraulics	Make a reference situation of water resources for the two countries, in particular for Corubal.	Data on the quality and quantity of the water resources of the Corubal and its tributaries.
NGOs : Guinée Ecologie, AD, Tiniguena, Palmerinha, Universal & GRDR	Draw a general overview of the environment and the different environmental policies of the two countries, the synergies between the different actors.	Technical reports, project documents, areas of intervention, objectives, results achieved, etc.
Local Communities : Women, Young people, Council	<ul style="list-style-type: none"> Give information about Traditional knowledge on land 	Focus group

of elder, Traditional power structure, Village committees, Youth and women associations	nd and ecosystems management, • Give informations about traditional knowledge of seawater and freshwater management Land users.	
Privates Sector : Farmers and farmers' association Industry (mining) Hydroelectric companies Drilling companies Consulting firms	Ensuring close involvement of key private sector partners (farmers and other companies).	Data, project documents, investment perspectives

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Stakeholder engagement will be at three distinct and complementary levels: regional, national and local:

First, at the regional level, OMVG is the main stakeholder in the implementation of the project. In close collaboration with IUCN and the relevant ministries (different national institutions), they will constitute the regional partners in the implementation of the project. Second, at the national level, the main stakeholders are the different directorates/institutions in charge of water resources management, environment and biodiversity management, agriculture and rural development, energy and sustainable development. In addition to institutional partners, civil society organisations and NGOs, research institutes and universities will be involved in the implementation of the project. Third, at local level, stakeholders include local authorities, local decision-makers and rural communities, youth and women's associations, local partners for development.

During the Project Information Form (PIF) design and development, various meetings and exchanges were conducted which identified executing agency – OMVG –, the GEF national Focal Points, the Ministry Water Ressources and Guinea and Guinea Bissau through national water ressources directorate, Private sector (Bauxite Angola), conservation agencies (IBAP) for exemple to collect their inputs in order to incorporate all relevant targets and outcomes into the project. The table below gives an overview of all stakeholders relevant to the project's development. All the steps done have been discussed between September, December 2019, March and April 2020 in participative approach.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Gender mainstreaming will be encouraged at all stages of the project cycle (e.g. implementation of water management measures, definition of regulatory frameworks for water access and use, natural resource management and land use development, contribution to policy formulation and the socio-economic development process, etc.). The entire project cycle (design, approval and implementation) will be inclusive and participatory, with men and women playing the same roles and enjoying the same prerogatives. The needs assessment will be carried out during the development phase of the project and will be used to define the roles of women and men right at the beginning of the project. This will minimize conflicts between different stakeholders during and after the project cycle regarding roles in project activities and the sharing of project benefits. It is planned to document women's contribution to project activities in key areas where women already excel.

Activities/initiatives in the field will be developed and implemented with a gender perspective. In addition, socio-economic benefits and gender mainstreaming will be used to strengthen the impacts of interventions on the management of the Corubal Basin. The objectives of improving the environment, maximizing economic benefits and enhancing the role of women in project formulation and implementation will be attended.

Two steps will characterize the gender approach of the project::

- The inclusion of women and men equally in the conception, validation and implementation of the project will be ensured. In that perspective, stakeholders engagement and consultation will be done in a way, which understand how women and men are respectively involved in traditional systems of resource management. Based on this assessment, supported by the work related to ESMS, will ensure that women in particular, and disadvantaged groups in general, are involved and benefit from the project in a way that is guided by the gender equality policy of IUCN.
- As a known disadvantaged group in the project area, the project will support the assessment of the gender dynamics in the Corubal basin in relation to the exploitation and conservation of natural and water resources of the basin. A gender specialist with strong knowledge in IWRM will be engaged to ensure that issues related to the gender issues are considered and addressed. Focus group sessions will be organized to identify the real needs and obstacles to the development of sensitive and vulnerable groups. In the same vein, the consultant will outline viable and sustainable solutions. The proposed solutions will focus on the crucial problems essentially related to access to resources, access to land in a context of land degradation and scarcity, social factors that limit the empowerment of women.

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; and/or Yes

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The private sector is mainly related to agriculture, mining and energy generation. The project will provide significant support to the two Governments in the planning and governance of the basin, in particular through the TDA, SAP and institutional support that will support in the establishment of the relevant governance and regulatory frameworks required for the sustainable management of the Corubal Basin. In addition, and to ensure there is a paradigm shift in the basin so the transformational effect of the project is sustained towards project end, the project will substantially support investments and private initiatives in the project area. For this, it will establish a financing mechanism that will help sustainable practices be sustained, based on the recommendation of the TDA and SAP. The project design acknowledges that the sustainability of the paradigm shift and transformative effect of the project must be done through private sector development. At PIF stage, the project design acknowledges that agriculture, water resources management and energy generation are the sectors which are sources of environmental degradation so it will focus its interventions on these. However, these will be further defined and confirmed during the PPG stage. This will be a critical exercise as the project theory of change is built around having the private sector involved in a sustainable manner in order to reverse the drivers of environmental degradation.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk Description	Level	Mitigation measure(s)
Weak or even non-existent regional commitment for transboundary river basins	Medium to Low	Regional integration in sectors such as hydroelectricity and basin organizations such as the OMVG can be catalysing elements to establish a common initiative between Guinea and Guinea Bissau for an integrated and sustainable management of the Corubal. In addition, the perspective of having an agricultural economy based on exploiting the productive potential of the catchment area can generate concerted actions for an equitable exploitation of the water resources of the Corubal.
Limited scientific data, technical capacity and financial resources to support IWRMMP projects.	Medium	The project will use existing scientific data (even old ones) to update and may also use more recent studies carried out on the Gêba (confluence at 60 kilometres from the mouth of the river). Perspectives of collaboration-cooperation could be undertaken with the OMVG and constituted additional sources of financing to successfully carry out integrated river basin management actions.
Risks of diplomatic and political conflicts between the two countries	High	The project will support the establishment of an institutional framework between Guinea Bissau and Guinea and will facilitate the development of common management tools, mutually accepted regulations and laws for integrated and sustainable water resources management, mechanisms for equitable sharing of water resources, and an institutional consultative framework. The institutional consultative framework will conduct regular public consultations to identify problems and obstacles to transboundary cooperation in the management and sharing of water resources in the Corubal, propose solutions to mitigate conflicts and obstacles to collaboration.
Implementing Risks	Medium	The project will be implemented by OMVG in collaboration with experienced national institutions related to natural and water resources. OMVG's project implementation will reduce the risks associated with project implementation and the mobilization of all stakeholders in both countries.
Ecological and climatic risks	Medium	Corubal basin ecosystems still have favourable climatic conditions for rapid and successful restoration. This will facilitate the successful and rapid recovery of lost areas. In addition, the region has a strong presence of park rangers, who act as a dissuasive force. The main ecological risks we face in the basin are inundation and drought. Each risk can affect quantity and quality of water resources and i

		Each risk can affect quantity and quality of water resources and impacts socioeconomic development and population health. Climate risks can generate floods and landslides during the rainy season while it can be the cause of uncertain and unpredictable water flows during the dry season.
Epidemiological risk	Medium	<p>Given the situation caused by the epidemic of COVID 19 in 2019 and 2020 around the world, the probability that an epidemic threatens project advancement is not unlikely. The project will ensure that all staff can respect hygiene and mitigation measures in the case of such an epidemic. The project will also be designed in a manner that components can be implemented independently so delays are not too high, should the case happen.</p> <p>In the short term, the risks are significant in case the epidemic continues and will mainly impact on the finalisation of the project document and the effective start of the project.</p> <p>In the medium and long term, and always in the hypothesis of a prolonged epidemic, the risks become serious and may even result in the non-achievement of the objectives assigned to the project. On another level, they will increase the impoverishment of the rural population, which in return may intensify the pressure on natural resources and thus degrade ecosystems.</p>

Climate risk analysis:

A preliminary climate assessment in the context of this PIF. It is presented as an annex to this PIF and will be further developed during the PPG phase of this project. The preliminary assessment has identified three risks: Recurrent droughts (moderate), temperature and sea level rise (high) and floods (moderate). While the risks related to droughts and floods will be mitigated by the projects by increasing the resilience of livelihoods and economic activities in the basin, the project successful implementation will have a highly positive impact on the risk related by sea level rise that is affecting the entire coastal economy in Guinée-Bissau. The project will ensure that water flows are maintained, which will reduce salinization and the loss of important livelihoods. The overall governance framework that will be set at the regional level will ensure that the basin, from catchment to its delta is considered a unique ecosystem and that economic activities are planned in a way where ecosystems services can be maintained.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The proposed project will interact with other GEF and non-GEF projects already implemented or being implemented in the in Corubal, Gêba and Gambia basins. During PPG elaboration phase, consultations will be undertaken to establish partnerships and practical modalities for linking and collaborating with several ongoing and planned initiatives.

In respect to GEF and LDCF funded activities, the project will be coordinated with the following projects:

In Guinée-Bissau

- ID 10556 – Strengthening ecological connectivity in the Dulombi-Boé-Tcheche Complex - The Corubal IW project will be fully complementary to this project, which the PIF has been approved in June 2020 by the GEF Council, with IUCN as the partner agency. In fact, the Complex is situated along the Corubal River and is fully dependant from it. This project will focus on biodiversity conservation matters while the IW Corubal project will focus on the management of water resources and support entrepreneurial activities that will preserve both water flows and ecosystems through component 2.
- ID 10105 - Strengthening climate information and early warning systems for climate resilient development and adaptation to climate change in Guinée-Bissau – This project will be fully complementary to the Corubal IW project as it will ensure Guinée-Bissau has the relevant information and early warning systems. The IW funded project should coordinate with this project in order to ensure that the data gathered within the TDA and SAP exercise is coordinated.
- ID 9561 - Promoting better access to modern energy services through sustainable mini-grids and low-carbon bioenergy technologies among GB forest dependant communities - This project, which will be under implementation shortly, will provide potential investment opportunities to the financial mechanism proposed in this IW funded project under component. It will then be scaled up, so it is critical the activities of these two projects are well coordinated.
- ID 9521 - Managing mangroves and production landscapes for climate change mitigation – This project intends to address the issue related to the loss of mangroves ecosystems and their related rice production due to salinization of lands. The IW funds will be complementary as they will enable ultimately that river flows are maintained and salinization on the coastal increased, which consequently threatens agriculture activities (rice production behind mangroves ecosystems).
- ID 6988 - Strengthening the resilience of Vulnerable Coastal Areas and Communities to climate change in GB - As for the above, this IW funded project for the Corubal is expected to have a direct positive effect on coastal zones as it will reduce salinization in the deltas. This phenomena of salinization is accentuated by deforestation on the coastal zone and climate change inducing sea-level rise. One solution to this problem at the local level is ensuring freshwater flows are maintained while coastal ecosystems able to “retain” the ocean such as coral reefs, mangroves or coastal forests are conserved.

In Guinée

- ID 9857 - GEF SGP sixth operational phase - Strategy implementation using STAR resources, tranche 2 (Part IV) – The project financing mechanism should be designed after building on experiences and lessons learned from the implementation of the SGP. The financing mechanisms under this project will be complementary to the SGP as it will support entrepreneurial activities in selected sectors in order to reverse degradation and ensure sustainable water flows in the Corubal River Basin.
- ID 9547 - Development national action plan for artisanal and small scale gold mining in Guinea and Niger – The IW funded project will draw upon the recommendations of this plan as mining is acknowledged as a source of natural ecosystems degradation. It is yet unclear whether mining activities will be part of the financing mechanism to be designed under this IW funding but this will be further refined during the PPG phase.
- ID 8023 – Strengthening climate information and early warning systems for climate resilient development and adaptation to climate change in Guinea - This project will be fully complementary to the Corubal IW project as it will ensure Guinea-Bissau has the relevant information and early warning systems. The IW funded project should coordinate with this project in order to ensure that the data gathered within the TDA and SAP exercise is coordinated.
- ID 5382 – Ecosystem based adaptation targeting vulnerable communities of the upper Guinea Region – The IW funds will be coordinated with this project as water flows in the Corubal depend on activities happening in Upper Guinea. It will also be critical to ensure that best practices and lessons learned from this project are drawn back to the Corubal project.
- ID 5289 – Developing a Market for Biogas Resource Development and utilization in Guinea – Energy being a key element within the Corubal basin, it will be important that activities proposed can be an alternative to hydro-power if needed, to ensure a good balance between water uses and needs. Off-grid solutions such as biogas can be a solution and this project's lessons learned and experiences will support the design of the IW funded project in the Corubal river basin.

Regional

- ID 5880 - Knowledge for action: Promoting Innovation among environmental funds - The knowledge, expertise and lessons learned from this project will inform the design and implementation of the financial mechanism that IW funds are expected to fund for the Corubal basin, as proposed in this PIF.

Given the direct link between freshwater resources and salinization on the coastal line, the project will link with all coastal related projects. IUCN is a key partner to these initiatives in West Africa since it has developed the regional coastal management plan with UEMOA in 2010 and is now in charge of coordinating the activities of the regional platform of WACA (funded by the World Bank) and the European Union Mangroves initiatives. Because coastal zone ecological patterns depend on what is happening upstream, the project will liaise with all the initiatives linked to protecting, conserving and restoring forests and land ecosystems upstream. There is a complex of protected areas between Guinea-Bissau, Guinea and Senegal all the way up to the Futa Djallon that are critical for the flow of water resources in the Corubal. IUCN and OMVG, being both part of these initiatives, are ideal partners to ensure there is coordination among all activities.

OMVG will be the project executing agency. During PPG, institutional arrangements with OMVG, as the main project executing agency, will be pursued. IUCN, as implementing agency, will support OMVG as the executing agency to launch the project, recruit the staff and supervise the implementation.

The project will be coordinated and executed on a daily basis by a project management unit hosted in OMVG. Staff will be hired for the purpose of this project by OMVG. A steering committee will be established for guiding the implementation of the project. This steering committee will be composed by representatives of the two countries's governments, IUCN, the civil society and the private sector given their respective important role in implementation. Representation within the project steering committee will be further refined during the PPG phase.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project's contributions are aligned with national priorities, particularly those related to natural and water resources governance, socio-economic development, conservation, protection and restoration of the environment and the sustainability of ecosystem services. By promoting the integral and sustainable management of natural and water resources in the Corubal Basin, the project will contribute to the resilience of communities and ecosystems to climate change. Therefore, the project is aligned with the following national priorities:

For Guinea Bissau:

The Water and Sanitation Master Plan, 2006: The project is aligned with the objectives and policies identified in the Water and Sanitation Master Plan. Indeed, the project will contribute to the achievement of the main objectives of the master plan, namely: (i) improving the access to drinking water for populations and agriculture, (ii) sustainable management of water resources for the satisfaction of the water needs of the various users, conservation of resources and preservation of the environment, (iii) strengthening and reorganisation of the institutional framework for water supply and sanitation management, (iv) transforming the role of the state and involving communities, civil society and the private sector in the governance of water resources.

National Biodiversity Strategies and Action Plan (NBSAP) 2015: The project is aligned with several NBSAP's priorities, including (i) Realizing vulnerability assessment and developing relevant adaptation measures to improve the resilience of the prioritized ecosystems to climate change, (ii) Promoting assisted or natural regeneration or intervention where mangrove ecosystems do not have the capacity for self-renewal, including restoration of the hydrological regime and/or the planting of mangroves, (iii) Promote the implementation of integrated water resource management plans, including the protection and restoration of critical wetlands, (iv) Update the assessment of all wetlands in the country, develop and implement management plans in accordance with Ramsar site management principles. **National Agricultural Investment Plan second phase (PNIA2) :** The project is aligned to the priorities of the PNIA2. For instance, the sub-program on Sustainable management of natural resources (water, soil, forests, etc.) including integrated water resources management, sustainable soil fertility management, management of forest resources, incorporates the issues and priorities of the proposed GEF project and are being addressed by its components. Specifically, the Consistency with PNIA Priorities will be achieved through (i) Strengthening the institutional framework for water resources management by supporting their creation and functioning where they are lacking, (ii) Improvement of the knowledge about surface and groundwater resources, (iii) Integrated water resources management in the lowlands and sustainable management of forest resources.

Poverty Reduction Strategy Paper (PRSP): The project is therefore aligned to the fifth core principle of DENARP II, which promotes a sustainable development, more resilience to climate change. The fourth principle of the strategy - which deals with the consideration of capacity building needs - is also well integrated in this project that aims at strengthening capacities from the local communities to the national institutions.

National Drought Plan (NDP) 2019 : The Corubal project will contribute to the strengthening of the NDP by reinforcing financing and actions for the management of natural and water resources in the Corubal basin, combating bad practices that increase the effects/impacts of drought on communities and limit their adaptation and resilience. The introduction of resilient and sustainable productive systems will limit human impacts on natural and water resources.

Strategic and Operational Plan for 2015-2025: The project is aligned to several axis of the Guinea Bissau Strategic and Operational Plan for 2015-2020. In particular the project is contributing to the biodiversity and sustainable management of natural capital pillar, which includes amongst others programmes on capacity building in the management of natural capital, knowledge and surveillance of natural resources and preservation of ecosystems. The present project is contributing to these efforts by strengthening the governance of natural resources, the establishment of an appropriate and efficient institutional framework, the protection of biodiversity, the implementation of sustainable income-generating activities.

National Action Plan for Adaptation (NAPA) : The project is aligned with Guinea Bissau's NAPA in terms of climate change adaptation, specifically water and natural resources long term access, food security, resilience of ecosystems. This GEF project will contribute to improve fresh water resources quality and quantity in the context of climate change, reduce pressure in natural resources and loss of habitats and biodiversity. In addition, the present GEF project is in line with some previous NAPA projects, in particular: (i) the Rural Potable Water Improvement Project, (ii) The Project for Capacity Building for the Prevention and Protection of Mangrove Rice Fields against the Invasion of Living Waters, (iii) Project for the Promotion of Small Irrigation in the Geba and Corubal River Margins. Finally, it will capitalize lessons-learned and good practices generated by projects implemented under the NAPA.

For Guinea

The project is aligned with national strategies in Guinea, as follows:

National Economic and Social Development Plan (NESDP) 2016-2020: whose objective is to "promote strong, high-quality growth to improve the well-being of Guineans and carry out the structural transformation of the economy, while putting the country on the sustainable development pathway" is complementary to the present GEF project. The project will also complete actions undertaken on the NESDP, more particularly sectorial programs such as the Socio-Economic Recovery and Resilience Strategy, the Accelerated Food and Nutrition Security and Sustainable Agricultural Development Program. The project will contribute to the implementation of adaptation actions for the riparian communities of the Corubal basin and to the promotion of sustainable agricultural practices.

National Strategies and Action Plans for Biodiversity Conservation and Sustainable Use (2002): the project will contribute to the implementation of the strategy, more particularly the adoption of management systems based mainly on the ecosystem approach, the creation and development of a network of protected areas representative of the diversity of terrestrial and aquatic ecosystems, the conservation and sustainable use of biological diversity; the strengthening of the human and material capacities of the institutions responsible for the conservation and use of biological diversity; the strengthening of subregional, regional and international cooperation for the conservation and development of ecosystems and their biological diversity.

Agricultural Development Policy Letter (ADPL): The GEF project on the Corubal waters is complementary to the ADPL, particularly in its actions aimed at improving the management and preservation of the natural heritage (soil, forests, genetic heritage, fauna and ecosystems), promoting the fight against harmful traditional agricultural production systems (itinerant slash-and-burn agriculture, use of fires, uncontrolled clearing of forests, colonisation of fragile areas such as mountain slopes, river beds, shallows, spring heads, etc.).

National Environmental Action Plans: NEAP (1996) : the GEF Corubal project is consistent with the NEAP by integrating its fundamental concerns, i.e. the improvement of farming systems, integrated protection of water and soil resources, biodiversity conservation, integrated management of river basins, etc.

National forest action plans: NFAP (1987) : the Corubal GEF project is consistent with NFAP in particular the conservation of the national forest resources, the rational management of production forest areas and related sectors, the conservation of mangrove and wetland forests and watercourses.

The National Water Resources Management Policy and Strategy : The Corubal project aligns with the national water policy, especially regarding the strengthening of knowledge related to water resources, the implementation of hydro-ecological monitoring systems of national and international waters basins, the fight against silting and siltation, the fight against pollution phenomena related to industrial, agricultural and extractive activities, the strengthening of stakeholders capacities in water resource management, the strengthening of capacities related to the collection and processing of water resource data, the establishment of water resource management plans.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Knowledge management will be a key feature of this proeject, as it will create instruments and data that is inexistent to the basin and of great need for decision making and planning. Being a project that combines natural and water resources gouvernance and restoration, socio-economic development, regional cooperation and integration, and sustainable development, the knowledge to be generated should allow the understanding of the challenges and the mobilization of all the actors to exchange and share knowledge and good practices. 1% of the project will be mobilized to contribute to the IW-Learn platform of the GEF by promoting best practice guidelines for IWRM, including guidelines for water flow management, basin socio-economic development, erosion control, pollution reduction, and protection of critical flora and fauna. An inclusive communication strategy will be implemented in order to engage all stakeholders. It will focus on the commitment of communities and partners, good communication, governance mechanisms that facilitate connectivity, support for management and networking, promotion of impactful initiatives, cross-border engagement for the establishment of transnational connectivity corridors.

9. 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

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

By developing and implementing strategies for sustainable water management of the Corubal River Basin and strengthening institutional capacities and legal frameworks the project is expected to lead to highly positive environmental outcomes. Positive social outcomes are expected through the value chain and ecotourism activities. However, the water diagnostic might reveal the need for changing/ reducing water usage, which could have negative social impacts. The likelihood of such impacts will need to be analysed during the PPG; if this is confirmed, the TDA should be amended by an assessment of social impacts of recommended water management strategies. Value chain and ecotourism activities potentially could cause environmental impacts; however, because of the small scale nature of those interventions these would be small if any. Nevertheless, this would need to be looked at during Screening in more depth.

At this stage, many impact areas have been rated with low risk. However, a number of areas could not be rated, this will be determined (TBD) once project activities have been further detailed. Therefore, the project is preliminarily rated as moderate risk, but this will be revisited during the Full ESMS Screening.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
esms preliminary screening_corubal_GEF7- draft	

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Ahmadou Sebory Touré	Directeur Général du FSE, GEF Operational Focal Point	Ministère de l'Environnement, des eaux et forêts te Guinée	8/25/2020
João Raimundo Lopes	GEF Operational Focal Point	Secretariat d'Etat en charge de l'Environnement et de la Biodiversité, Guinée Bissau	8/27/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

