

Regional Initiative for Water and Environment in the transboundary basin of the Mono River (RIWE-Mono)

Part I: Project Information

GEF ID
10799

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT No
NGI No

Project Title
Regional Initiative for Water and Environment in the transboundary basin of the Mono River (RIWE-Mono)

Countries
Regional, Benin, Togo

Agency(ies)
IUCN

Other Executing Partner(s)
Mono Basin Authority (MBA), Sahara and Sahel Observatory (OSS), Global Water Partnership West Africa (GWP-WA)

Executing Partner Type
Government

GEF Focal Area

International Waters

Taxonomy

Climate Change, Focal Areas, International Waters, Freshwater, River Basin, Climate Change Adaptation, Mainstreaming adaptation, Disaster risk management, Private sector, Transboundary Diagnostic Analysis and Strategic Action Plan Preparation, Influencing models, Convene multi-stakeholder alliances, Transform policy and regulatory environments, Gender Equality, Gender Mainstreaming, Capacity, Knowledge and Research, Learning, Theory of change, Adaptive management, Capacity Development, Knowledge Exchange

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

450,000.00

Submission Date

3/24/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-6	GET	3,000,000.00	20,750,000.00
IW-3-7	GET	1,000,000.00	10,000,000.00
IW-3-5	GET	1,000,000.00	8,600,000.00
	Total Project Cost (\$)	5,000,000.00	39,350,000.00

B. Indicative Project description summary

Project Objective

Generate global environment benefits through enhanced cooperation between Togo and Benin on the Mono river Basin

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Mono River Basin development assessment and planning	Technical Assistance	<p>Outcome 1.1: The Mono Basin threats and potential for development is assessed and planned</p> <p>Outcome 1.2 Pilot integrated interventions to enhance suitable use of the basin resources, economic development as well as environment protection and population adaptation and resilience to climate change</p>	<p>Output 1.1.1: a Transboundary Diagnostic Analysis (TDA), including groundwater, is performed, published and agreed by the two countries</p> <p>Output 1.1.2: a Strategic Action Plan (SAP) is developed for 2024-2038, approved and signed at relevant Ministerial level by the two countries, together with an investment plan for the SAP horizon;</p> <p>Output 1.1.3: Common scientific water and environment management tools (Database, GIS, etc.) developed and water balance and hydraulic functioning (ground and surface waters) established for the Mono river basin</p> <p>Output 1.2.1. Pilot activities prioritised from the TDA/SAP process which tackle key highlighted ecosystem degradation issues.</p>	GET	2,800,000.00	9,870,000.00
Component	Technical			GET	1,291,905.00	23,489,000.00

2 – Institutional and technical capacity strengthening	Assistance	<p>Outcome 2.1: - The technical and institutional capacities of the MBA are strengthened to enable actions for water and soil conservation, and restoration and protection of Mono basin ecosystems</p> <p>Outcome 2.2 Improved governance and cooperative framework of the Mono basin to support water-related challenges and transboundary flooding risk reduction</p>	<p>Output 2.1.1 Capacity building and training of MBA Executive Directorate and various basin stakeholders in the agriculture, water resources management, the energy and the fishing sectors.</p> <p>Output 2.1.2 A resource mobilization strategy for the basin, including the Mono Basin Climate Investment Plan is developed and implemented across the various sectors relevant to the Basin</p> <p>Output 2.1.3 Capacities of socio-professional groups (women, youth, etc.) improved and their livelihoods enhanced</p> <p>Output 2.2.1 Management structures for each sub-basin of the Mono River basin established and strengthened</p> <p>Output 2.2.2 Improved Water Resources information system in support of improved flood risk reduction and flood Forecasting and Early Warning Systems</p> <p>Output 2.2.3 - Interministerial Committees created and/or strengthened and data sharing protocols developed and presented for endorsed</p>
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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 Outcome 3.2 Project lessons learned and best practices are consolidated and disseminated for replication	Output 3.1.1. A project monitoring-evaluation system is developed and implemented Output 3.1.2. A Communication strategy developed and implemented Output 3.1.3 A gender action plan is developed Output 3.2.1. A knowledge management strategy developed and implemented, including information sharing Output 3.2.2. Best practice guidelines for IWRM, including guidelines for water flow management and regulation, adaptation and resilience of population and ecosystems to climate change, erosion control, pollution reduction, and protection of critical flora and fauna Output 3.2.3. The project contributes to the GEF IW-LEARN platform (1% of the project)	GET	670,000.00	4,062,850.00
Sub Total (\$)					4,761,905.00	37,421,850.00
Project Management Cost (PMC)						
GET					238,095.00	1,928,150.00
Sub Total(\$)					238,095.00	1,928,150.00
Total Project Cost(\$)					5,000,000.00	39,350,000.00

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(\$)
GEF Agency	IUCN - PREE-ACO Project	Grant	Investment mobilized	1,000,000.00
Other	Mono Basin Authority	Grant	Investment mobilized	500,000.00
Other	Observatoire du Sahel et du Sahara	Grant	Recurrent expenditures	300,000.00
Other	Global Water Partnership Africa	In-kind	Recurrent expenditures	300,000.00
Other	WAWASCAL Hydrometeorological Observation of Transboundary Basins	In-kind	Recurrent expenditures	1,000,000.00
Other	Global Fund Initiative 3S	In-kind	Recurrent expenditures	2,000,000.00
Donor Agency	Germany - CLIMAFRI - Climate-sensitive adaptation strategies	In-kind	Recurrent expenditures	1,000,000.00
Donor Agency	World Bank - WACA - Coastal Zone Resilience Investment Project in West Africa	Grant	Investment mobilized	4,000,000.00
Donor Agency	GIZ -- ProSEHA	Grant	Investment mobilized	1,000,000.00

Other	UEMOA – ECOWAS: Hydro-agricultural development downstream of the Nangbeto dam	In-kind	Recurrent expenditures	15,000,000.00
Donor Agency	Adaptation Fund (project in formulation to be submitted by MBA)	Grant	Investment mobilized	6,000,000.00
Donor Agency	Kuwaiti Hydro-agricultural Development Fund	Grant	Investment mobilized	5,000,000.00
GEF Agency	IUCN BRIDGE project BRIDGE "Building dialogue and governance around rivers" (to be submitted by MBA)	In-kind	Recurrent expenditures	250,000.00
Recipient Country Government	BENIN: The Multifunctional Hydraulic Infrastructure Development Project and Sustainable Management of Water Resources (PDIHM / GDRE) – focus on water resources data collection, valuation studies and site identification for dam construction and improving legal frameworks	Public Investment	Recurrent expenditures	1,000,000.00
Recipient Country Government	TOGO: Support Program for Vulnerable Populations (PAPV): water and sanitation component – focus on supplying rural and semi-urban localities in the Central, Kara and savannah regions with drinking water through the construction of drinking water and sanitation infrastructure (boreholes, solar panels, latrines).	Public Investment	Recurrent expenditures	1,000,000.00

Total Project Cost(\$) 39,350,000.00

Describe how any "Investment Mobilized" was identified

By enhancing the coordination among the two countries, the project will leverage some investments. Although from public sources, in particular donor cooperation funding, the investment mobilized identified in the above table is all related to agriculture development and water supply projects. During the project identification phase, which led to this PIF, discussions and exchanges with the countries have enabled to bring together these projects and investments in the context of enhanced coordination on the basin. From now on, these will not be invested as stand-alone projects but coordinated with the GEF funded project presented in this document by the Mono Basin Authority, and the Governments of Togo and Benin. For investment mobilized: The (SIDA funded) IUCN - PREE-ACO Project will support establishment and training of management structures (Local Water Committee); Capacity building of the Mono basin observatory through training and the installation of measurement equipment. Relevance: This project contributes to the implementation of component 2 of the project, in particular the achievement of output 2.1.1. and output 2.2.1. Global Fund: Initiative 3S will contribute to the establishment of the Mono basin observatory, necessary for knowledge and monitoring of water resources and ecosystems in the Mono basin. This investment will be leveraged for the realization of component 2 of the GEF funded project, in particular under output 2.1.1. WACA (Coastal Zone Resilience Investment Project in West Africa) contributes to improving the management of shared resources and risks integrating climate change affecting communities. This investment is leveraged to provide guidance during the implementation of the

TDA on the climate change aspect and the state of play of the Benin-Togo cross-border coastal zone. It is linked to component 1 of the project, in particular output 1.1.1 and output 1.2.1 GIZ – ProSEHA project develops actions for the integrated management of water resources in the Mono basin (protection of ecosystems, food security and capacity building of local actors). Also contributes to the development of management tools (SDAGE, SAGE). Part of this project will be mobilized under component 1 of the GEF funded project, in particular output 1.1.1 and output 1.2.1 and also with component 2 for the establishment of water resources management structures (output 2.2. 1). Climate Change Adaptation Fund – This project is currently being prepared by the Mono Basin Authority and should start implementation with this GEF funded project. This investment will be mobilized in order to to the identification of adaptation measures to climate change and the resilience of populations and ecosystems in the Mono basin, food security and capacity building. It is linked to the 3 components of the project. Kuwaiti Hydro-agricultural Development Fund is active in the region. It will partner with the project for the realization of feasibility studies of hydro-agricultural developments and the development of adaptation measures to climate change in the Mono basin. This work will be brought into a more transboundary perspective with the support of the GEF project. It is particularly relevant to component 2 of the project, in particular output 2.2.1 and output 2.2.2. BENIN: The Multifunctional Hydraulic Infrastructure Development Project and Sustainable Management of Water Resources (PDIHM / GDRE) focuses on water resources data collection, valuation studies and site identification for dam construction and improving legal frameworks. All this work will be leveraged by the project and put in a more transboundary perspective. TOGO: The Support Program for Vulnerable Populations (PAPV) has a water and sanitation component. It focuses on supplying rural and semi-urban localities in the Central, Kara and savannah regions with drinking water through the construction of drinking water and sanitation infrastructure (boreholes, solar panels, latrines). This work will be leveraged by the project and put in a more transboundary perspective.

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	5,000,000	450,000	5,450,000.00
Total GEF Resources(\$)					5,000,000.00	450,000.00	5,450,000.00

E. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

150,000

PPG Agency Fee (\$)

13,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
IUCN	GET	Regional	International Waters	International Waters	150,000	13,500	163,500.00
Total Project Costs(\$)					150,000.00	13,500.00	163,500.00

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)
2,500.00	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)
2,500.00	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)
			2,500.00						

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2500.00	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)
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2,500.00

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)
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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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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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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)
2500.00	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)

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)

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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2,500.00			
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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)
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Documents (Please upload document(s) that justifies the HCVF)

Title

Submitted

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	Mono			
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)
Mono	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)

Mono	1	
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Indicator 7.4 Level of engagement in IWLEARN through 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)
Mono	1			

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	100,000			
Male	150,000			
Total	250000	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 the basic indicators is carried out from direct measurements in the field or by observations of the extent of the area of degraded lands and ecosystems closely linked to the Mono River. The tools used for the estimation of lengths and areas (indicator 3 and 4) are the existing thematic maps and from the information existing in the reports of previous studies. The calculation is therefore carried out by subtracting and then adding up the areas whose biological diversity needs to be enhanced, conserved or restored. With regard to protected areas, the areas considered are those which are under the direct influence of the Mono River, in particular along the main course of the river serving as the administrative border between Benin and Togo. The extent of unprotected areas is calculated from the presence and number of natural resource operators (populations) who carry out agricultural, mining and artisanal activities in the basin. These areas are threatened by human pressure and climate change. These areas will be further identified and defined during the PPG phase. Currently, these have been selected based on extensive exchanges between the Agency and the Mono Basin Authority. The calculation of the direct beneficiaries of project interventions (Women and young people for income-generating activities for profit, The number of farmers trained in sustainable agricultural techniques for the restoration of agricultural land, improvement of the schooling rate of children , and the number of jobs created, the number of trained women participating in decision-making, etc.) make it possible to extrapolate in terms of gender and number. In addition, an estimate of the number of people informed and sensitized on land use and ecosystem protection will be made with the support of community radios and village general assemblies. The method of calculating the defined indicators will be detailed in the project implementation document. Those estimates will be refined during the PPG phase. Under indicator 1, work related to protected areas will be further defined during the PPG stage.

Part II. Project Justification

1a. Project Description

The Mono River Basin is one of twenty five (25) transboundary river basins in West Africa. It covers an area of approximately 24,300 km², including 21,300 km² in Togo and 3,000 km² in Benin, corresponding respectively to 38% and 2.14% of the territory of each of the two countries. This transboundary basin is full of a rich set of ecosystems that are largely influenced by climatic diversity and wetlands such as Lake Toho and Lake Djétoé. Terrestrial ecosystems of global significance in the region include forests and savannas. In addition, the region includes riparian forests, meadows, mangroves and forest plantations, as well as specific ecosystems in protected areas that have advocated for the establishment of the Mono Transboundary Biosphere Reserve and the National Park Fazao-Malfakassa in Togo. Freshwater aquatic ecosystems are fed by three major tributaries: Ogou, Anié, Amou. Vast marine and coastal ecosystems stretch from the Mono estuary to Grand-Popo in Benin. Three Ramsar sites have been recognized in the Mono basin including Lake Toho in Benin and the Togodo protected area complex and the coast in Togo.

According to demographic statistics, the population of the basin amounted to 3.4 million inhabitants including 42% in Benin and 58% in Togo in 2010 and should reach 5 million inhabitants in 2025. Although the economic situation has improved, overall improved in recent years, the countries that share the Mono basin remain among the poorest in the world. The basin's resources are vital for its population and its economic development. The most important economic sectors are agriculture (which is currently extensive and mainly rainfed), animal production, fishing, forestry and the exploitation of biodiversity. Other growing sectors are industry, commerce, mining, energy, recreation and tourism. All sectors depend on the region's natural resources and potentially pose a threat to the sustainability of resources if not well managed. The Nangbéto hydroelectric dam, for the development of hydroelectricity and irrigation, has already had many repercussions on the hydrological cycle (recurrent flooding) in the basin. Also, the planned infrastructures (the Adjarala and Tététou dams) constitute a potential threat to the sustainability of resources if they are not managed in a sustainable manner by better regional coordination (coordinated management of the infrastructures of the basin of the Mono). The main problems and root causes of environmental problems in the Mono are the following:

Recurrent flooding

Flooding is the most devastating hydro-meteorological hazard in Togo with nearly annual flooding impacting the Lower Mono Basin populations (Ntajal et al, 2017^[1]). In particular, in the Communes of Athiémé, and Grand-Popo in Benin and the Prefectures of Lakes and Bas-Mono in Togo, covering more than 40 km of coast in border of the Mono river which constitutes the natural border between the two countries. For example, as a result of flooding in 2007, over 127,880 people were affected, 13,764 people were displaced, and dozens were killed in Togo. Again, in 2008, heavy rains caused severe floods in the downstream end of the Mono River Basin, displaced about 20% of the population. After both of the flooding events, food security was threatened as a result of low food production thereby exacerbating inflation from 1% in 2007 to 9.1% in 2008. Moreover, 300 km of roads and 11 major bridges were destroyed, leading to an increase in transportation costs. Furthermore, the 2010 flooding had great negative impacts on human security as most communities were affected (over 8 communities in Togo) and resulted in a total cost of damages and losses of over US\$ 38 million. The Ntajal et al (2017) study above all highlights that the

source of flood risk in the Lower end of the Mono River Basin was not only the extreme high rainfall but also the improper regulation of the Nangbeto dam, given the pre-existing socioeconomic factors of the communities – lack of preparedness, lack of understanding and capacity and early warning systems. During more recent years, floods occur repeatedly in Togo and cause tremendous losses in terms of property and life, particularly in the lowland areas of the country. Flooding due to excessive rainfall in a short period of time is a frequent hazard in the flood plains of Mono River in Yoto District during monsoon. It inflicts significant environmental, social, and economic damages and affects population safety[2]. In Benin in general and in the Benin side of the Mono basin in particular, the risk of flooding remains very high because of its cyclical appearance linked to rainy seasons, poor occupation and management of space. This is the most recurring hazard in certain national portions of the basin and particularly in the Municipality of Athiémé in Benin which covers the entire southern facade of the Mono department over 40 km of coastline along the Mono river which constitutes its natural border with the Togolese Republic. The floods in the Mono basin have a strong impact on the health, the environment and the socio-economic living conditions of the populations.

Ecosystem degradation in the basin

The degradation of the aquatic and terrestrial ecosystems of the river basin is due to anthropogenic pressure on the resources and unsustainable practices in the Mono basin. These degradations include: erosion of the coastal ecosystem, invasive aquatic species, increased sedimentation in rivers, depletion of soils and loss of vegetation cover. These questions pose real challenges throughout the Mono Basin. Each of them contributes to the reduction of economic opportunities, negatively impacting the sectors of agriculture, livestock, fisheries, energy, transport and forestry. The degradation of the banks of watercourses, the heads of springs, along with deforestation has caused a decline in biodiversity and increase in sedimentation. Erosion is a major problem in the Mono basin (SAWES, 2011). It can be explained, among other things, by the cultivation of the river banks of water bodies, poor cultivation practices (plowing along the lines of the greatest slope, use of fire as a means of clearing) and the destruction of the mangroves[3]. This results in the increasingly pronounced degradation of the banks and the transfer of significant solid debris into the water bodies with three major consequences, namely: i) the filling and a gradual reduction in the depth of the river beds, reducing the quantity of water available; ii) the disappearance of certain fish species for reasons of natural habitat that has become unsuitable; and iii) increasingly difficult water transport. Erosion therefore poses a threat to agricultural development in the immediate environment of the Mono alluvial plain. This has had a knock on effect for fishing as well as a reduced connectivity of the river during low flows which has impacted communities using the river for transportation inland to the coastal areas. Coastal erosion is a concern for both countries. Through a series of direct and indirect impacts, they contribute to poverty, migration and social instability. These issues are expected to be exacerbated in the years to come with a lack of adequate shared resources management between the two countries.

Water pollution

The pollution of water resources in the basin is a main issue and linked to human activities characterized mainly by non-compliance with hygiene rules in human settlements where the water is mainly polluted by open defecation even near water points, poor waste management household and rainwater, bad practices in certain production sectors (industry, fishing and agriculture), the dumping of raw effluents into watercourses, the use of fishing techniques which favor the filling of watercourses, agricultural activities using fertilizers and pesticides which, leached by the running waters, are found in waterways (SAWES, 2011). This is the example of areas with powdery textured soils such as the sandy loam coastline of Grand-Popo, which has become a development area for market gardening and which is accompanied by progressive pollution of both groundwater and surface water. Although there is not yet an operational system

for monitoring and evaluating the phenomenon to quantify it and assess its risks, the results of isolated chemical analyzes confirm in a consistent manner, a relatively high concentration rate of harmful elements in water, probably resulting from current cultural practices; and consequently, a gradual salinization of groundwater near the sea.

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Biodiversity loss and invasive species

Aquatic mammals and sea turtles in the basin remain very threatened for their meat, their skin, their fat and for some of their organs which serve as ingredients in traditional medicine. In recent years, there has been a rapid proliferation of aquatic plants, including water hyacinth, and their spread along the watercourse. Probably introduced into the basin as ornamental plants, they have seen their growth accelerated by the contamination of waterways by fertilizers and other pollutants. The leaching of fertilizers and pesticides from cropland accelerates the growth of these plants. The impacts of these plants are both environmental (reduction of biodiversity, degradation of water quality and reduction of fishery resources) and socio-economic (reduction of river transport, reduction of the energy production capacity of hydroelectric plants, worsening of water-borne diseases and reduction of fishery resources) (SAWES, 2011).

Climate change impacts

Many of the problems found in the Mono Basin are exacerbated by the impacts of climate change. Climate change scenarios predict increase in both the frequency and the severity of flood hazards in West Africa, likewise in the Mono Basin[4]. The Mono basin experiences high rainfall variability and statistical analysis of climatic data shows an increase in average monthly temperatures following a south-north gradient in the basin. In Togo this increase is between 1.00 and 1.25 ° C. There is also a relative decrease in precipitation in the basin at certain rainfall stations. This situation could be explained by the resurgence of climate warming in the basin, which will be accompanied by a tendency to dry out, which will have serious impacts on the various sectors (SAWES, 2011). Part of the UNU-EHS preliminary research findings has found that farmers in the affected communities experience flooding nearly every year now, compared to about 30 years ago[5]. Furthermore, the main period of severe flooding shifted from June to October. This has a direct impact on crop yields and, in return, on livelihoods and food security of the most vulnerable people in the area. This situation, coupled with the absence of strong coordination at the transboundary level for joint monitoring of the quality and quantity of available freshwater, exchange of information, and sustainable sharing of water resources, negatively impacts the management of shared resources in the Mono River Basin.

Barriers that need to be addressed (systems description);

1. Lack of knowledge, capacity and data

In the two countries and in the Mono basin, there is little knowledge and poor monitoring of water resources, both surface and underground, in terms of quantity, quality, availability, uses, demands, etc. Actions are being undertaken at the level of the two States (Benin and Togo) for the development and implementation of water information systems. Monitoring equipment (hydrometric and piezometric) exists but is insufficient, poorly distributed and whose

data are little used or little used to improve knowledge of water resources. Currently, at the transboundary level of the Mono basin there is no provision for knowledge and management of water resources on a cross-border scale.

Furthermore, the low valuation of the basin's water resources makes basin –wide planning more challenging in the absence of adequate data. Hydropower is in development in the basin and with planned dams to not only produce energy but also water for irrigation, and fisheries, including the Ajarala dam. Currently, the hydro-agricultural developments carried out or planned in the two countries represent less than 3% of the potential. As for fishery resources (capture fishing, fish farming, etc.), they remain under valued. This results in the feeling of low levels of benefits for the neighboring populations and a lack of understanding and knowledge about the shared benefits these developments could and will provide to the basin populations and the countries GDP.

2. Poor governance frameworks and lack of regulation and enforcement of laws

The legal framework for the management of the Mono basin consists of national legal standards and the legal framework of West African sub-regional organizations of which the two countries of the basin are members. Overall, each of the two states applies its national legislation to the portion of the basin located on its national territory, and ensures its management by relying on its national institutions. However, instability, centralization and difficulties in enforcing legislation are other governance factors that have an indirect impact on the resources of the basin. Lack of trained and motivated human resources is also a major problem. In particular, efforts to develop cooperation between countries, although strongly encouraged by the recent creation of the Mono Basin Authority (MBA), remain insufficient.

Currently, there are frequent conflicts between water users: between farmers and nomadic herders from Sahelian countries (Burkina Faso and Niger). These conflicts are said to be linked to the lack of cooperation between actors and to non-compliance with regulations (where they exist) causing destruction of the environment and significant loss of human and economic life (the slaughter of cattle in retaliation). The resulting situation and knock on impacts of this are that poverty worsens, women's purchasing power decreases, there is a rural exodus and children eventually drop out of school. The main challenges in the basin are transboundary in nature and as such shared water governance is needed through better coordination between the two countries. The MBA provides an opportunity for improved coordination and collaboration between Togo and Benin to better manage water conflicts in the Mono Basin. Despite its ambitions, however, the MBA remains a young institution and lacks capacity to achieve the level of coordination needed at scale.

3. Unsustainable land and fishing practices impact water resources

Poor cultivation practices and poor land use lead to erosion, degradation of river banks and silting of the watercourse which have been aggravating factors of increased flooding in the basin. Extensive slash-and-burn agricultural practices, overgrazing of grasslands and deforestation have also caused further degradation of the Mono basin's resources. The use of pesticides and herbicides have having an impact on water quality as well as the extraction and washing of gravel along the river. The development of industrial and craft activities in the basin and around the river as well as unsustainable fishing /prohibited fishing

practices are also causing pollution problems. Analysis of the fishing sector has shown that the main factor in the degradation of freshwater and marine environments is the overexploitation of water bodies reported since 1995 by the FAO. Artisanal fishing alone exceeds, in some years, the exploitable potential. Despite the increase in the number of fishermen and canoes, there has been a significant decrease in catches in recent years. The decrease in the size of the catches and the accelerated depletion of populations observed in all fisheries indicate that operators have gone beyond the maximum tolerable yield. The operators of the Togolese and Beninese fisheries agree in recognizing that fishing yields have fallen considerably, and that certain fish species have disappeared from catches. The race for profitability in the fishery has led to the use of multiple gillnets, longer nets and even driftnets. In addition, operators unfortunately use prohibited equipment, including very small mesh gillnets. The lake or river routes of the Mono are sometimes the only alternative for transporting people and goods within the basin. In the basin, the transport of fishery products to the assembly points is often done by lake. This is the example of Benin where the products are conveyed by river to the assembly points of Guézin and Agbanto, before the relay is provided by road to Comé, Cotonou or to Togo, Ghana, Ivory Coast or Nigeria. Likewise, in the district of Agoué in Benin, the transport of traders who often go to Agouégan is provided by large single canoes. It should be noted that river transport is nowadays confronted in places today with the shallow depth of the river and its tributaries, which makes travel difficult.

2) the baseline scenario and any associated baseline projects

The baseline scenario is that, without the project, the two countries will continue to promote economic development within the Basin. This will be done through the operation of the Nangbéto hydroelectric dam, and the development of new ones, namely Adjara and Tététo dams. They will generate power but also agriculture production through extracting water for irrigation. Potentially, this expected increase in activities could create more pollution and ecosystem degradation with related consequences such as erosion, salinization or flooding, if improved shared management is not put in place in the basin. There are several agricultural, water supply and livelihood development projects that will be rolled out in the region and are included in the project and programmes outlined below. But in the current context, it is critical that these are coordinated at the transboundary level. Without improved coordination of the shared water resources in the Mono basin, water-dependent sectors will continue to develop separately in Benin and Togo, impacting the quantity and quality of water resources. With reduced capacity to fully tackle issues at the transboundary level and the absence of a strong governance framework with the associated policies, legal tools and regulatory mechanisms, current issues of pollution, flooding, ecosystem degradation and unsustainable practices will persist. In the absence of a sound and scientific assessment at the transboundary level of the water resources in the Mono basin, decision-making processes will continue in the absence of data/information on the state of the basin.

Below is an outline of the current projects and programmes within the Mono Basin, at the national level in Togo and Benin, or at the transboundary and regional levels.

The Mono Basin Authority (MBA)

The Mono Basin Authority is the transboundary institution currently operating as the legal body for the shared management of water resources between Togo and Benin. The idea of setting up a Mono basin organization is part of the implementation of the Ouagadougou Declaration on Integrated Water Resources Management adopted in March 1998. It is within the framework of the implementation of the requirements of this Declaration and the related decisions that

the Ministerial Committee for Monitoring IWRM in West Africa, during its 3rd session held in Bamako on November 21, 2008, adopted a resolution promoting the following three (3) new Transboundary Basin Organizations:

- Mono (Benin, Togo);
- Comoé-Bia-Tano (Burkina, Ivory Coast, Ghana, Mali);
- Cavaly-Cestos-Sassandra (Ivory Coast, Guinea, Liberia).

The main stages of the process of setting up the Mono Basin Authority (MBA) were marked by:

1. The completion in 2011 of a two-part study on:

Inventory of the basin: state of water and related resources, governance, socioeconomic environment;

Proposals for the establishment of the organization of the Mono basin: definition of the legal and institutional requirements of an appropriate cross-border basin organization; related financial implications; roadmap for the establishment of the organization.

2. The approval of the constitutive texts for the establishment of the Mono River Basin Authority by the two States concerned (Benin and Togo) following a meeting of Ministers on July 4, 2014 in the conference room of the Palais des Congrès, in Cotonou, Benin. This meeting of Ministers was preceded by the meeting of experts on 2 and 3 July 2014 to analyze and submit the documents for the approval of the Ministers.

3. The signing on December 31, 2014 of the Convention on the Status of the Mono River and the Creation of the Mono Basin Authority by the Heads of State of the two member countries, thus proving their commitment to the rational and equitable management of the resources of the Mono cross-border basin shared by the two countries.

IUCN (Central and West Africa Programme) (SIDA funded) – PREE ACO project

Since March 2020, the International Union for Conservation of Nature (IUCN) has been implementing, in collaboration with its strategic partners and with the financial support of the Swedish International Development Agency (Sida), the project called the "Regional Partnership on Water and the Environment in Central and West Africa - PREE ACO". The project aims to strengthen the resilience of the natural ecosystems of local communities in the river and lake basins of West and Central Africa. The IUCN Central and West Africa Programme (IUCN PACO) integrated the MBA in the implementation of the PREE ACO to take into account urgent measures to be implemented in the basin. These measures include:

- Institutional capacity building of MBA;
- Operationalization of integrated water resources management (IWRM) in the basin;
- Management of risks and opportunities of conflict sensitivity in the basin;
- Increasing the adaptation capacities to climate change of local communities and strengthening the resilience of ecosystems.

WASCAL

The WASCAL project (West African Scientific Service Center on Climate Change and Adapted Land Use) is an initiative of the German Federal Ministry of Education and Research to create, together with partner countries of West Africa, an adapted land use center in West Africa. It is currently supporting knowledge creation and developing analytical capacity in the region to address current and future land management issues caused by climate change and weather conditions. WASCAL, within the framework of the Hydrometeorological Observation project in the transboundary basins of West Africa, supports the MBA by donating hydrological and water quality measurement equipment. WASCAL carried out flood assessments and building data on flooding in the basin – focus on Togo

: <https://wascal.org/theses/flood-vulnerability-assessment-in-downstream-area-of-mono-basin-south-eastern-togo-yoto-district/>

GLOBAL FUND: 3S Initiative

The 3S Initiative project will be carried by the MBA and the two countries (Togo and Benin) with an implementing partner (accredited entity to be defined) aiming to advance development priorities in the Mono basin according to an shared transboundary management approach while contributing to the achievement of the objectives of the 3S initiative and neutrality in terms of land degradation, in particular the protection and restoration of degraded ecosystems. Specifically, the project has three objectives, namely:

- The implementation of transformative projects and creation of green jobs;
- Taking gender into account through income-generating activities that respect the environment; and
- Strengthening the institutional capacities of MBA.

CLIMAFRI

he CLIMAFRI^[6] project is a German-African inter- and transdisciplinary research project funded by the German Federal Ministry for Education and Research (BMBF). The project aims to co-develop and co-implement adaptation strategies to efficiently manage current and future flood risk in the transboundary Lower Mono River Basin of Togo and Benin.

The CLIMAFRI project seeks to address the data and information gap and to support the Mono River Basin Authority with science-based information for decision-making to reduce the negative impacts of flood. The project will also generate tools and integrate innovative technologies at the target authority in the Lower Mono River Basin in close collaboration with African partners and relevant stakeholders in the region.

WACA

The West Africa Coastal Areas Management Program (WACA) is a Coastal Zone Resilience Investment Project in West Africa funded by the International Development Association (IDA), the Nordic Development Fund (NDF) and the Global Environment Fund (GEF). The objective of WACA is to improve the management of shared resources and risks, integrating climate change, affecting communities and coastal areas in the West African region. The WACA project mainly concerns the southern part of the Mono basin and takes into account the strengthening of the sustainable management and protection of the Mono Transboundary Biosphere Reserve whose activities are financed by the GEF. Scheduled from 2018 to 2023, this regional project from which Togo and Benin benefits is implemented through an integrated and multisectoral approach combining technical assistance and gray and green investments to reduce the risks faced by millions of inhabitants. sides. The implementation components of WACA are:

Component 1: Strengthening regional integration

- strengthening strategic leadership and preparing financial and technical instruments and solutions for the fight against coastal risks;
- support for the implementation of regional conventions and protocols on integrated coastal management of the Abidjan Convention;
- the operationalization of a regional coastal observatory through the strengthening of the West African Coastal Observation Mission led by the Dakar Ecological Monitoring Center (EMC);
- the establishment of a regional unit to support the implementation of the project by the International Union for the Conservation of Nature (IUCN).

Component 2: strengthening policies and institutions

- Creation and operationalization of the Benin-Togo joint committee;
- Restructuring of the Benin Environment Agency;
- Establishment and operationalization of a specific coastal management framework;
- Development and implementation of a research and environmental monitoring program for the cross-border area.

Component 3: Investment

- Works to protect the cross-border segment of the Agbodrafo coast: 18 km (Togo) - Grand-Popo: 23 km (Benin)
- Development and rehabilitation of the Chenal Gbaga lagoon
- Design of a 6.5 million cubic meter sand engine in Hilacondji

- Technical feasibility study for setting up settling ponds and waste management from phosphate treatment
- Stabilization and development of the south bank of the Mono river in Gbèkon and restoration of the Hôtel de Grand-Popo / Avlo track

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GIZ funded ProSEHA project

Support from German cooperation in the water and sanitation sector aims to improve access to drinking water and sanitation while respecting hygiene standards. It also works in the field of sustainable management of water resources, food security and climate change. ProSEHA's intervention approach is based on the strong collaboration between the General Directorate of Water of Benin, focal point of MBA and the Executive Directorate of the same institution. The General Directorate of Water of Benin and the Directorate of Water Resources of Togo with technical support from ECOWAS have developed the MBA Strategic Plan on which ProSEHA GIZ is based. ProSEHA GIZ supports the MBA in updating the 2016-2020 Strategic Plan in order to have a transitional tool for planning and managing water resources while awaiting the preparation of a Transboundary Diagnostic Analysis of the Mono and the MBA Strategic Action Program 2023-2037. In addition, ProSEHA also supports the MBA in the establishment of water resources management structures through basin committees and the capacity building of the MBA Executive Directorate.

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UEMOA - ECOWAS

This is a study project that will make it possible to establish feasibility and TDA/SAP for an area of around 20,000 ha, including 10,000 ha in Nangbeto and 10,000 ha. in Adjarala, to be developed in the short and medium term. At the end of the studies, a report will be prepared and submitted to the Governments of Benin and Togo for the organization of a round table of donors to mobilize resources for the financing of the first tranche of priority sites of 10 000 ha downstream from Nangbeto, the only dam currently having a reservoir of 1.715 billion cubic meters of water. The study project will concern the national parts of Togo and Benin contained in the irrigable zone downstream of the sites of Nangbeto and Ajarala. The study will be conducted in three phases over a net total duration of ten (10) months. But the overall duration of the study project can be estimated at eighteen (18) months at most, including the time necessary for the recruitment of the Consultant, for the consultation and validation of the documents. The main results expected from the feasibility studies are as follows:

- the potential development sites, at the level of each of the national portions of the basin, have been pre-delimited, mapped and identified in the field and the sites to be the subject of the programme of 80,000 ha have been selected and delimited ;
- the pre-feasibility reports for the development of the 80,000 ha program are drawn up and validated and the sites in the priority segment of 20,000 ha are selected;
- feasibility and TDA/SAP studies for priority sites are established;
- a report for the organization of a round table of Technical and Financial Partners (PTF) is drawn up and sent to the Governments of Benin and Togo with a view to mobilizing resources to finance the implementation of the priority site of Nangbeto, the only one currently with a reservoir of 1.715 billion cubic meters of water;

- Carry out in the short and medium term the hydro-agricultural development with total control of the water downstream of the Nangbeto dam.

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Climate Change Adaptation Fund (FACC)

The overall objective of the project is to strengthen resilience to climate change for the development of ecosystems and populations in the Mono basin.

The specific objectives of the project are:

- Ø Development of a cross-border climate diagnosis accompanied by a Climate Investment Plan in the Mono basin;
- Ø Development of a monitoring and evaluation strategy for the Climate Investment Plan (PIC) in the Mono basin;
- Ø Preparation of an Integrated Climate Change Adaptation and Development Program (PIDAC) in the Mono basin;
- Ø Establish a resource mobilization and advocacy strategy.

The components of the project are:

- Component 1: Cross-border diagnosis relating to the resilience of ecosystems in the Mono basin;
- Component 2: Cross-border diagnosis promoting the resilience of the populations of the Mono basin;
- Component 3: Development of the Mono Basin Climate Investment Plan and establishment of a Climate Change Adaptation Fund.

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Kuwaiti funds

The Kuwaiti Fund project is an agricultural development project, financed by the Kuwaiti fund relating to the development of part of the Mono basin over an area of 350 ha with total water control. This action requires the use of water resources in the Mono basin for irrigation, flood control and related activities.

IUCN - Project BRIDGE

"Building dialogue and governance around rivers", BRIDGE, supports Benin and Togo in the implementation of effective water management. It advocates a shared vision of the principles of distribution and benefits drawn from water, as well as transparent and coherent institutional frameworks. It is in line with this vision that, as part of the reform of water governance at the level of the Mono basin, the emphasis will be on promoting and supporting the establishment of legal frameworks. and institutional. This project will allow the development of water management tools that will serve, on the one hand, as a basis for dialogue in the development of the "Shared Vision", and on the other hand, in the establishment. cross-border committees in the selected areas. The Bridge project will support existing initiatives and strengthen the institutional arrangements already in place. The Bridge project is built around five strategies including learning and technical support. Learning comes down to training and strengthening multiple stakeholders when technical support involves advice and technical assistance.

Benin-Togo (Drinking water supply)

These are all the projects implemented by the two Member States to serve certain localities in the Mono Basin. It will increase the rate of service and access to drinking water for populations not yet covered in order to help improve their living conditions and achieve targets 6a and 6c of SDG 6. It also offers the opportunity to build the capacities of the delegates for the sustainable management of water points and the hygiene measures to be observed. The activities carried out in the intervention areas are as follows:

- Awareness-raising, studies, control and construction of boreholes equipped with human-powered pumps;
- Capacity building of local actors involved in the management of village waterworks, in particular the capacities of communal social intermediation agents, then the framework for maintenance and upkeep of works, including in the prefectures and targeted communes.

BENIN

As part of the operationalization of the Government's Action Program (2016-2021), 45 flagship projects have been initiated by the Government to improve the living conditions of the populations.

The Multifunctional Hydraulic Infrastructure Development and Sustainable Management of Water Resources Project (PDIHM / GDRE) is one of the flagship projects of the government program of "universal access to drinking water by 2021".

The general objective of the project is to promote the integrated management of water resources at the level of hydrographic basins and to build multifunction hydraulic infrastructures.

Specifically, it will be:

- Improve knowledge of Water Resources by strengthening observation networks and consolidating monitoring of piezometric, hydrometric and water quality networks;
- Increase the economic valuation of water by guaranteeing its availability in quantity and quality for production activities through research and identification of surface water mobilization and storage sites (site of dams) in the areas where groundwater resources are insufficient or inaccessible to meet drinking water needs;
- Improve the performance of the legal, institutional and organizational framework for governance of the water sector.

The project has 3 components which are:

- Component 1: Knowledge of Water Resources through the strengthening of observation networks and consolidation of the monitoring of piezometric, hydrometric and water quality networks;
- Component 2: Economic valuation of water by guaranteeing its availability in quantity and quality for production activities through research and identification of surface water mobilization and storage sites (dam site) in the areas where groundwater resources are insufficient or inaccessible to meet drinking water needs;
- Component 3: Improvement of the institutional and organizational legal framework with a view to improving the governance of the water sector.

Project intervention area: all the hydrographic basins of Benin including the Mono river basin. It should be noted that the Mono basin is the third hydrographic basin of Benin with an area of 3,000 km² and a population of around 1,500,000 inhabitants.

Project cost : Approved Amount - Loan (references) 10,000,000,000 CFA francs

Beninese counterpart - 53,000,000 CFA francs

TOGO

1.Support Program for Vulnerable Populations (PAPV): water and sanitation component

summary

The intervention of the PAPV in the sector pursues the same objectives as the PUDC, namely to contribute to the significant improvement of the living conditions of the populations living in the areas little or poorly served by drinking water infrastructure through the restoration of drinking water supply in localities where boreholes have failed, but also through the extension of the drinking water network and distribution points. Project duration: 2017-2018.

Goals

Improvement of the living conditions of the populations through the population's AEP.

This involves the construction of 15 new boreholes equipped with human-powered pumps (FPMH), extension of the network over 15 km, creation of 11 standpipes and rehabilitation of 1,143 former FPMH throughout the territory including the basin of the Mono River covering an area of 21,300 km² with a population of approximately 2 million.

- 1,143 PMH boreholes rehabilitated
- 15 new PMH boreholes carried out
- 15 km of network laid
- 11 standpipes built

2. Rural and semi-urban water and sanitation project IDB-UEMOA

summary

The objective of the project is to supply rural and semi-urban localities in the Central, Kara and savannah regions with drinking water through the construction of drinking water and sanitation infrastructure (PMH boreholes, Mini-DWS equipped with solar panels, community latrines and family latrines). Note that the Central region and that of Kara cover part of the Mono basin.

Funding: 6.86 billion FCFA by the IDB (6,250,000,000), UEMOA (35,000,000) and the Togolese State (575,000,000). Duration: 2016 - 2019.

Nangbéto, Adjarala and Tététo hydroelectric projects

The Benin Electric Community (CEB) is developing projects in the Mono basin to build hydroelectric dams for the production and distribution of energy, to create fisheries and to provide water for irrigation.

The Nangbéto site was built at a total cost of 45 billion F CFA co-financed by the World Bank, the Arab Bank for the Economic Development of Africa (BADEA, \$ 10 million), French financial institutions (more than 5 billion of FCFA), German (44 million DM) and Canadian (11 million Canadian dollars). It is a dam located in its entirety on Togolese territory, but whose electricity production is used to serve both countries. It is located about 40 kilometers from Atakpamé, or 200 km from Lomé. Its construction required the relocation of 34 villages comprising approximately 10,600 inhabitants. The initial purpose of the dam was: i) electricity production (150 million kwh / year); ii) regularization of the river flow, the floods of which were damaging to Athiéme in Benin and Yoto in Togo; iii) promotion of irrigated and non-irrigated agriculture as well as fishing. But, only the production of electricity and incidentally fishing have been practiced there since the impoundment of the dam today. Filling of the reservoir began on July 1, 1987. Operation of the dam is entrusted by the two states to the Benin Electric Community (CEB). The plant, located at a level of 122 m, has two groups which produce an energy of 32.4 MW each. The installed capacity is 65 MW and the dam can produce up to 150 million KW per year. This energy is equitably distributed between Benin and Togo.

The Ajarala hydroelectric site is 57 km downstream from the Nangbéto site (from the nearest village) in the commune of Aplahoué in Benin on the Mono River, on the border between Togo and Benin. Half the surface area of Nangbéto, the Ajarala dam will allow the CEB to produce almost twice as much electricity from the reserve set up by Nangbéto. The normal retention area is 9,500 hectares with a coastline of 80 m. The cost of the investments was evaluated in 2004 at CFAF 107,410 billion for the optimized option of 3 groups with an annual production of 147MW (Global Lead, 2007). The project to build this dam was the subject of a very extensive environmental impact study.

The Mono Basin Authority

The Mono Basin Authority (MBA) was set up under the Ouagadougou declaration on Integrated Water Resources Management (IWRM) adopted in March 1998. The main stages of the MBA implementation process have been the following:

- The realization in 2011 of a study defining the legal and institutional contours of a transboundary Basin institution called the “ Mono Basin Authority” ;
- The approval of the Constituent texts for the establishment of the Mono Basin Authority (MBA) by the two member states, Benin and Togo at the end of a meeting of Ministers on July 04, 2014 ;
- The signing on 30 December 2014 of the Convention on the status of the Mono River and the creation of the Mono Basin Authority (MBA) by the heads of State of Benin and Togo.
- The development of the Mono Basin Authority Strategic plan 2016-2020 and the newest Plan going forward which the MBA would like to have aligned to a TDA/SAP – running from 2023 to 2037.

Mono Basin Observatory Project

The purpose of the project is to contribute to ensuring the long-term satisfaction of water uses in the Mono basin and to ensuring the rehabilitation and preservation of ecosystems. In this context, three specific objectives are defined.

- Support the emergence of the Mono Basin Authority by making the Observatory of water resources and associated ecosystems the Authority's first operational and unifying tool;
- Allow the Mono Basin Authority to establish a diagnosis of water needs and the resources actually available, as well as the environmental situation of the basin and its challenges;
- Help set up an inter-state information, communication and decision-making support tool for the management of water and associated ecosystems, with a view to defining priorities and options for the sustainable management of the basin and " anticipate the negative impacts of water management.

The project "Establishment of the Observatory of Water Resources and Associated Ecosystems of the Mono Basin" revolves around three main components:

- Component 1: Carrying out an inventory of the environmental situation in the Mono basin: data relating to the management of water resources and associated environments in the Mono basin are limited and do not allow decision-making. Consequently, this component provides for the division of the basin into homogeneous zones with regard to hydrology and uses, and the diagnosis of the data collection network. It also provides for a diagnosis by zone of the environmental situation and the challenges;
- Component 2: The establishment of an Observatory of water resources and associated environments, an information, communication and decision-making aid tool. The activity must set up the project website and must build the Observatory as a computerized data management tool;
- Component 3: Involvement of parties concerned in water management and environmental management: to promote the implementation of integrated water resources management, the Mono Basin Authority must involve all stakeholders , from grassroots populations to national and regional authorities, in each of its actions. Thus, this component supports the Authority by carrying out an audit of organized representations of civil society, by informing and consulting local actors and by involving them in monitoring the state of water resources and in the dissemination of results.

The Mono Basin Authority will oversee the project and oversee the project. The potential partners for the financing and implementation of the project are: the African Development Bank (AfDB), Office International de l'Eau (OiEau), CLIMAFRI, IUCN PACO, WASCAL.

MBA's Water Information System (WIS)

With technical support from the International Office for Water (OiEau), the MBA will undertake the establishment of the Mono Basin Water Information System. It will be based on making the most of what already exists in terms of available data and information networks. On the basis of the identified themes: (i) Hydrology, (ii) Piezometry and (iii) monitoring, a memorandum of understanding will be signed between the MBA and the national hydrological services of Benin and Togo for the establishment of " a regional network for observing, collecting, processing and sharing water information. In this dynamic, the MBA will rely on its observatory unit, the hydrological focal points of the countries and the International Office for Water.

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

The overall objective of the project is the development of good practices related to water, ecosystems and adaptation to climate change for sustainable services to people and nature in the transboundary basin of the Mono River. Improved capacity and coordination at transboundary level is needed for the sustainability of future basin developments and for the shared benefits of these developments to be realized by both Togo and Benin. With basin challenges including flooding, pollution and degradation of ecosystem services, it is critical that future national level developments are aligned and planned in a collaborative manner at the transboundary level. This project will bring together the main actors and partners (donors, private sector, technical and financial partners and civil society organizations etc) to provide the Mono Basin Authority with the capacity to drive the management of shared resources at the appropriate scale. Taking into account the institutional challenges required in terms of disparities in political, legal and legislative frameworks, as well as the degradation of the environmental resources of the basin, the project will be based on three (3) main pillars:

- A cross-border diagnosis for the establishment of technical, legal and institutional management tools;
- Improving the condition of water resources and ecosystems in the Mono basin through the protection and restoration of basin ecosystems aimed at improving sustainable livelihoods for local populations;
- Strengthening the technical and institutional capacities of the Mono Basin Authority.

In addition, the project will create conditions conducive to adaptive management of ecosystems through national inter-ministerial and regional expert committees and through the development of a data and information sharing system. On the basis of the identified priorities of the MBA Strategic Plan and the existing regional plans, the project will implement innovative cross-border actions to improve the sustainable use of water, promote IWRM and reduce the environmental problems and stresses identified in the basin through the TDA process. The potential impacts of climate change will be integrated into adaptation management actions for the basin as increased public awareness and enhanced capacity of stakeholders to take action. The consideration of women, young people and marginalized people in the planning and financing of activities will be encouraged and strengthened. The project has three (03) components and are as follows:

- **Component 1:** Mono River Basin development assessment and planning;
- **Component 2:** Institutional and technical capacity strengthening;

• **Component 3:** Knowledge Management, Monitoring and Evaluation and Communication.

The implementation of the project will be done in close collaboration with the MBA and its technical and financial partners to ensure consistency and compatibility with its Strategic Plan and other parties involved in the implementation of the Plan. GEF resources will be used to implement key Strategic Plan actions related to the development of ecosystem-based management tools and will serve as a vehicle to implement sustainable use of the basin's resources.

Project structure

Component 1. Mono River Basin development assessment and planning

The basin does not have any assessments on the status of water resources nor a strategic action plan which has been resulting in a lack of coordination of planned investments for basin development. This first component will address this gap, specifically highlighting the issues that the basin is facing from a climate change perspective – assessing the current and future impacts. The project will finance the realization of a transboundary diagnostic analysis (TDA) that will provide the two countries with the necessary data for efficient and appropriate monitoring of the natural resources (water, forest, soil) of the Mono River basin. The TDA exercise will drive improved collection and sharing of existing information and data to identify, quantify, and set priorities for the major transboundary risks/concerns/problems in the shared Mono basin. The TDA will deliver a strong science to policy linkage, enabling Togo and Benin to base future decisions in basin development on a sound scientific basis. In addition, a Strategic Action Plan (SAP) will be developed at the Basin level to establish clear priorities for action to resolve the priority risks/concerns/problems identified in the TDA, to provide a policy framework for the two countries to implement under Component 1, pilot activities will be carried out which focus on (1) an Early Warning System for flooding downstream of major structures (Nangbéto dam) deployed (2) Water and soil conservation actions implemented in critical / degraded areas (3) Income-generating activities supported at benefit of women and young people (4) Actions to strengthen and preserve groundwater, preservation of captive aquifers, development of artesian boreholes, artificial recharge, etc.), advancing flood management strategies, good water and land resource management practices will be conducted. These activities will not only enable restoration of ecosystems in degraded areas but also support the capacity building of local populations through increased knowledge on sustainable land and water management practices. The setting up of monitoring systems will enable better collaboration and management land and water resources, helping to identify future restoration activities.

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

Output 1.1.1: a Transboundary Diagnostic Analysis (TDA), including groundwater, is performed, published and agreed by the two countries

Output 1.1.2: a Strategic Action Plan (SAP) is developed for 2024-2038, approved and signed at Ministerial level by the two countries, together with an investment plan for the SAP horizon;

Output 1.1.3:

Common scientific water and environment management tools (Database, GIS, etc.) developed and water balance and hydraulic functioning (ground and surface water) established for the Mono river basin

Outcome 1.2 Pilot integrated interventions enhance suitable use of the basin resources, economic development as well as environment protection and population adaptation and resilience to climate change

Output 1.2.1. Pilot activities prioritised from the TDA/SAP process which tackle key highlighted ecosystem degradation issues.

Component 2. Institutional and technical capacity 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. Flood management can provide mutually beneficial investments to Togo and Benin, creating a solid foundation for further cooperation and future gains in basin development. Developing the scientific grounded policy through a TDA/SAP process will provide the right framework for this transfer of science into policy, legal and regularly reforms that are needed across the basin. Building on this, this component will increase the capacity of the MBA for the shared management of water resources at the transboundary level. 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. Benin and Togo have a strategic framework for managing floods in the medium and long term. This strategy advocates a comprehensive and multisectoral approach to flood management dealing with flood prevention, risk management and the institutional mechanism to be put in place to deal with it in order to reduce the extent of the damage. The flood management strategy in Benin is based on structural, non-structural and institutional measures. Structural measures require large investments which pay off in the short, medium and long term, while non-structural measures allow a shift from a defensive approach against calamities to a risk management approach. The institutional aspects contribute to flood control and concern (i) the clarification of the institutional, regulatory and financial framework, and (ii) the capacity building of the actors concerned by the implementation of the strategy. The capacity training activities will include on topics around data collection and monitoring, database management, GIS, modelling, TDA/SAP processes, water resources management, etc. As part of the project, the flood management strategy in the Mono basin will respect the recommended measures which will lead to a prioritization of measures and above all to find the right mix between structural and non-structural measures and plan the evolution in the time. This balance must be adapted to the socioeconomic context of the populations. The involvement of local communities is critical to protect public goods and set up local bodies for sustainable management of basin resources and increase local collective benefits. The planned activities will be undertaken in selected sites suitable for immediate and tangible concrete results which will provide an anchor for the local bodies while paving the way for the protection of common resources and the sharing of benefits. The planned actions aim to define a mechanism for managing water-related conflicts and validate it at the Mono basin level.

Outcome 2.1: The technical and institutional capacities of the MBA are strengthened to enable actions for water and soil conservation, soil defense and restoration, restoration and protection of Mono basin ecosystems

Output 2.1.1 Capacity building and training of MBA Executive Directorate and various basin stakeholders in the agriculture, water resources management, the energy and the fishing sectors.

Output 2.1.2 A resource mobilization strategy for the basin, including mobilising the Mono Basin Climate Investment Plan is developed and implemented across the various sectors relevant to the Basin

Output 2.1.3 Capacities of socio-professional groups (women, youth, etc.) improved and their livelihoods enhanced

Outcome 2.2 Improved governance and cooperative framework of the Mono basin to support water-related challenges and transboundary flooding risk reduction

Output 2.2.1

Management structures for each sub-basin of the Mono River basin established and strengthened

Output 2.2.2 Improved Water Resources information system in support of improved flood risk reduction and flood Forecasting and Early Warning Systems

Output 2.2.3 Interministerial Committees created and/or strengthened and data sharing protocols developed and presented for endorsed

Component 3. Knowledge Management, Monitoring and Evaluation and Communication

The project will ensure that knowledge is generated and disseminated at the regional level. 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. This will be critical for ensuring local ownership but also creating the opportunity for replication in other basins. Key will also be to actively engage women through the development of a gender-responsive action plan, ensuring that women are actively involved in the implementation of the project activities as well as decision-making processes linked to project activities and more broadly around the management of shared water resources in the Mono Basin. Sharing through IWLEARN, either virtually on the platform or through workshops organised, also provides the opportunity for exchange with other projects, programmes and initiatives, increasing learning on best practices.

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. Communication strategy developed and implemented

Outcome 3.1.3 A gender action plan is developed

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. Best practice guidelines for IWRM, including guidelines for water flow management and regulation, adaptation and resilience of population and ecosystems to climate change, erosion control, pollution reduction, and protection of critical flora and fauna

Output 3.2.3. The project contributes to the GEF IW-LEARN platform (1% of the project)

Regional Initiative for Water and Environment in the transboundary basin of the Mono River (RIWE-Mono)

Component 1: Mono River Basin development assessment and planning

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

Output 1.1.1: a Transboundary Diagnostic Analysis (TDA), including groundwater, is performed, published and agreed by the two countries

Output 1.1.2: a Strategic Action Plan (SAP) is developed for 2024-2038, approved and signed at Ministerial level by the two countries, together with an investment plan for the SAP horizon.

Output 1.1.3: Common scientific water and environment management tools (Database, GIS, etc.) developed and water balance and hydraulic functioning (ground and surface water) established for the Mono river basin

Component 2 – Institutional and technical capacity strengthening

Outcome 2.1: - The technical and institutional capacities of the MBA are strengthened to enable actions for water and soil conservation, and restoration and protection of Mono basin ecosystems

Output 2.1.1: Capacity building and training of MBA Executive Directorate and various basin stakeholders in the agriculture, water resources management, the energy and the fishing sectors.

Output 2.1.2: A resource mobilization strategy for the basin, including mobilising the Mono Basin Climate Investment Plan is developed and implemented across the various sectors relevant to the Basin

Output 2.1.3 Capacities of socio-professional groups (women, youth, etc.) improved and their livelihoods enhanced

Outcome 2.2 Improved governance and cooperative framework of the Mono basin to support water-related challenges and transboundary flooding risk reduction

Output 2.2.1 : Management structures for each sub-basin of the Mono River basin established and strengthened

Output 2.2.3 Interministerial Committees created and/or strengthened and data sharing protocols developed and presented for endorsed

Component 3 - Knowledge Management, Monitoring and Evaluation and Communication

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. Communication strategy developed and implemented

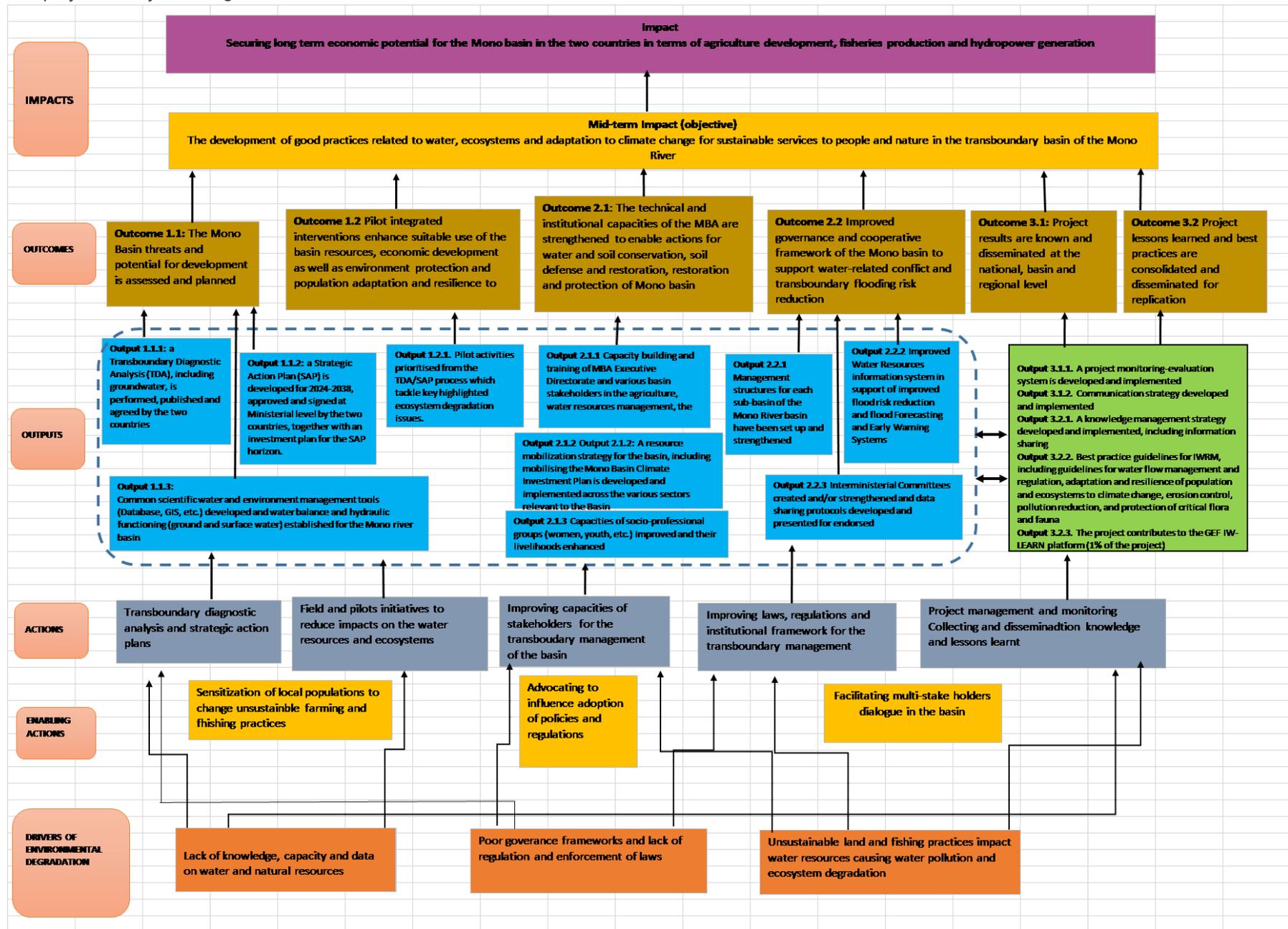
Outcome 3.2 :Project lessons learned and best practices are consolidated and disseminated for replication

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

Output 3.2.2. Best practice guidelines for IWRM, including guidelines for water flow management and regulation, adaptation and resilience of population and ecosystems to climate change, erosion control, pollution reduction, and protection of critical flora and fauna

Output 3.2.3. The project contributes to the GEF IW-LEARN platform (1% of the project)

The project theory of change is attached to the submission in annex and below:



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
<p>IW- Objective 3-5: Advance information exchange and early warning.</p>	<p>Output 1.1.1: a Transboundary Diagnostic Analysis (TDA), including groundwater, is performed, published and agreed by the two countries</p> <p>Output 1.2.1. Pilot activities prioritised from the TDA/SAP process which tackle key highlighted ecosystem degradation issues.</p> <p>Output 2.2.2 Improved Water Resources information system in support of improved flood risk reduction and flood Forecasting and Early Warning Systems</p> <p>Output 3.1.2. 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. Best practice guidelines for IWRM, including guidelines for water flow management and regulation, adaptation and resilience of population and ecosystems to climate change, erosion control, pollution reduction, and protection of critical flora and fauna</p> <p>Output 3.2.3. The project contributes to the GEF IW-LEARN platform (1% of the project)</p>
<p>IW- Objective 3-6: Enhance regional and national cooperation on shared freshwater and groundwater basins</p>	<p>Output 1.1.2: a Strategic Action Plan (SAP) is developed for 2024-2038, approved and signed at Ministerial level by the two countries, together with an investment plan for the SAP horizon;</p>

	<p>Output 1.1.3: Common scientific water and environment management tools (Database, GIS, etc.) developed and water balance and hydraulic functioning (ground and surface water) established for the Mono river basin</p> <p>Output 2.2.1 Management structures for each sub-basin of the Mono River basin established and strengthened</p> <p>Output 2.1.3 Capacities of socio-professional groups (women, youth, etc.) improved and their livelihoods enhanced</p> <p>Output 2.2.3 Interministerial Committees created and/or strengthened and data sharing protocols developed and presented for endorsement</p> <p>Output 3.1.1. A project monitoring-evaluation system is developed and implemented</p>
<p>IW-Objective 3-7 Investments in water, food, energy and environmental security.</p>	<p>Output 2.1.1 Capacity building and training of MBA and various basin stakeholders in the agriculture, water resources management, the energy sector and the fishing sectors.</p> <p>Output 2.1.2 A resource mobilization strategy for the basin, including mobilising the Mono Basin Climate Investment Plan is developed and implemented across the various sectors relevant to the Basin</p>

The improvement of the transboundary governance framework will also have a positive impact on the ecosystem services in the basin area with a direct positive impact for the region and the economic activities and livelihoods related to it (agriculture, energy generation, etc.). Improved water management at the transboundary level will equip both countries to collaboratively better manage the issue of flooding, in particular, directly supporting an improved well-

being of populations dealing with the devastating impacts of the regular floods.

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

Continued uncoordinated development in the two respective countries of the Mono basin will only perpetuate the current issues of degradation, pollution and unsustainable land and water management exacerbated by climate change.

GEF funding would enable and reinforce an improved coordination at the transboundary level, mobilized through the MBA. As an institution set up to support shared resources management, sharing benefits equitably between Togo and Benin, it is well positioned to take forward the TDA / SAP outcomes for implementation. The MBA has already got buy-in from both countries for a TDA/SAP to form the basis of the next 2023-37 Strategic Plan for the basin at transboundary level.

Through enhanced cooperation brokered by the MBA, basin resources will be more sustainably managed, with developments planned taking into account upstream and downstream dynamics. This is particularly important for tackling the major issue of flooding in the basin, which impacts thousands of people annually. Furthermore, increased investment in the basin, in particular through the development of a Climate Investment Plan, will help to enhance the implementation of sustainable development activities in critical sectors in the basin including agriculture, water resources management, energy generation and supply.

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

The Mono basin has significant development potential (hydro-agricultural, hydro-electric, water resource for mining and industrial activities, livestock, fishing, tourism, etc.), but it is still at a low level of valuation because of a lack of information and data. However, with increased capacity at the transboundary level through the guidance of a TDA/SAP process that the MBA can then implement, a range of benefits will result from the funding of this project.

The proposed project will significantly improve the management of water resources in the Mono Basin. The project's 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 specific sectors that have been identified as the sources of ecosystem degradation further impacting 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 transboundary governance framework which the basin will be managed, leading to enhanced water resources managed and the maintenance of ecosystem services needed for economic activities in the basin.

Specifically with regards to flood management, this project will provide Benin and Togo with a strategic framework for managing floods in the medium and long term: a comprehensive and multisectoral approach to flood management dealing with flood prevention, risk management and the institutional mechanism to be put in place to deal with it in order to reduce the extent of the damage.

As part of the project, the flood management strategy in the Mono basin will respect the recommended measures from the TDA which will lead to a prioritization of measures and above all to find the right mix between built and natural infrastructure interventions, adapted to the socioeconomic context of the basin.

The benefits of the project are:

- A cross-border diagnosis for the establishment of technical, legal and institutional management tools;
- The availability of technical, environmental and socio-economic information on hydro-agricultural developments in the alluvial plains of Nangbeto and Adjarala dams
- The reduction of social-economic and environmental losses due to flooding downstream of the Adjarala dam.
- Improving the condition of water resources and ecosystems in the Mono basin through the protection and restoration of basin ecosystems aimed at improving sustainable livelihoods for local populations;
- 2,500 hectares of terrestrial protected areas created or under improved management for conservation and sustainable use
- 2,500 hectares of area of land restored
- 2,500 hectares of area of landscapes under improved practices (excluding protected areas)
- 7,500 hectares total area under improved management (Hectares)
- 1 shared shared water ecosystems (fresh or marine) under new or improved cooperative management

Benefits specific to flood management:

Development of built infrastructure as well as nature-based solutions interventions

Afforestation of the Nangbeto Dam protection area to prevent landslides and mudslides.

Development and implementation of an early warning system downstream of the Nangbeto dam;

Development and validation a preventive information system at the level of the Departments / Prefectures at risk and a Communal information document on major risks at the level of the communes at risk;

Development and validation of a strategy and a communication plan aimed at improving prevention and the resilience of populations living in areas at risk.

Development of institutional measures:

Capacity building of actors involved in flood management (national and local level).

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 Mono Basin through enhanced transboundary cooperation and governance. It will prioritize enhancing the capacity of the Mono Basin Authority, which is operational but needs to be strengthened to fully play its role in the region. Given the inexistence of a functional management framework for the Mono basin, the project will initially support the the design and approval of TDA and a SAP. Also, in order to ensure there is sustainability in the generation of global environment benefits, the proeject will support 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] <file:///C:/Users/WellingR/Downloads/Ntajaletal.-2017-FlooddisasterriskmappingintheLowerMonoRiverBasininTogoWestAfrica.pdf>

[2] https://www.scirp.org/pdf/JGIS_2015122316114570.pdf

[3] SAWES, 2011 – etat de lieu du Bassin du Mono

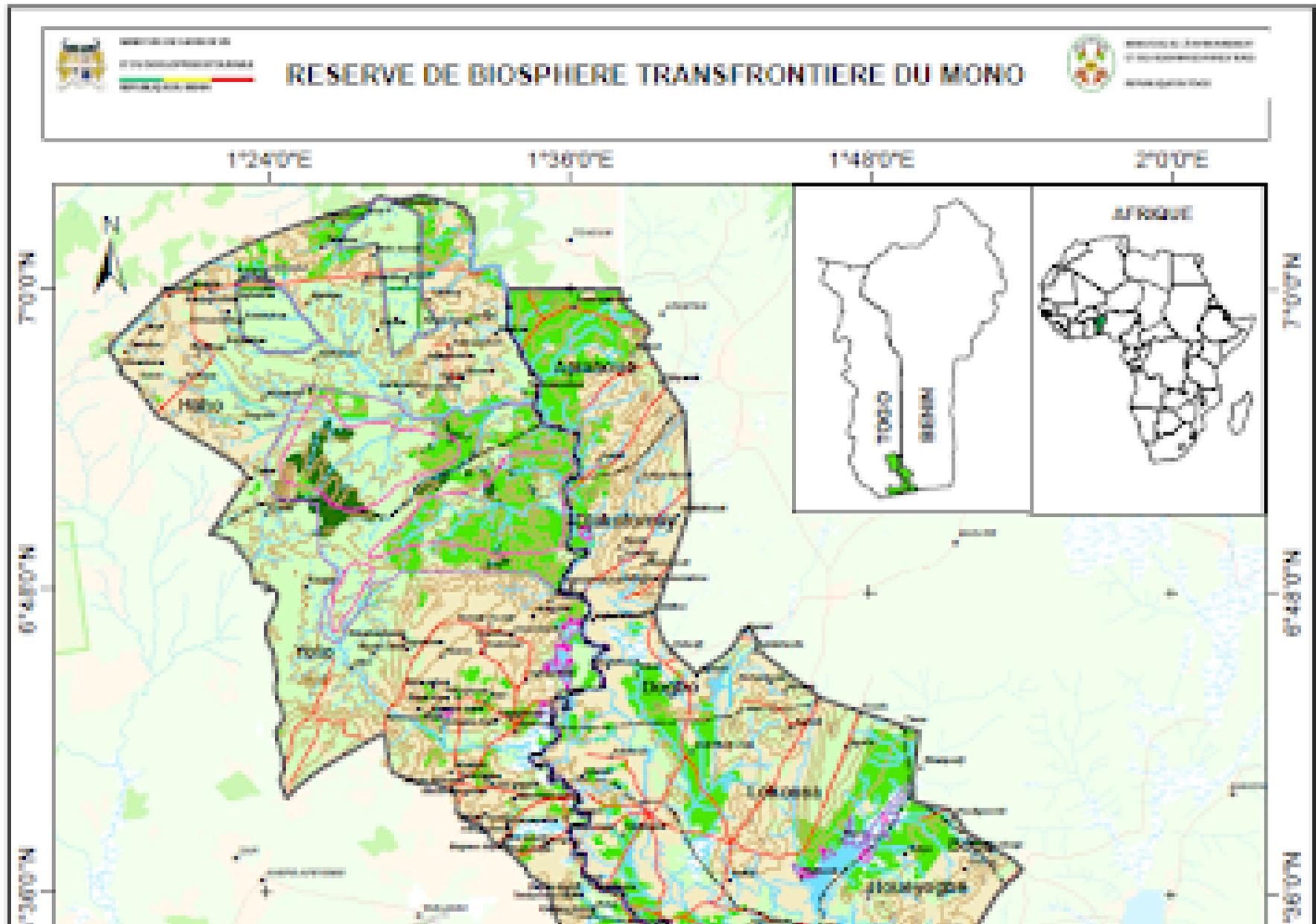
[4] https://www.scirp.org/pdf/JGIS_2015122316114570.pdf

[5] <https://ehs.unu.edu/news/announcement/managing-floods-a-two-country-plan-to-manage-flood-risks-with-science.html>

[6] <https://ehs.unu.edu/news/announcement/managing-floods-a-two-country-plan-to-manage-flood-risks-with-science.html>

1b. Project Map and Coordinates

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





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

If none of the above, please explain why:

At the transboundary level the MBA will be the main lead of the project, the executing agency on the ground. In close collaboration with IUCN and (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.

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

The design of this PIF builds on the extensive work done by the Mono Basin Authority in the region. It also builds on the various projects that have been implemented and are currently in preparation under the auspices of the Governments of Benin and Togo. The project has been the result of consultations with relevant ministries of water, agriculture and environment in the two countries. The PIF is also the result of involvement of civil society and the private sector. Given the current constraint related to meeting stakeholders in the context of the COVID 19 pandemic, the project was shared through the Mono Basin Authority and the two Governments. Physical consultations were held when possible, conditional to the sanitary rules in place.

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).

The population of the Mono basin was estimated at 3,375,759 inhabitants in 2010, of which 58% in Togolese territory and 42% in Benin territory. Women are estimated at around 51% of the basin's population. In addition, the Togolese population of the Mono basin represents 34% of the total population of Togo, while that of Benin is estimated at 16% of the total population of Benin. These figures need to be updated taking into consideration the population growth rate estimated at 3 and 3.2% per annum in Togo and Benin, respectively and the population flux within the basin. Major economic activities of the population in the basin include agriculture, animal husbandry, fishing, processing of agricultural products, industry, quarrying, logging, religious practices, transport and tourism. As in many west African countries, access to the resources to implement these economic activities are not always gender-balanced.

Gender mainstreaming will be ensured 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. In this way, stakeholder engagement and consultation will be done to understand how women and men are respectively involved in traditional systems of resource management, which will involve a gender analysis to be completed prior to CEO endorsement. 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. 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.

Project-wide, 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 Mono Basin. The objectives of improving the environment, maximizing economic benefits and enhancing the role of women in project formulation and implementation will be attended. The project is gender-responsive and will emphasize the following points:

- gender-responsive planning;
- gender-responsive budget;
- gender-responsive accountability;
- gender-responsive participation and involvement;
- gender-responsive benefit sharing

Two project outputs focus specifically on gender and will be aligned with the outcomes of the IUCN ESMS tool:

-
- **Output 2.1.3** Capacities of socio-professional groups (women, youth, etc.) improved and their livelihoods enhanced

- o This aims to build the capacities of various socio-professional groups, with a focus on women and youth. Activities will be developed which directly engage women to improve their livelihood conditions. Further analysis of gender equality will be carried out during the PPG phase to deepen the understanding of power dynamics in the basin and therefore how to build the right platform for empowering and integrating women more centrally in water resources management and decision-making processes at all levels.

- Output 3.1.3 A gender action plan is developed

- o Based on further work during the PPG phase as well as the ESMS screening, a gender action plan will be developed which will mobilise the gender-responsive strategy of the project. The aim of this action plan will be to ensure women during the project cycle and beyond have an equal role to play in water resources management including in design, planning and decision-making processes.

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

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

improving women's participation and decision-making; 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, fisheries 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 for the Mono 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 mechanisms 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 the project theory of change is built around the having the private sector involved in a sustainable manner in order to reverse the drivers of environmental degradation.

There are three hydropower operators in the Mono basin, which are: The Ministry of Energy of Benin, the Ministry of Mines and Energy of Togo, the Electric Community of Benin (CEB). The two ministries, representing Benin and Togo, are members of the Technical Committee of Experts of the MBA and their role is to validate the work plan and annual report of the MBA in connection with the development of hydro-agricultural projects in the basin. . As for the CEB, the Executive Directorate of MBA has signed a partnership agreement with it for the joint management of water resources in the Mono basin, in particular the hydropower, hydroagricultural and environmental aspects. The CEB is an international institution created by a Benin-Togo agreement for the production of electrical energy through the Mono River.

The hydropower development project in the Mono basin is provided by the CEB (Electric Community of Benin) whose objective is the production of electricity to serve the two member countries of the MBA through basic social services that contribute improving the working conditions of the populations and their income (energy necessary for the development of small processing industries and the creation of new jobs).

To clarify, the MBA's engagement with the hydropower sector is considered within the context of climate change, flood risk management, sustainable land practices, preservation of wetlands deltas etc. rather than in support of direct investments in hydropower dam construction for the sole purpose of energy generation. While the MBA is aware of the positive impacts that hydropower development can bring to the two nations, it is also aware of the negative impacts of dam construction on the Mono river, in particular related to flooding and increased flood risk and the need of a balanced development in built and

natural infrastructure for the basin. The MBA are keen to balance engagement with the private sector and dam construction with appropriate restoration activities in the basin, in particular along the river banks, as well as sustainable land practices upstream to reduce erosion in order to reduce ecosystem degradation and potential environmental impacts of built infrastructure development.

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	Low	The Mono basin Authority requires capacity building but is currently able to play its role of convener and coordinator and the regional level, between the two tributary countries. The project will support the enhancement of the capacity of the Mono Basin authority, hence mitigating this risk further.
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 to support the development of the dams and agriculture development projects within the Mono Basin. These are relatively old data but will provide a baseline for update by the project.
Risks of diplomatic and political conflicts between the two countries	Medium	The project will support the establishment of an institutional framework between Bénin and Togo 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 Mono Basin, propose solutions to mitigate conflicts and obstacles to collaboration.
Implementing Risks	Medium	The project will be implemented by the Mono Basin Authority in close coordination with the line ministries from the two tributary countries. IUCN expertise in developing and implementing IWRM projects in basins with limited capacity in the region will be an important asset for mitigating risks. IUCN, in its role of implementing agency for this project, will advise the Mono basin Authority through close oversight. Also, the project will be structured through a project management unit, which will be staffed with new expertise, specifically dedicated to this project.
Climate risk	Medium	Main climatic risks in the Mono basin stem from the high rainfall variability, temperature and sea level rise, and flooding. The project will contribute the better planning of infrastructure (both grey and green) as well as knowledge required for the basin authorities and users to plan and mitigate risks. A preliminary climate risk screening

		has been done and provide as an annex of this submission.
Epidemiological risk	Medium	<p>Given the situation caused by the epidemic of COVID 19 around the world, the probability that an epidemic threatens project advancement is likely. The project will ensure that all staff can respect hygiene and mitigation measures in the case of such an epidemic, following national guidelines and rules where appropriate. 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, or most likely a deviation from the originally planned project timeline. 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> <p>The MBA is developing a COVID management plan which will consider the potential risks to rolling out project activities, in particular the contamination issue of rural areas that are so far less affected than urban centres in both countries. This plan will also include accompanying considerations for budget allocation needs for COVID-19 testing and travel requirements. Due to limited access for online working in certain parts of the basin, alternative methods to conducting research is being considered and reviewed. Further development of this plan will be undertaken in the PPG phase, by which time the two countries will have further COVID-19 related information (i.e. more information on vaccine roll out and potential government spending changes) to better inform strategies to mitigate the related risks to project implementation.</p>

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 MBA will be the main project executing agency, with support from OSS and GWP-West Africa which will also act as executing agencies. During the PPG phase, institutional arrangements with MBA, along with OSS and GWP-West Africa, will be pursued and other relevant actors will be identified where necessary. IUCN, as implementing agency, will support MBA, OSS and GWP-West Africa as the executing agencies to launch the project, recruit the staff where necessary and supervise the implementation.

OSS and GWP-West Africa have strong regional presence with ongoing projects and links in the Mono Basin. Both organisations are very familiar with the GEF process, with an established relationship with MBA and are therefore well placed to support the more newly created MBA institution in the implementation of a GEF project in the Mono basin. It is critical that the MBA is at the forefront of the project coordination to demonstrate its presence in the Basin to basin stakeholders and reinforce its role in the transboundary management of natural resources in the basin. The support of OSS can be specifically related to Component 1 TDA/SAP process and GWP-West Africa linked to supporting activities around institutional capacity building, improved management through dialogue and relationship building between basin stakeholders as well as knowledge management related to Components 2 and 3.

The project will be coordinated and executed on a daily basis by a project management unit hosted in MBA, with the specific tasks/activities outlined during the PPG phase, under the three components, to be also be delivered by OSS and GWP-West Africa. In each country, the technical bodies in charge of water will support the MBA for the field activities implementation. The institutional implementation framework will include :

- **A Regional Project Management Unit (RPMU)**, under the responsibility of the MBA with a mission of daily implementation and overall coordination of the project activities. It will be in charge of the management of all technical, administrative and financial aspects of the project, as well as the processing of procurement files and the monitoring and validation of studies. It will also be in charge of accounts and budgetary monitoring of the project's activities.
- **National Coordination Committees** will be set up and led by a *National Focal Point* inside the respective countries to ensure the coordination and monitoring of actions in the country. This committee will consist of the main ministerial sectors involved in water management issues (Agriculture, Environment, Land management, Health, Etc.) and will lead activities implementation at national or local/pilot level. The National Coordination Committee will be coordinated by the national institution in charge of water resources management in each country:
 - o Benin : General Directorate of Water
 - o Togo : Department of Water Resources (TBD)

- **A scientific committee** consisting of scientific entities (Universities, research centers) from the region and represented by renowned scientific experts will be in charge of the scientific follow-up of the activities and will ensure their scientific consistency. The scientific committee will take minimum one meeting per year preferably before the Regional Steering Committee meeting.
- **A Regional Project Steering Committee (RPSC)**, which is the highest decision-making and strategic orientation body for the project. It will be made up of : MBA, IUCN, the executing structures (OSS and GWP-WA), representatives of the 2 countries, representatives of Non Government partners (civil society, private sector), etc. The RPSC will provide guidance for an effective project management; and will periodically evaluate (once a year, or more if needed) the degree to which project results meet forecasts. Representation within the project steering committee will be further refined during the PPG phase.

As part of the implementation of the project, a Steering Committee will be set up and will have the role to:

- Supervise and coordinate the implementation of the project;
- Examine / approve the Annual Work Plans and Budget and the annual technical and financial activity reports of the project;
- Monitor the proper execution of activities and make recommendations;
- Give a new direction to the project if necessary.

For all the bodies listed, the composition, attributions and functioning will be refined during the PPG phase

The proposed project will interact with other GEF and non-GEF projects already implemented in the Mono Basin, or in Bénin and Togo, which are in line with this proposed project under the IW focal area. During the PPG 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, which are related to agriculture development, climate change adaptation or coastal resilience.

In Bénin:

- ID10688 - Restoring and Enhancing the Value of Degraded Lands and Forest Ecosystems for Enhanced Climate Resilience in Benin (PIRVaTEFoD-Benin) -
- ID 10166- Strengthening human and natural systems resilience to climate change through mangrove ecosystems conservation and sustainable use in southern Benin

- ID10156 -
Strengthening capacity in the energy, agriculture, forestry and other land-use sectors for enhanced transparency in the implementation and monitoring of Benin's Nationally Determined Contribution
- ID9906 - West Africa Coastal Areas Resilience Investment Project
- ID 9859 - Protection of the coastline and resilience of coastal communities to sea level rise
- ID5904 - Strengthening the Resilience of Rural Livelihoods and Sub-national Government System to Climate Risks and Variability in Benin
- ID5232 - Flood Control and Climate Resilience of Agriculture Infrastructures in Oueme Valley
- ID5002 - Strengthening Climate Information and Early Warning Systems in Western and Central Africa for Climate Resilient Development and Adaptation to Climate Change

In Togo:

- ID10655 - GEF SGP 7th Operational Phase - Strategic Implementation using STAR Resources mainly in LDCs and SIDs (Part 3)
- ID9906 - West Africa Coastal Areas Resilience Investment Project
- ID9458 - Strengthening Resilience to Climate Change of Coastal Communities in Togo
- ID4570 - Adapting Agriculture Production in Togo (ADAPT)

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.

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 is aligned with the following

- National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention
- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Communications (NC) under UNFCCC
- Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD
- National Implementation Plan (NIP) under POPs
- Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- Biennial Update Report (BUR) under UNFCCC

Benin and Togo each have a water resources management policy and a climate change adaptation policy, to which the project objective is aligned.

The idea of the project has been analyzed and validated by the Technical Committee of Experts (representatives of the sectoral ministries of the two countries) in accordance with the national policies for the management of water resources in Benin and Togo. Also, the specific objectives of the project and the intervention sites at the level of the national portions of the basin are identified in accordance with national priorities.

Benin and Togo have a strategic framework for flood management. This strategy advocates a comprehensive and multisectoral approach to flood management dealing with flood prevention, risk management and the institutional mechanism to be put in place to deal with it in order to reduce the extent of the damage. The mandate of the MBA established in five points contributes to the management of floods in the Mono basin. The 5 points of the mandate are:

- Promote permanent consultation between the stakeholders in the development of the basin;
- Promote the implementation of integrated management of water resources and the equitable sharing of the benefits arising from their different uses;

- Authorize the construction of works and projects envisaged by the States Parties and which may have a significant impact on the water resources of the basin;

Carry out projects and common works or of common interest;

- Contribute to poverty reduction, sustainable development of States Parties and better sub-regional socio-economic integration.

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 project, 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 governance 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 (in particular harnessing the learning from past GEF lake Victoria interventions on regulating the spread of water hyacinth). The project will look for twinning opportunities via IWLEARN with other West African river management institutions but equally also look outside of the region to possibilities to link with Europe and other countries for learning and exchange (e.g. learning from ICPDR with the hydropower best practice guidelines). An inclusive communication strategy will be implemented in order to engage all stakeholders and transform the project outputs into accessible knowledge products, tailored to various audiences and formats. 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. Further clarification of how the project outputs can be harnessed in the communication strategy will be elaborated during the PPG phase and further refined and discussed as part of the project inception phase.

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 in the Mono Basin and strengthening the MBA institutional capacities and legal frameworks the project is expected to lead to highly positive environmental outcomes. Positive social outcomes are expected through engaging key socio-professional groups including women and youth.

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
Annex D - esms preliminary screening_Mono_GEF7-V2	
Annex E - GEF 7 IUCN Mono Basin Preliminary Climate Risk Analysis	

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
Delphin Aidji	Operational Focal Point	Ministère du cadre de vie et du développement durable	3/23/2021
Mr. Comlan Awougnon	Operational Focal Point	Ministere de l'Environnement et des Ressources Forestieres	3/23/2021

ANNEX A: Project Map and Geographic Coordinates

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

