

Project Information Document/
Integrated Safeguards Data Sheet (PID/ISDS)

BASIC INFORMATION

A. Basic Project Data

Countries: Togo, Benin and Sao Tome and Principe

Agency Project ID: P163945

Project Name: Investments Towards Resilient Management of Guinea Current Large Marine Ecosystems Project

Region: Africa

GEF Focal Area: Multi-Focal Area

Executing Partners: Ministry of Environment and Forest Resources (Togo)

Ministry of Urban Planning, Habitat and Sanitation (Benin)

Ministry of Public Works, Natural Resources and Environment (Sao Tome and Principe)

Financing Source:

GEF: \$20.25 m (grant)

IDA: \$101.7m (loan)

Recipient Government: \$5m (in-kind)

B. Introduction and Context

Country Context

West Africa's coastal zone is home to 31 percent of the region's population and 56 percent of its GDP¹. Across Sub-Saharan Africa, urban population is growing by 4 percent annually, almost twice the worldwide average (2.1 percent). In West Africa, coastal areas are home to most capitals and to major industries—oil, gas and mineral exploration, agro-industry—fisheries, and tourism. Approximately 40-80 percent of the region's economic activity takes place on the coastal zone². A large share (40 percent) of the region's population lives within 200 km of the coast; most them are poor, due to huge imbalances in the production and distribution of goods and services and socio-political issues. These populations depend on the lagoons, estuaries, creeks, and inshore waters for their sustenance and socio-economic well-being.

The Guinea Current Large Marine Ecosystem is one of the world's most productive marine and coastal ecosystems. West Africa is home to the Guinea Current Large Marine Ecosystem (GCLME), which extends from the Bijagos Archipelago (Guinea Bissau) in the north, to Cape Lopez (Gabon) in the south³. It is one of the world's most productive marine and coastal areas, with valuable wetlands and mangroves (including several Ramsar sites), rich fisheries, oil and gas reserves, precious minerals, and high coastal tourism potential. The

¹ World Bank. 2016. West Africa Coastal Areas Resilience Investment Project. Draft Project Concept Note.

² Interim Guinea Current Commission/UNIDO. 2010, quoted above.

³ The ecosystem area is considered to include the exclusive economic zones (EEZs) of 16 countries, namely, Angola, Benin, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sao Tome and Principe, Sierra Leone, and Togo.

total economic value of the GCLME coastal and marine ecosystems was estimated at about US\$17 billion per year⁴; the most valuable services being related to fisheries, coastal protection, carbon sequestration, and biodiversity.

The coastal resources in GCLME are transboundary in nature. Major coastal ecosystems, such as mangroves, stretch along the coasts, crossing boundaries between countries like Senegal, Guinea-Bissau, Guinea, Sierra Leone, Togo, Benin, Nigeria and Cameroon. Protected areas like Diawling National Park in Mauritania and Djoudj Bird Reserve in Senegal lie on opposite sides of the Senegal River Delta. The barrier-lagoon system of Togo and Benin forms a fragile, and complex ecosystem of wetlands, lagoons, marshes and waterways. Within the larger system, the Chenal de Gbaga makes up the natural linkage between the lagoon system in Togo and the downstream waters of the Mono River, forming a natural trans-boundary frontier between Togo and Benin

Despite their value, GCLME ecosystems are being degraded, and the coastal population is increasingly vulnerable. Population growth and its high concentration on the coast put enormous pressure on GCLME ecosystems. The main challenges include coastal erosion, floods, pollution from land based sources and oil spills and leakages, agricultural expansion into wetlands, invasive species that displace natural mangroves, and overfishing. Climate change, through sea level rise and increased frequency and intensity of extreme events (storms) tends to aggravate these problems: every year 500,000 people in the region are at risk of floods and coastal erosion⁵. This degradation imposes significant costs to West African society; for example, the cost of coastal zone degradation in Togo was estimated to be 2.3 percent of the country's GDP in 2013⁶. If left unaddressed, the degradation of the coastal resources of the GCLME is likely to accelerate, leading to potentially irreversible loss of critical ecosystem services (wetlands and mangroves) and to worsening of socio-economic conditions of those who depend on them.

Similar to its shared natural resources, the issues in the GCLME are transboundary as well. Physically, these coasts are all part of one natural system; the natural processes as well as human intervention impacts occur along the coast. Sediment transport along the coast is transboundary and the long-term state of equilibrium of such transport has been modified since the construction of dams and coastal infrastructures. For example, construction of the Akosombo Dam in Ghana on the Volta River in 1961 has drastically reduced sand supply on the Bight of Benin coast. Emplacement of a groyne field in 1988 to protect Aného, Togo has exacerbated barrier erosion downdrift in western Benin. In Chenal de Gbaga, although land conversion for agriculture is more rampant on the Benin side, it has increased soil erosion and the accessibility to extract remaining natural resources in Togo. Sao Tome and Principe (STP) and Nigeria share a Joint Development Zone; coastal degradation and pollution in these countries invariably reduce the richness of resources like fish stocks in this shared

⁴ Interim Guinea Current Commission/UNIDO. 2011. The Economic and Social Value of The Guinea Current Ecosystem – A First Approximation.

⁵ World Bank. 2016. quoted above.

⁶ Republic of Togo and World Bank. 2015. Rapid Cost of Environmental Degradation with a Focus on Coastal Zones.

area. Therefore, shared solutions at the national level will provide regional environmental outcomes.

Oil spills and leakages can have strong detrimental impacts in the Gulf of Guinea. With about 4 percent of the global oil extraction⁷ in 2012, the Gulf of Guinea is one of the world's most prolific oil production areas. Today, there are about 606 oil fields in the Niger Delta, of which 360 are on-shore and 246 offshore⁸. However, rapidly increasing levels of oil production have incurred spills and leakage of oil into the marine environment, polluting the ecosystem and further endangering fisheries and livelihoods. For example, Nigeria's largest spill occurred offshore in January 1980 when an estimated 200,000 barrels of oil (8.4 million US gallons) spilled into the Atlantic Ocean from an oil industry facility and that damaged 340 hectares of mangrove⁹. In Benin, improper closure of oil field installations located off-shore at the eastern part of the coast and lack of basic safety equipment could lead to a high risk of coastal pollution from oil spills or leakage, with *transboundary* impacts on neighboring countries and major cities like Lagos. Such spills would have very serious consequences – for marine fauna, coastal habitats and infrastructures as well as people's health – and for which little or no mitigation measures currently exist.

Sectoral and Institutional Context

The threats to coastal and marine resources faced by GCLME countries are related to several institutional deficiencies: lack of implementation of national and regional policies; insufficient monitoring of coastal dynamics; inadequate dissemination of scientific information to policy makers, the private sector, and civil society; and poorly coordinated effort to mobilize finance to address regional issues.

In 1995, the GEF supported (through UNEP, US-NOAA, UNDP, and UNIDO) a pilot project “Water Pollution Control and Biodiversity Conservation in the Gulf of Guinea Large Marine Ecosystem” that resulted in 2006 a **Transboundary Diagnostic Analysis (TDA), of 16 countries situated within the natural limits of the GCLME**. It identified four major perceived problems and issues (MPPIs)¹⁰: (i) decline in GCLME fish stocks and non-optimal harvesting of living resources; (ii) loss of ecosystem integrity (changes in community composition, vulnerable species, and biodiversity, introduction of alien species) and yields in a highly variable environment including effects of global climate change; (iii) deterioration in water quality (chronic and catastrophic) from land and sea-based activities, eutrophication, and harmful algal blooms; and (iv) habitat destruction and alteration including modification of seabed and coastal zone, degradation of coastscapes, and coastline erosion.

⁷ Center for Security Studies. 2014. Insecurity in the Gulf of Guinea: Assessing the Threats, Preparing the Response. ETH Zurich.

⁸ Nwilo, P.C. & O.T. Badejo. 2005. Oil Spill Problems and Management in the Niger Delta. International Oil Spill Conference, Miami, Florida, USA.

⁹ See Nwilo and Badejo (2005) quoted above.

¹⁰ GEF/UNIDO/UNDP/UNEP/US-NOAA/NEPAD/FAO and IMO. 2006. Trans-boundary Diagnostic Analysis. Guinea Current Large Marine Ecosystem.

Based on the TDA, the GCLME countries in 2008 adopted a **Strategic Action Plan (SAP)**¹¹ with the aim of supporting the integrated management, development, protection, and sustainability of the GCLME. They have also developed **National Action Plans (NAPs)**, which identify priority actions to be implemented in each country to tackle the environmental concerns identified in the TDA.

In 2012, it was agreed in the Abidjan Declaration that the Guinea Current Commission (GCC) should be established as a protocol to the Abidjan Convention. In the most recent meeting of the parties of Abidjan Convention, its COP12 held in March 2017, the decision was made to, “Request the Secretariat to prepare the draft additional protocol as soon as possible in order to create the GCC as soon as the financial resources are available.” The SAP states that to implement the actions and policies agreed upon, existing regional mechanisms for cooperation such as the Abidjan Convention and its related Protocols will be revitalized and retooled to ensure the necessary coordination and capacity building, and promote the sustainable and integrated management of the GCLME.

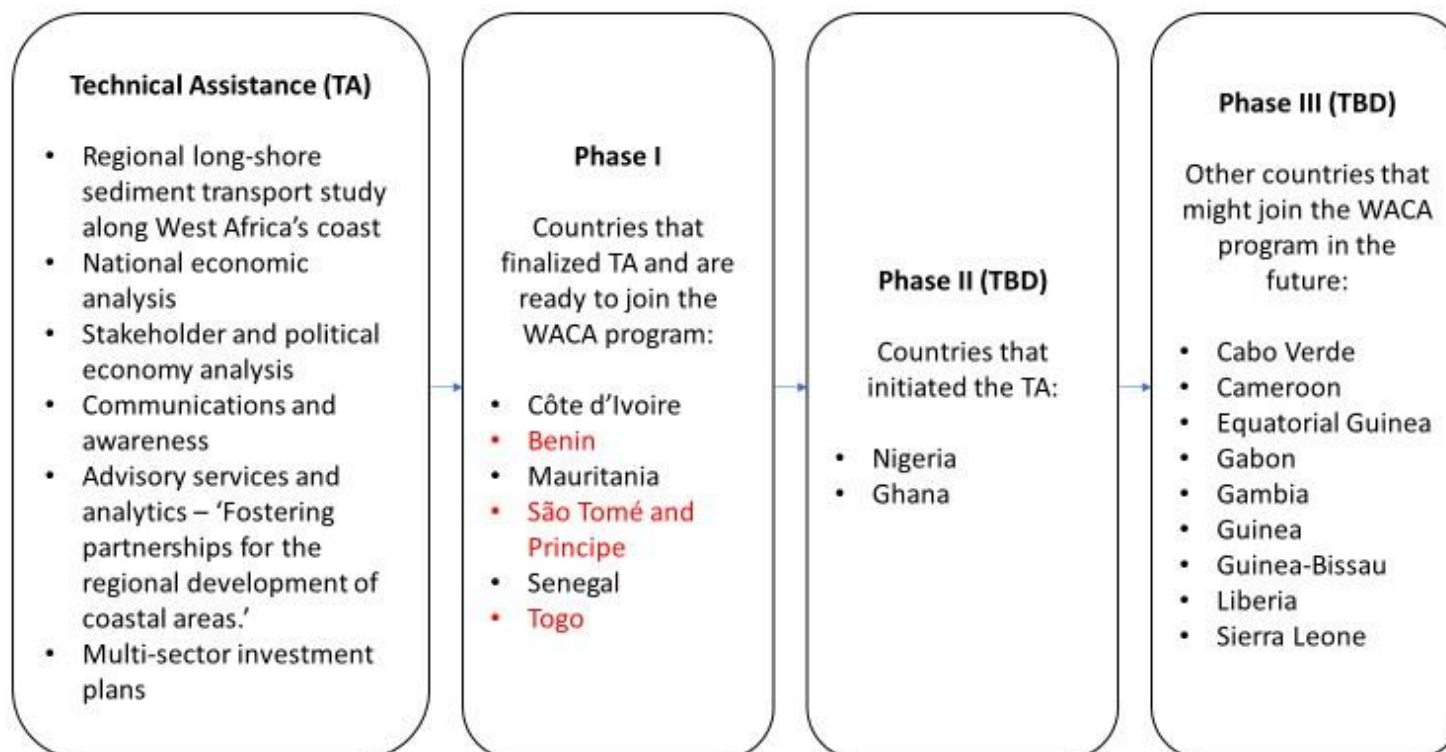
Other efforts have been conducted to protect the coastal and marine resources of the GCLME countries. In 2010, a regional study for shoreline monitoring and drawing up a development scheme for the West African coastal area was supported by West African Economic and Monetary Union (WAEMU) and implemented by the International Union for Conservation of Nature (IUCN). The “Regional Shoreline Monitoring Study and Drawing up of a Management Scheme for the West African Coastal Area General Management Scheme” study stresses the need for management of coastal risks at all scales, individual to regional and recommends systematic preservation of the green infrastructure to increase coastal resilience. Most recently, the World Bank has undertaken a series of programmatic technical assessments that complement the GEF supported TDA and SAP processes, including: a regional long-shore sediment transport study along West Africa; national economic analyses, stakeholder and political economy analyses, communication and awareness (Benin, Togo, Ghana, and Cote d’Ivoire); and an ongoing Advisory Services and Analytics, “Fostering Partnerships for the regional development of coastal areas” will facilitate regional dialogue, and provide technical guidance on the selection, prioritization, and design of coastal investments and policy actions.¹² Further, some countries¹³ developed with the World Bank’s assistance, **Multi-Sector Investment Plans (MSIPs)**, which identify the areas most vulnerable to coastal risks and prioritize a series of investments complementing and updating the prioritization in NAP. Figure 1 illustrates the phases of West Africa Coastal Area (WACA) program, starting with technical assistance and followed up with investments, and the countries involved in each phase.

¹¹ GCLME SAP: <http://gclme.iwlearn.org/publications/our-publications/strategic-action-plan-english-version/view>

¹² including climate change, socio-economic dimensions of environmental degradation and identifies an approach towards developing solutions.

¹³ Mauritania, Cote d’Ivoire, Togo, Benin and São Tomé and Príncipe.

Figure 1. Phases of WACA program and target countries for GEF (in Red)



In addition, a new UNEP-led project, “Capacity building and initial actions to support implementation of the Strategic Action Programme of the GCC for ecosystem-based management and governance,” is currently under preparation (UNEP/FAO/UNDP/UNIDO), with the aim of strengthening regional governance for ecosystem-based management of the GCLME and initial implementation of the SAP, to support trans-boundary biodiversity conservation, reduction of coastal and marine pollution, and improved coastal resource management. In addition, through its fourth component, it targets prevention or reduction of pollution at selected hot spots to standards agreed by member states. This is very relevant, particularly in the context where most states of the Gulf of Guinea have discovered significant offshore petroleum resources, however they do not have adequate regulation or capacity to manage the environmental consequences of petroleum development¹⁴.

While the above efforts provide a solid knowledge basis, sustained actions on the ground are needed to address the main priorities reflected in NAPs and to respond to the recommendations formulated by the MSIPs. The proposed World Bank led GEF project complements the UNEP led project and will address the investment gap by assisting the Governments of select countries (Togo, Benin and São Tomé and Príncipe) to implement NAP priority actions.¹⁵

Relationship to CPF/CPS

The proposed GEF project is fully aligned with several strategic documents:

- **Togo’s CPF** for FY17-FY20 (Report No. 112965 – TG) under Focus Area 3, “Environmental Sustainability and Resilience,” the CPF has the objective to strengthen the management of productive natural resources and resilience to climate change. Per CPF, the World Bank interventions would aim to finance investments to protect vulnerable areas from coastal pressures. *The proposed GEF project* directly responds to this need, by conservation of sensitive coastal ecosystem, introducing sustainable land management practices and alternative income generating activities, to reduce ongoing land degradation and pressure on natural ecosystems the coastal zone.
- **Benin’s CPF** for FY13-17 (Report No. 75774-BJ) identifies several areas of intervention within “Pillar I: Increasing Sustainable Growth, Competitiveness and Employment”. The *proposed GEF project* contributes to this pillar, through initiatives of agricultural diversification; identification of local value chains for fisheries, aquaculture and livestock; and by building capacity to prevent and respond to coastal and marine pollution events such as oil spills, which are detrimental to livelihoods and economic growth.
- **STP’s CPF** for FY14-18 (Report No. 83144-ST) specifies “Theme 2. Reducing Vulnerability and Strengthening Human Capacity” as an engagement area with the Bank. *The proposed GEF project* will contribute to Outcome 8 of this theme “Increased adaptive capacity of coastal communities and reduced potential loss of assets and lives”, by

¹⁴ Ayamdoo, N. 2016. Protecting the Gulf of Guinea in an oil boom: regulating offshore petroleum pollution in a divided world. World Energy, Law and Buisness. Volume 9. Issue 3.

¹⁵ See Section III. A.1 for details on which priority actions the project addresses.

contributing to the information basis for understanding risks to extreme events in the coastal areas.

The proposed GEF project is aligned also with the *biodiversity strategies* of Togo and Benin:

- **Benin's** National Biodiversity Strategy and Action Plan for 2011-2020 identifies Axis 2. Conservation of ecosystem resources and enhancement of biodiversity potential, with two strategic goals: (i) reducing the multiple pressures on biodiversity and promoting its sustainable use; and (ii) improving the state of biological diversity by safeguarding and restoring ecosystems, species and genetic diversity. The *proposed GEF project* will contribute to both strategic goals of Axis 2, through initiatives that reduce agricultural expansion into mangroves (e.g. alternative income generating activities) and that restore ecosystems (e.g. reforestation and rehabilitation).
- **Togo's** National Biodiversity Strategy and Action Plan for 2011-2020 identifies five strategic orientations, among which “Strengthening the benefits of biodiversity and ecosystem services for all” (Strategic Orientation B of the Strategy). *The proposed GEF project* responds to this orientation through concrete actions of mangrove rehabilitation and restoration, thus increasing the benefits of forest biodiversity in the country.

The proposed GEF project will also reinforce the commitment of Benin and Togo to implement global and regional frameworks, such as the **United Nations Convention to Combat Desertification (UNCCD)**. The project is consistent with the UNCCD 10-year strategic plan and framework for the implementation of its convention (2008–2018), contributing to three strategic objectives: (i) to improve the living conditions of affected populations; (ii) to improve the condition of affected ecosystems; and (iii) to generate global benefits through effective implementation of the UNCCD.

In addition, one of the three objectives of the UNCCD's “Sub-regional Action Program to combat desertification for West Africa (2008-2018) is “Improving the state of trans-boundary and/or shared ecosystems”. The proposed project directly addresses this objective, where LD funds are directly supporting the trans-boundary ecosystem Chenal de Gbaga in Togo/Benin. In addition, Benin and Togo have already committed to setting Land Degradation Neutrality (LDN) targets¹⁶; the proposed project will support the two countries' target setting exercise. Finally, the GEF project will support directly the Benin and Togo's National Action Programs against Desertification¹⁷, through concrete measures that conserve and protect natural resources along with improving community engagement as identified as central areas of action in the program.

¹⁶ <http://www2.unccd.int/sites/default/files/relevant-links/2017-07/LDN%20TSP-%20map%20and%20list%20of%20countries.pdf>

II. PROPOSED DEVELOPMENT OBJECTIVE

A. Proposed PDO

The PDO reflects the objective of the overall WACA project, including both IDA and GEF components.

To improve management of shared natural and man-made risks, including climate change, affecting targeted coastal communities and areas in the West Africa region.

B. Key Results

Several PDO level indicators have been defined for the overall project, the GEF PCN now reflects selected indicators relevant for the GEF project. The following GEF related PDO level indicators will be confirmed at the Quality Enhancement Review (QER) stage of the project.

- PDO Indicator 2: Households in targeted coastal areas with managed risk of erosion (number) (disaggregated by country, urban/rural)
- PDO Indicator 3: Households in targeted coastal areas with managed risk of flooding (number) (disaggregated by country, urban/rural)
- PDO Indicator 5: Share of target beneficiaries with rating 'Satisfied' or above on project environmental benefits and participation (percentage) (citizen engagement and gender indicator) (disaggregated by country, sex)
- PDO Indicator 6: Management of transboundary natural resources with rating 'satisfactory' or above on project environmental benefits

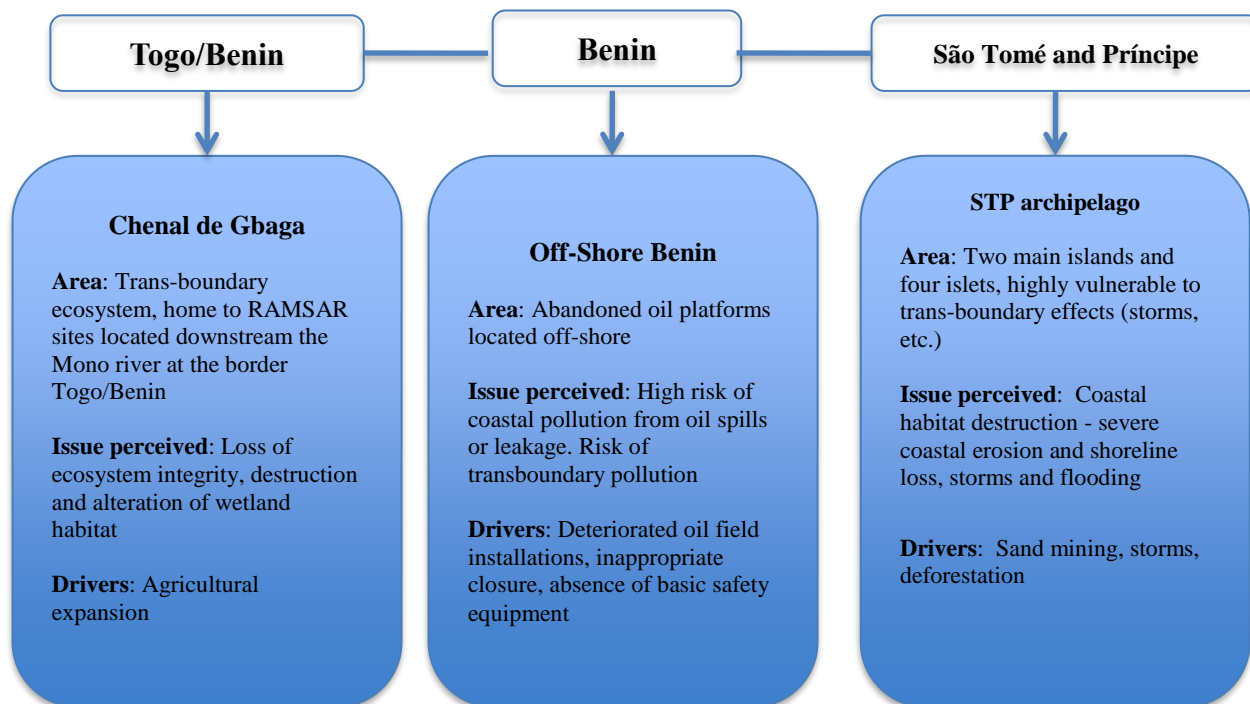
III. PROJECT CONTEXT

A. Concept

1. Description

a) Context. The project will intervene in three target areas that have been selected in the three pilot countries in consultation with the Government counterparts. These areas have many common challenges, e.g. severe coastal erosion and shoreline loss, flooding, rapid urbanization and unsustainable land use, and overlapping policies affecting coastal governance. In addition, they present distinct characteristics and drivers of degradation, as depicted in Figure 2 and detailed in Annex II.

Figure 2. Target areas and major problems and issues addressed in the three countries



b) Approach. Improving the coastal zone management in a trans-boundary context requires institutional strengthening, to provide the capacity needed for a sustainable governance of the coastal areas; and on-the-ground investments, to reduce the major drivers of degradation in each country. The proposed project uses this approach, by investing in actions that address the following major problems: loss of ecosystem integrity through the destruction and alteration of the wetland habitat (e.g. mangroves) due to agricultural expansion (in Togo/Benin); deterioration of water quality from land and sea-based activities/externalities, such as oil spill and leakage (in Benin); and coastal habitat destruction due to floods and coastal erosion (in STP). Through this approach, the project aims at diversifying the local economies, restoring ecosystems, while providing opportunities for sustainable growth.

c) Theory of change. Under the *baseline scenario*, the degradation of the coastal resources of the GCLME will accelerate due to increasing population (growth and migration towards the coast), demand for resources, unplanned coastal development and climate change, leading to significant and potentially irreversible loss of critical ecosystems such as beaches, wetlands and mangroves which provide important coastal protective and social services (livelihoods, food, fiber and timber). The *alternative scenario* will address the major perceived problems and issues (MPPIS) highlighted in the TDA by mainly supporting the achievement of the Environmental Quality Objective (EQO), “Balanced habitats for

sustainable ecology and environment” through the following activities (recommended in the TDA):

- Strengthening the national analytical basis for specific interventions;
- Strengthening local coastal zone planning, management and associated institutions;
- Investing in green infrastructure/coastal ecosystem restoration/stabilization, especially wetlands and mangroves;
- Investing in communities to promote alternative livelihoods to reduce pressure on coastal resources;
- Investing in information management systems and early warning and responsiveness systems; and
- Supporting in-country investments complementary to and in coordination with the UNEP-led project “Capacity building and initial actions to support implementation of the Strategic Action Programme of the GCC for ecosystem-based management and governance”, currently under preparation.

d) Components. The proposed GEF project will be fully blended with the World Bank “WACA Resilience Investment Project (P162337, US\$232 million), currently under preparation, and will directly contribute towards its PDO. The WACA Resilience Investment Project will serve as the baseline for the GEF financing. It covers six countries (Benin, Côte d’Ivoire, Mauritania, STP, Senegal and Togo) and addresses a wide range of threats on the coast: coastal erosion and floods mostly, but also marine and coastal pollution, land degradation, and ecosystem destruction. While the total financing for the six countries is US\$232 million, for the GEF incremental cost reasoning, US\$106.7 million is considered to be direct co-financing to the GEF components (US\$20.25 million¹⁸) covering the three countries. The GEF will contribute to some of the components of WACA Resilience Investment Project.

The proposed GEF project complements WACA project by focusing on the incremental costs to achieve trans-boundary and global environmental benefits, through each component. Overall, baseline WACA project provides green/grey infrastructure, particularly in the most populated/urbanized centers along the coast. GEF funds complement WACA by covering green infrastructure measures in rural areas adjoining the centers targeted by the baseline WACA. Therefore, without GEF funding, the project’s green infrastructure would be limited only to urban/populated centers, without consideration of a broader landscape context, which involves several land uses (e.g. urban, agriculture, forests, wetlands, etc) and takes a holistic approach to shared natural resource management.

The project will be implemented through five components, that are also the same in the baseline WACA project, presented below. GEF is lending support to all component except component 3. Annex IV provides details on the overall WACA approach and the planned investments, and Annex V reflects the distribution of GEF budget by country, component and focal area.

¹⁸ GEF grant reflects rounding for US\$20,247,607.

Component 1. Strengthening policies and institutions for improved coastal zone management (GEF US\$4.4 m, IDA US\$4.6m, Borrower in-kind US\$1 m).

At regional level, this component will provide regional and national policy makers and institutions with the information and knowledge base required to improve coastal zone management in West Africa. This will be achieved by enabling multi-sectoral dialogue among regional and national authorities and key stakeholders, developing adequate policy framework and implementation tools, and strengthening coastal-related and climate change information. In part, the activities under this component will support countries in meeting regional obligations for coordinated and harmonized policy as per decision CP12/8 of the Abidjan Convention COP12. The GEF financing will complement the WACA component by strengthening local regulations, policies and institutions to address major problems and issues relevant to coastal ecosystems. The component activities will include:

- ***Togo-Benin:*** The GEF project (IW, BD, LD) will focus on a trans-boundary sensitive area (Chenal de Gbaga, see Annex II), located within the priority area of WACA project, which covers Benin's Western zone around Grand Popo city¹⁹ and Togo's coastal zone East of Aného²⁰. The GEF activities will strengthen the capacity of government institutions at the local level to deal with trans-boundary management of shared ecosystems (e.g. through training, provision of equipment); review and update the regulatory framework for management of shared natural resources; develop management options and co-management plans for better management of trans-boundary coastal natural resources; and hold consultations with local actors related to relevant issues (e.g. control invasive species, preparation of documents for the designation of Chenal de Gbaga as a Ramsar site) These will directly complement WACA-financed investments, which target institutional strengthening related to other major coastal risks (e.g. erosion and floods) in the larger urban landscape.
- ***Benin:*** The GEF project (IW) will also focus on an off-shore area located at the eastern part of the coast, next to the Nigerian border, which covers abandoned oil field installations. Their degraded state and lack of safety measures pose high risks of oil spills or leakage, with very serious consequences on the marine fauna, coastal habitats and people's livelihoods and health. The more recent and ongoing exploration and production operations in the same field can also cause possible oil spill events. The GEF project will strengthen the institutional capacity to respond to oil spill events through the following activities: evaluation and update of the National Contingency Plan; strengthening of various government agencies responsible for response to potential spills; awareness on transboundary nature of the pollution

¹⁹ Antea Group. 2017. Multi-Sectoral Investment Plan for Adaptation to Coastal Risks Induced by Climate Change in Benin. Final report.

²⁰ Antea Group. 2017. Plan d'Action pour le Developpement et l'Adaptation aux Changements Climatiques du Littoral Togolais. Programme West Africa Coastal Adaptation (WACA).

issues; support towards developing a comprehensive plan to address potential oil spill issue; and raising awareness of coastal communities about oil pollution.

- STP: Both the proposed GEF project (IW) and WACA projects will focus on the two main islands of STP archipelago. The GEF activities will include review of policy, legal and institutional frameworks related to coastal erosion and floods; harmonize the existing policy and actions linked to coastal risks; conduct technical assessments related to sustainable financing for addressing coastal risks, such as erosion and floods. These will complement WACA activities, which aim at improving capacity of institutions to forecast occurrence of disaster events (e.g. erosion, flooding, pollution) and to develop response measures.

Component 2. Strengthening Physical Coastal Infrastructures (GEF US\$12.2m, IDA US\$77.5m, Borrower in-kind US\$2 m).

This component will finance short and medium-term coastal adaptation investments to protect vulnerable areas from coastal erosion and flooding and promote climate-resilient coastal development. These investments will include infrastructural solutions, such as grey infrastructure, green infrastructure, and pollution and waste management. The GEF financing for this component will support: management of green infrastructures in critical coastal areas of Togo/Benin to conserve and enhance biodiversity, reduce land degradation, and improve management of trans-boundary issues; and enhancement in Benin including site surveillance and procurement of the equipment needed to respond to potential oil spills as well as complementary assessment studies (feasibility, preliminary design, etc.) to allow for identification of all adequate response measures enhancement. The GEF activities will cover:

- Togo/Benin: The GEF activities (IW, BD, LD) will include rehabilitation of flood banks (approximately 20km) along Chenal de Gbaga. The rehabilitation will be supported through technical studies and will include natural approaches, such as native wetland plants, stone and rock structures, oyster reefs, submerged aquatic vegetation, coir fiber logs, and sand fill.
 - (i) Implementation of watershed management plans developed under another GEF financed project, “**Integrated Disaster and Land Management Project**”
 - (ii) Management of invasive species along Chenal de Gbaga and other waterways, through adoption of measures to control/clear these species. The project will undertake a systematic approach towards management of invasive species that is based on understanding the biology of invasion including complex relationships between the intrinsic capabilities of species, physicochemical environment and human activities. The method of control will be assessed considering

the history of the invasion, population flows, ecological, heritage interest, the use of the invaded area and management objectives.

- (iii) Reforestation of mangroves through participatory tree planting in the Chenal de Gbaga and the surrounding water catchment. For mangrove restoration, the methodology and approach will consider all the important parameters for mangroves growth including and not limited to hydrology, salinity etc.
- (iv) Adoption of sustainable land management practices (e.g. inter-cropping practices, agro-forestry, improved soil management techniques) that prevent erosion and degradation.
- (v) Introduction of alternative income generating activities that discourage agricultural expansion (e.g. bee keeping, eco-tourism) and encourage the development of value chains in key sectors (e.g. agriculture, fisheries, aquaculture, livestock)
- (vi) Support towards designation of Ramsar site.

The WACA project will invest in physical grey infrastructure measures to control erosion and floods in the most populated cities of the greater target area (e.g. Grand Popo, Aneho). The GEF project complements WACA measures focusing on management of green infrastructures within the area and generation of global environmental benefits such as forest biodiversity, soil management, and management of transboundary ecosystems.

- Benin: The GEF activities (IW) will: procure urgently needed surveillance items, e.g., lights, beacons, manometers; set up routine physical patrolling of the platforms; identify and procure appropriate types of low-cost no regret emergency response measures (booms, dispersants, etc.); undertake additional complementary studies to identify appropriate control, repair and/or emergency response measures/approaches.

Component 3. Supporting Social Investments (GEF US\$0, IDA US\$5.7 m, Borrower in-kind US\$0)

The project will finance community driven development as a tool to manage the livelihoods and prosperity of people and communities where managed retreats are identified as a solution to the coastal erosion and flooding issue.

Component 4. Strengthening Coastal Observation and Early Warning Systems (GEF US\$2.6m, IDA US\$7.5 m, Borrower in-kind US\$2m).

Regional coastal observation and bio-physical monitoring of coastal environment and timely sharing of regional coastal data is essential for managing the coastal erosion and flooding

issues. The overall data requirements on erosion include sediment stock evolutions (coastlines evolution), currents, bathymetry, coastal infrastructure, river discharges. These data are important to assess the impact of the different human interventions (construction of port, sand mining, groynes etc.) and would therefore feed into national and regional level erosion models and decision-making tools. The baseline WACA project will support the ongoing effort established on coastal observation to build capacity of regional and national institutions to collect, assess and share coastal zone data and information. **This component aims to scale up best practices on coastal resilience across the region as well as generate climate information relevant to the coastal zone.** National level synthesizing of disaster risk and meteorological information will feed into the regional monitoring, while regional trends and statistics will be fed back to the countries. The GEF financing will:

- *Togo/Benin* (IW, BD, LD): identify the biophysical and socio-economic data needed to understand changes in the landscape as related to investments in component 2; collect and share information at the national and regional levels.
- *STP* (IW): participatory assessments to determine high-risk areas, modelling to study potential events, erosion/flooding and protocol drafted to conduct multi-sector/joint surveillance.

The GEF financing will support inclusion of ecosystem parameters in the coastal monitoring systems in Togo and Benin. In STP, the GEF financing will address the NAP priorities on improving the observation of the state of the sea, by supporting data collection and modelling for extreme events in the coastal areas, thus strengthening WACA's efforts towards overall monitoring of coastal and marine health. During project preparation, assessment will be undertaken to determine comparative advantage among the partners to execute the noted coastal monitoring and preparedness activities in the participating countries.

Component 5. Project management (GEF US\$1.0m, IDA US\$6.4m, Borrower US\$0). The project will be managed through the WACA Investment Project Management Unit, which will be blended with the proposed GEF project. The GEF funds will finance the additional support required for the GEF specific interventions, including the M&E system for the GEF, reporting requirements and sharing of results and knowledge gained through the project by participation in IW-learn activities (1% of grant).

f) Gender Inclusion: Women are key stakeholders in the economic activities (e.g. fuelwood collection, agricultural work, fish processing and marketing) and household tasks (e.g. cooking, children education) in the project area. However, they are particularly vulnerable to myriads of problems, such as mangrove destruction, flooding, coastal erosion, overharvesting of resources and climate change. For example, current degradation of mangroves and overexploitation of freshwater means that women and young girls have to travel farther each day to collect firewood and water, which puts additional pressure on their livelihoods.

In this context, women' participation in the project is essential to its success, and especially to the long-term health and sustainability of the ecosystems in which they live. The project will give special attention to gender dimensions, particularly through *Component 2 Strengthening Physical Coastal Infrastructures*, through the introduction of alternative income generating activities (e.g. bee-keeping, eco-tourism) and development of local value chains for fisheries and livestock, which are expected to benefit women in the project area. In addition, the project will include gender-disaggregated evaluation frameworks for assessing the impacts of project activities on the ground.

g) Complementarity: Specifically, the proposed GEF project complements several initiatives with regional and national coverage:

- **Guinea Current Large Marine Ecosystem (GCLME).** As mentioned in the previous section, the GEF financed UNEP led project resulted in a TDA, SAP as well as NAPs, which prioritize the most important coastal and marine issues in West African countries. *The proposed GEF project* will directly address the following national priorities identified in the countries' NAPs²¹:

- in Benin: **Priority 1.** Improving water quality in the lagoon of Porto-Novo; project title: fight against pollution on the country's coastal zone; **Priority 2.** Ensuring the conservation of mangrove biodiversity; project title: conservation of biological diversity and sustainable development of Benin's mangroves; and **Priority 3.** Sustainably preserving wetlands in order to effectively respond to climate variability for sustainable food security; project title: management of RAMSAR sites and creation of new sites.
- in Togo: **Priority 2.** Fighting against coastal erosion on vulnerable coastal areas between Ramatou and Agbodrafo.
- in STP: **Priority 2.** Establishment of an Early Warning system related to climate and state of the sea.

- The **GCLME's TDA** identified four major perceived problems and issues (as mentioned in Section I.B). The *proposed GEF project* will address three **major perceived problems and issues** identified in the TDA ²²:

- Loss of ecosystem integrity, particularly changes in community composition, and introduction of alien species. These losses occur in the target area of Togo/Benin, due to clearing of mangroves and natural habitats for agriculture and urban development, as well as a result of mangrove invasion by invasive species.

²¹ Interim Guinea Current Commission. Guinea Current Large Marine Ecosystem Project. Country Investment Project Profiles for the Implementation of the GCLME Strategic Action Programme.

²² Overexploitation of fisheries will be addressed under the Bank supported West Africa Regional Fisheries Project (WARFP).

- Habitat destruction and alteration, including inter-alia modification of seabed and coastal zone, degradation of coastscapes and coastline erosion.
- Water quality deterioration from land and sea-based activities, eutrophication and harmful algal blooms.

- **Capacity building and initial actions to support implementation of the Strategic Action Program of the GCC for ecosystem-based management and governance (UNEP/UNIDO/FAO/UNDP).** Currently under preparation, this project aims to strengthen the regional governance for ecosystem-based management of the GCLME and initial implementation of the SAP to support trans-boundary biodiversity conservation, pollution reduction, and improved coastal resources management in priority areas of GCLME countries. The *proposed GEF complements* this project as follows:

- By strengthening the national and local institutions, policies and regulations in the areas of management of trans-boundary issues, reducing land degradation, and protecting coastal biodiversity in the three GCLME countries, the proposed GEF project will contribute to the UNEP led project's *Component 1. Strengthening of regional governance and regional and national capacities*. It will improve the national capacities to strengthen partnerships with regional bodies like the Abidjan Convention, tasked with establishment of the GCC, and will enable national entities to implement regional coastal protocols. Once the GCC has been established and functioning, it is planned to transfer the responsibility of the regional PCU to the GCC.
 - By sharing lessons learned and best practices related to restoration and management of trans-boundary ecosystems (e.g. native mangrove species) and information services required for understanding coastal dynamics including disasters, the proposed GEF project will contribute to the program's *Component 3. Assessments, stakeholder and inter-ministerial consultations*, which specifically aims at "global learning on scaling up good practices and investments in sustainable coastal and marine management through the GEF IW Learn open online platform".
- **West Africa Regional Fisheries Project (WARFP, World Bank).** This project aims to capture the economic benefit from renewable ocean natural fishery resources, and through a value chain approach that seeks to retain the wealth in terms of jobs and investments within several West African countries²³. Specifically, this project will tackle the problem of the unsustainable use and maintenance of marine fish stocks in the West African waters. *The proposed GEF project* will complement WARFP activities by

²³ The WACA Resilience Investment project aims to help countries manage the spatial areas of land in the coastal zone so that it is used efficiently for the development needs of the country, while ensuring that the effects of climate change are considered, including ongoing coastal erosion and coastal flooding. The two World Bank investments are complementary.

addressing the problem of destruction and alteration of mangrove ecosystems, thus improving the spawning and nursery grounds for fisheries in the Gulf of Guinea.

- **Addressing Transboundary Concerns in the Volta River basin and its Downstream Coastal Area** in Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali, Togo (GEF Project ID 5215). The objective of the project is to facilitate the establishment of a multi-country management framework, to produce a diagnostic of main trans-boundary issues, and to define agreed measures to reverse/prevent resources degradation. *The proposed GEF project* will complement this project through interventions that address trans-boundary issues and reverse degradation in selected West African countries, among which Benin and Togo.
- **Community-based Coastal and Marine Biodiversity Management Project** in Benin (GEF Project ID 1234), with the objective of contributing to a sustainable management of the coastal zone and biological diversity of national and global interest. *The proposed GEF interventions* will complement this project through interventions that helps improve sustainable management and restore ecosystems in a pilot coastal area (Chenal de Gbaga).

GGW: Forests and Adjacent Lands Management Project in Benin (GEF Project ID 5215), aiming at laying down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands. *The proposed GEF interventions* will complement this project through activities that improve sustainable management and restore mangrove ecosystems.

- **The Strengthening Climate Information and Warning System Project** (UNDP) in STP aims at reducing the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change, and strengthen institutional and technical capacities of STP key actors. *The proposed GEF project* will address the remaining gaps covered by this operation, by dealing with the risks posed by floods and coastal erosion. In addition, the proposed GEF project has synergies with the GEF/AfDB project ***Strengthen resilience and adaptive capacity of STP to Climate Change***.

- **Integrated Disaster and Land Management Project in Togo (under SAWAP, World Bank)** The project has also supported the establishment a national flood early warning based on the local community early warning system developed by the Red Cross. *The proposed GEF project* will implement the management plans for watersheds and reinforce the existing early warning system.

h) Contribution to GEF focal areas. The project will contribute to **three** focal areas and generate environment benefits both at the local and global levels. See Annex V for breakdown of focal area funds by country:

- *Biodiversity*: (BD4)²⁴, by piloting activities that arrest the loss of mangroves through sustainable agriculture (e.g. inter-cropping practices, agro-forestry, improved soil management techniques, income diversification activities in Benin/Togo), and mangrove restoration (e.g. through rehabilitation or plantations in Benin/Togo). This entails careful targeting of highly ecologically significant and at risk coastal areas to mainstream biodiversity conservation and sustainable use in production landscape and seascape with the intent to simultaneously secure ecological integrity and economic viability (Togo/Benin). In addition, the project contributes indirectly to the focal area BD1, through activities that will help the pilot area Chenal de Gbaga reach the RAMSAR status and BD2, through activities focused on control of IAS. Overall the project design is targeted towards BD4.
- *Land degradation*: (LD2)²⁵, by adopting sustainable cropping practices and other income generating activities that reduce pressure on coastal forests and improve the flow of agro-ecosystem services to sustain livelihoods; and (LD3)²⁶, by adopting an integrated landscape approach through sustainable options (e.g. cropping, soil maintenance techniques) and by reducing expansion of invasive species (in Togo/Benin). This will encourage a better management competing land-uses in broader landscapes with high potential of being scaled up to neighboring coastal areas.
- *International Waters*: (IW1)²⁷, by building foundational capacity building and supporting cross-country learning through exchange of lessons learned and best practices on management of trans-boundary issues (e.g. wetlands in Togo/Benin, coastal erosion and flooding in STP) as well as the most appropriate approaches of ecosystem restoration (e.g. mangrove restoration in Togo/Benin); and (IW3)²⁸, by building capacity to prevent and address pollution events such as oil spills (Benin); and by implementing investments that restore and protect mangrove areas, thus improving the spawning and breeding grounds for fisheries that depend on these ecosystems (Togo/Benin).

Climate Change: Although the GEF financing does not include climate change focal area contributions, the project supports restoration of critical coastal ecosystems like mangroves. Thus, it will directly contribute to climate change adaptation (by providing protection against likely sea level rise, storms and floods as a result of climate change) and also towards climate change mitigation (by sequestering carbon in mangrove systems and soils).

²⁴ “Mainstreaming biodiversity conservation and sustainable use into production landscapes/Program 9. Managing the Human-Biodiversity Interface”.

²⁵ “Generate sustainable flows of ecosystem services from forests, including in drylands/Program 3: Landscape Management and Restoration”.

²⁶ “Reduce pressures on natural resources by managing competing land uses in broader landscapes/Program 4: Scaling-up sustainable land management through the Landscape approach”.

²⁷ “Catalyze sustainable management of trans-boundary water systems by supporting multistate cooperation through foundational capacity building, targeted research and portfolio learning/Program 1: Foster Cooperation for Sustainable Use of Transboundary Water Systems and Economic Growth”.

²⁸ “Enhance multi-state cooperation and catalyze investments to foster sustainable fisheries, restore and protect coastal habitats, reduce pollution of coasts and LMEs/Program 6: Prevent Loss and Degradation of Coastal Habitats.”

i) Contribution to Aichi targets. Through its activities in Benin/Togo, the project is expected to contribute to several Aichi Biodiversity Targets, under the following goals:

- ***Strategic Goal B:** Reduce the direct pressures on biodiversity and promote sustainable use²⁹*, by promoting sustainable practices (e.g. maintenance of agricultural land and water resources in Chenal) and introducing new income generating activities (e.g. eco-tourism, bee keeping, etc.) that will reduce pressure on forest biodiversity;
- ***Strategic Goal C:** To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity*, by enhancing and protecting the wetlands in Chenal de Gbagba, which are home to endangered species, e.g. the West African Manatee (*Trichechus senegalensis*), the crocodile (*crocodylus cataphractus* and *c. niloticus*), and the hippo (*hippopotamus amphibus*).
- ***Strategic Goal D:** Enhance the benefits to all from biodiversity and ecosystem services*, by ensuring that women and indigenous peoples are key participants and beneficiaries of the improved functioning of mangroves and the lagoon systems. The project will build upon the work already conducted by local groups (e.g. priests and practitioners of the local religion), which promotes protection of sacred forests and trees.
- ***Strategic Goal E:** Enhance implementation through participatory planning, knowledge management and capacity building*, by strengthening the capacity of Government institutions, local residents and other actors in balancing ecosystem protection with local economic needs; and by sharing knowledge related to the best practices in dealing with coastal risks.

j) Sustainability, replication, scaling up and learning. The key principles of this project are adoption of sustainable and robust practices (e.g. coastal land management practices, information services for coastal systems, development of new income generating activities) that are scientific, inclusive, and replicable. Sustainability is central to the design of the project, and the design is comprehensive, inclusive of policy and institutional strengthening to support and sustain investments, investments on the ground, and generation and sharing of important data and knowledge for replication. For example, the project will support the government to obtain RAMSAR designation for the Togo/Benin site and will implement measures to reduce drivers of degradation and boost local economy in surrounding areas, which is key for sustainability. The project will also abide by the World Bank safeguard policies to ensure both environmental and social safety.

WACA Resilience Investment project is designed to become a convening platform where coastal countries and partners come together to share knowledge, expertise, and access finance. As a project completely blended with WACA, the GEF financed activities, such as coastal institutional strengthening, green infrastructure investments and coastal observation systems, will be linked to national and regional level efforts financed through

²⁹ Under this goal, the project contributes to the following Aichi targets: reducing loss and degradation of forests and natural habitats, sustainable management of fish and other aquatic resources, sustainable management of agriculture, reduction in pollution, and reduction in invasive species.

WACA. The GEF financed activities will provide know-how on green-infrastructure governance, management and information sharing that can be replicated within other WACA countries, including through participation in IW: Learn events. The project will complement and coordinate with the UNEP led GCLME project, also currently under preparation. By providing concrete investments to manage coastal ecosystems in the three countries, the project will contribute towards the UNEP project components “strengthening of national capacities” and “assessments, stakeholder and inter-ministerial consultations” especially related to natural resources or green infrastructures. The collaboration with the UNEP led project is expected to facilitate regional-wide sharing of good practices.

k) Incremental cost reasoning and global benefits. The GEF funding will complement the Government programs (as delineated in SAP and NAPs), making them more environmentally and socially sustainable. The funding will allow for priorities listed in NAP and supported through recent technical assistance to be implemented in the four pilot countries. Specifically, land degradation issue in the ecologically vital and sensitive trans-boundary region between Togo and Benin, and need for technical and institutional solutions to preemptively respond to issues related to floods and erosion in STP and potential oil spills leading to eventual degradation of water quality in off-shore Benin, will be systematically addressed through the GEF support. Technically sound solutions based on assessments and a basis for institutional and governance support for sustainability of results will be implemented in the four countries, with clear opportunities for replication in other GCLME countries.

The proposed project is expected to deliver important global environmental benefits aligned with contributions to the GEF focal area objectives: (i) reduction of soil erosion and land degradation in pilot areas of Togo, Benin and STP. (ii) enhanced sequestration of carbon in mangrove ecosystems, thus contributing to climate change mitigation in Togo and Benin; (iii) improved forest biodiversity through mangrove restoration in Togo and Benin, and (iv) improved management of trans-boundary coastal resources (e.g. wetlands, mangroves) as well as of trans-boundary impacts of damaging events (e.g. coastal erosion, floods, and potential oil spills). The project is expected to provide also some local benefits, in terms of increased revenues of local communities through the development of alternative income generating activities.

SAFEGUARDS

Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project will intervene in three target areas, described below.

(1) Chenal de Gbaga in Togo/Benin: It is located along Mono river, within the barrier-lagoon system of Togo and Benin. The Chenal is endowed with diverse ecosystems (e.g. mangroves, other wetlands), which are home for rich biodiversity (e.g. migratory birds, aquatic mammals, endangered species such as marine turtles, hippopotamus and the African manatee) and livelihood (e.g. fisheries, navigation, NTFPs, etc.). Togo and Benin are currently

engaged in a process of listing the Chenal de Gbaga as a cross-border RAMSAR site³⁰. Despite its high potential in sustaining biodiversity and livelihoods, Chenal de Gbaga suffers from severe coastal erosion and shoreline loss, flooding and overexploitation of fisheries. In addition, a significant portion of natural habitat has been degraded by unsustainable practices, e.g. deforestation, uncontrolled fires, poaching, pollution from urban, industrial and mining waste, destructive fishing practices and expansion of invasive species.

(2) **Off-Shore Benin:** Several oil platform installations have been abandoned after active oil production ceased in 1998. The platform installations are in advanced state of deterioration and there is a potential risk of oil spill pollution, which can be transboundary in extent. The oil spill trajectory can reach to the east beyond the Nigerian border and to the west up to the Togolese border. In most cases, the oil spilled would drift with the dominant coastal currents in a north and north-east direction. The oil slick drifting in this direction may reach a short portion of the Benin coast, but would most probably have negative transboundary effects, by affecting the west portion of the Nigerian coasts. The spills could result in adverse environmental consequences for marine fauna (fish, shellfish, birds), for coastal habitats (sandy beaches, mangroves, lagoons and estuaries) and for people's livelihoods (fisheries) and health.

(3) **STP archipelago.** One of the smallest African nations, STP is an archipelago with two main islands and four islets located in the Gulf of Guinea, 350 km off the west coast of Africa. It shares many of the challenges affecting other West African coastal countries, e.g. severe floods, coastal erosion and shoreline loss; overexploitation of fisheries and coastal aggregates; coastal pollution; rapid urbanization and unsustainable land use; and overlapping policies affecting coastal governance. Furthermore, due to its small size and isolation, the country is highly vulnerable to climate change effects, such as storms and sea level rise. STP has little capacity to respond to these risks and to minimize potential impacts of damaging events.

A more detailed description of the target areas can be found in Annex II.

Borrower's Institutional Capacity for Safeguard Policies

The borrowers' institutional capacity for safeguard policies varies considerably among the four countries. Some of the countries have relatively mature environmental ministries and agencies, sufficient staffing and an adequate regulatory framework, while other countries institutions are relatively young, understaffed and the legal framework missing important elements (annexes, executive regulations, etc.). Most of the borrowers have implemented previous World Bank-funded projects and related safeguards requirements. Therefore, where possible, this project will build upon any residual institutional capability for program management and safeguards. Capacity assessment/ building activities will be recommended in the ESMF of each country, targeting the parties involved in project's implementation, will be included in the overall capacity building activities of each country's program activities,

³⁰ RAMSAR. 2015. Togo. Rapport National sur l'application de la Convention de RAMSAR sur les zones humides. <http://ramsar.rgis.ch/pdf/cop12/nr/COP12NRFTogo.pdf>

annual work plans and budgets. Each country will be requested to nominate two Safeguards specialists (Environment and social) to work closely and under the technical oversight of the World Bank's environmental and social safeguards specialists.

Environmental and Social Safeguards Specialists on the Team

Margaret Arnold, Social Safeguards Specialist

Paivi Koskinen-Lewis, Social Safeguards Specialist

Abdoulaye Gadiere, Environmental Safeguards Specialist

(4) Policies that might apply

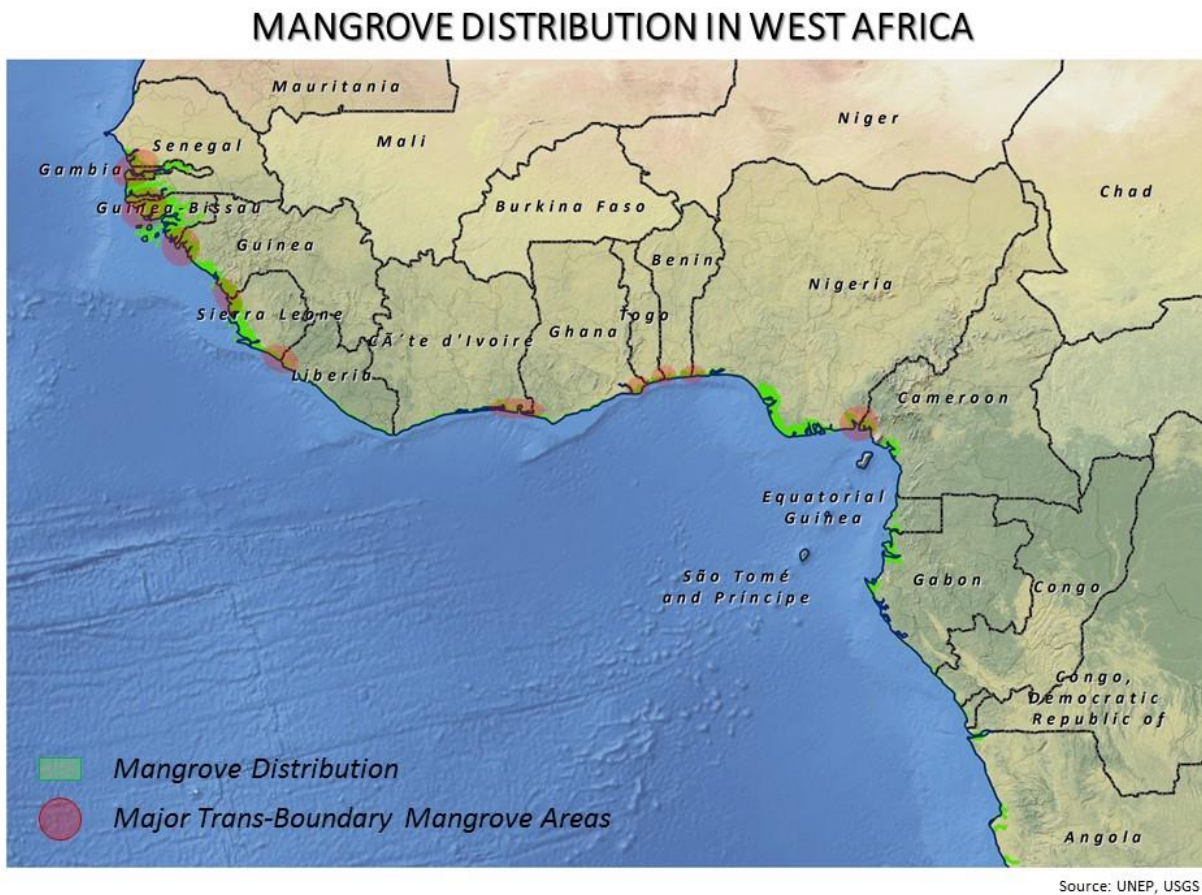
Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>An Environmental and Social Management Framework (ESMF) will be developed for each country. Additional project specific Environmental and Social Impact Assessments (ESIA) and Environmental and Social Management Plans (ESMP) will be prepared, as necessary, for investment sub-projects fully identified during preparation, on the basis of the investment plans currently being implemented. All instruments will be adequately consulted upon and disclosed before appraisal.</p> <p>The project will, through its technical assistance component 1, help the countries during implementation prepare Strategic Environmental and Social Assessments (SESA), as needed, in conjunction with the preparation of coastal development plans. Sample terms of reference for these assessments will be developed and included in the ESMFs for guidance.</p>
Natural Habitats OP/BP 4.04	Yes	<p>Although the project is not expected to intervene in any critically important natural habitats, the exact sites of the proposed investments are not yet known.</p> <p>The development of nature-based infrastructure investments may require works to be undertaken with or adjacent to natural habitats in order to enhance/expand their current area of influence for providing coastal protection.</p>
Forests OP/BP 4.36	Yes	The project may consider financing sub-projects in areas impacting forest ecosystems or affecting the livelihoods of people depending upon forests.

		Forest Management Plans will be prepared in such cases.
Pest Management OP 4.09	No	The project will not finance procurement of pesticide nor promote their use.
Physical Cultural Resources OP/BP 4.11	Yes	The eligibility criteria for investment sub-projects will ensure that no activities are implemented in areas with a cultural heritage potential. Given however that the exact locations of these sub-projects have not yet been determined, chance-find procedures will be included in work contracts.
Indigenous Peoples OP/BP 4.10	No	This will be confirmed during project preparation.
Involuntary Resettlement OP/BP 4.12	Yes	<p>No land acquisition and subsequent losses of assets or livelihoods is anticipated in the actual design of the project. However the intended investments of coastal infrastructure development might call for limited physical displacement or create a need to compensate for the loss of livelihoods or property loss caused by the construction of the investments.</p> <p>As the specific subprojects are not yet clearly defined and the exact sites of the proposed investments are not yet known, the project will prepare country specific Resettlement Policy Frameworks (RPF); these will be consulted upon in each of the countries and will be disclosed before appraisal by the Bank and the respective countries.</p> <p>The project will also support planned coastal strategic and managed retreats/relocations under WACA and designing potential alternative livelihoods for affected people and which will be addressed via a Social Framework that will be prepared for the project.</p>
Safety of Dams OP/BP 4.37	No	The types of proposed activities are not likely to depend or have any impacts on existing dams or be affected by them. However watershed management projects might be considered. Therefore, the applicability of this policy will be further investigated during project preparation, in view of the nature and the proximity of such dams to proposed sites.
Projects on International	Yes	The project is not expected to finance any activity which may affect water resources uptake from

Waterways OP/BP 7.50		international waters in quantity. However, guidance will be sought from LEGEN on the triggering of the policy and on the notification requirements, if any.
Projects in Disputed Areas OP/BP 7.60	No	The project is not implemented in any disputed areas.

Annex I

Mangrove Distribution in West Africa highlighting Transboundary Mangrove Areas



Annex II. Main target areas and drivers of degradation

- **Chenal de Gbaga** in Togo/Benin

Target area.

In Togo, the WACA Resilience Investment Project will cover the entire East part of the Port of Lome. However, coastline protection works will focus on two areas: GT 1e (priority 1) from village Agbodrafo to Aneho (boarder) and area GT 1d from Gbodjomento Agbodrazo. In Benin, several hotspots have been identified and the country has decided to concentrate the resources allocated under the WACA investment plan on the western transboundary zone between Hilacondji and Grand Popo.

The GEF project will focus on the barrier-lagoon system of Togo and Benin which forms a fragile, complex and unique system of wetlands, lagoons, marshes and waterways. A few areas in the Mono delta have been placed under protection, including the Togodo South National Park, the neighbouring Togodo North nature reserve in Togo, the Adjamé communal nature reserve in Benin that is managed by the local population, as well as three RAMSAR areas, two of which are in Togo and one in Benin³¹. Within this system, the Chenal de Gbaga makes up the natural linkage between the lagoon system in Togo and the downstream waters of the Mono River. The Chenal is endowed with diverse ecosystems (e.g. mangroves, other wetlands), which are home for rich biodiversity (e.g. migratory birds, aquatic mammals, endangered species such as marine turtles, hippopotamus and the African manatee) and livelihood (e.g. fisheries, navigation, NTFPs, etc.). Togo and Benin are currently engaged in a process of listing the Chenal de Gbaga as a cross-border RAMSAR site³². The estimated mangrove biome extent in the project area is 25,000 ha (and an estimated adjoining buffer area of 75,000 Ha) and the area of coastal watershed is estimated at 400,000 ha.

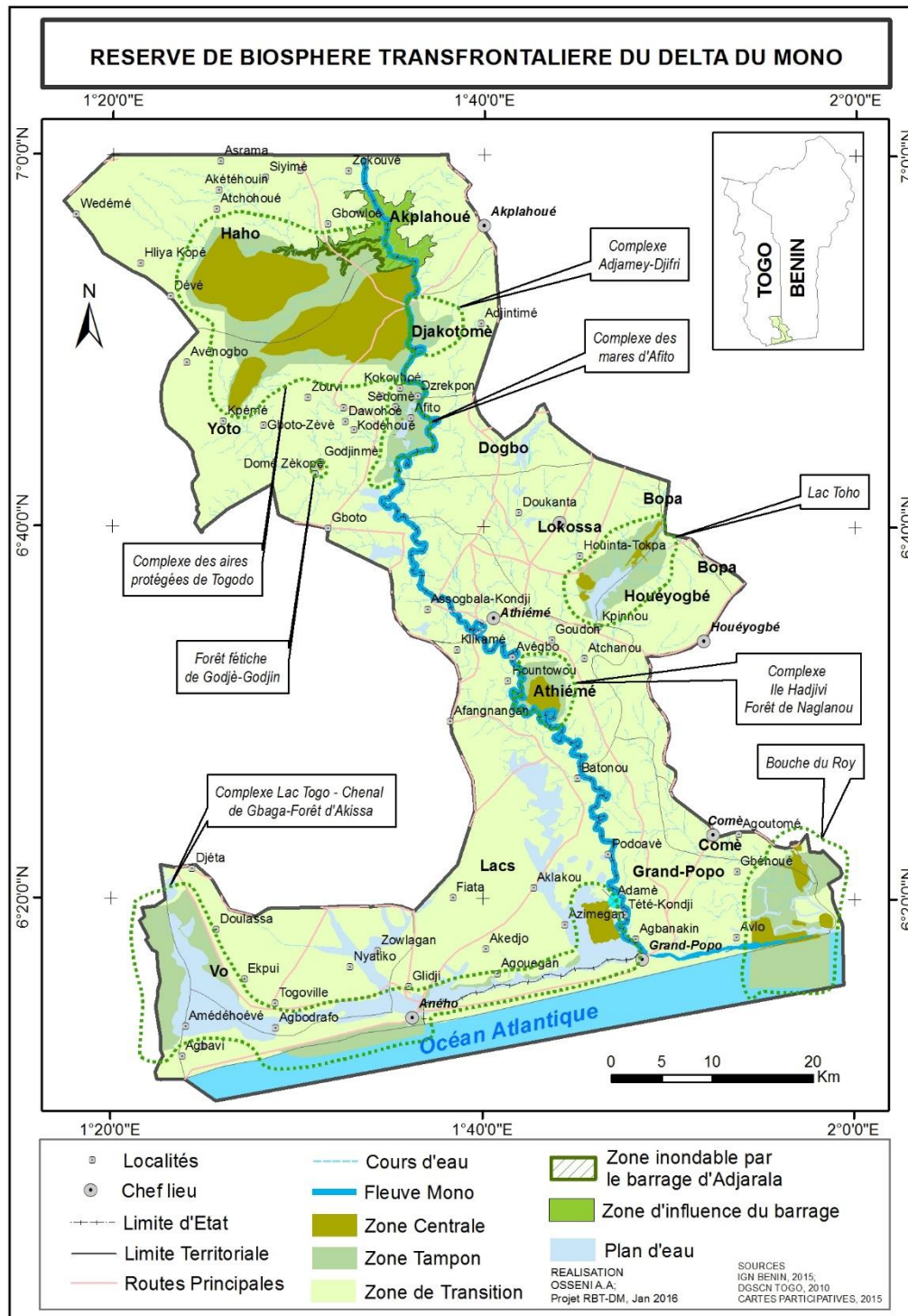
Drivers of degradation. Despite its high potential in sustaining biodiversity and livelihoods, Chenal de Gbaga suffers from severe coastal erosion and shoreline loss, flooding and overexploitation of fisheries. In addition, a significant portion of natural habitat has been degraded by unsustainable practices, e.g. deforestation, uncontrolled fires, poaching, pollution from urban, industrial and mining waste, destructive fishing practices and expansion of invasive species. In particular, unsustainable agricultural practices (e.g. inappropriate cropping techniques, poor fertility maintenance, bush fires, overgrazing) led to land degradation and further expansion of agricultural practices in fragile lands; as a result, nearly 90% of mangroves³³ have been deforested during 1980-2012. In this target area, the GEF project will address the problem of loss of ecosystem integrity through the

³¹ GIZ. 2013. Transboundary Biosphere Reserve in the Mono Delta. <https://www.giz.de/en/worldwide/27427.html>

³² RAMSAR. 2015. Togo. Rapport National sur l'application de la Convention de RAMSAR sur les zones humides. <http://ramsar.rgis.ch/pdf/cop12/nr/COP12NRFTogo.pdf>

³³ Mangrove area decreased from 40 km² in 1980, to 8 km² in 2004 and 0.5 km² in 2012, based on data from the World Atlas of Mangroves (2010) and country estimates for 2012.

Map 1: Mono Delta Biosphere Reserve including Chenal de Gbaga complex



- **Off Shore Benin**

Target area.

Several oil platform installations have been abandoned after active oil production ceased in 1998. The GEF project will focus on an off-shore area located 13 km from the coast of Benin and approximately 2.5 km West of the Nigerian border, which covers abandoned oil field installations. The installations include:

- Five platforms: two tripod production platforms, one tetrapod production Platform and two monopods.
- More than 23 km of subsea pipelines;
- A loading subsea pipeline of 7.76 km covering the distance between the shore and the former loading terminal;
- Sixteen wells, among which ten production wells that have not been secured during the abandonment of the installations in 1998.

In recent observational visit of the site oil leakage was noticed from one of the platforms and oil slicks were visible on water surface.

Drivers of degradation.

There are several drivers of degradation in the target area: (i) Oil field installations are in an advanced state of deterioration; (ii) Basic safety equipments - which would normally prevent wells from leaking - are lacking in the wells (iii) inadequate and not up-to industry best practices closure of operations on the oil platforms. As a result, any significant damage to the wellheads or to the pipelines could lead to a spill that would have very serious consequences and for which little or no mitigation measures currently exist.

The modelling of oil spill trajectory shows that the area potentially impacted in the event of a major spill could extend, depending on the period of the year, to the east beyond the Nigerian border and to the west up to the Togolese border. In most cases, the oil spilled would drift with the dominant coastal currents in a north and north-east direction. The oil slick drifting in this direction may reach a short portion of the Benin coast, but would most probably have negative transboundary effects, by affecting the west portion of the Nigerian coasts. The spills could result in adverse environmental consequences for marine fauna (fish, shellfish, birds), for coastal habitats (sandy beaches, mangroves, lagoons and estuaries) and for people's livelihoods (fisheries) and health. In this target area, the GEF project will address the problem of water quality deterioration due to the high risk of coastal pollution from oil spills or leakage, with **transboundary** impacts on neighboring countries.

- **STP archipelago**

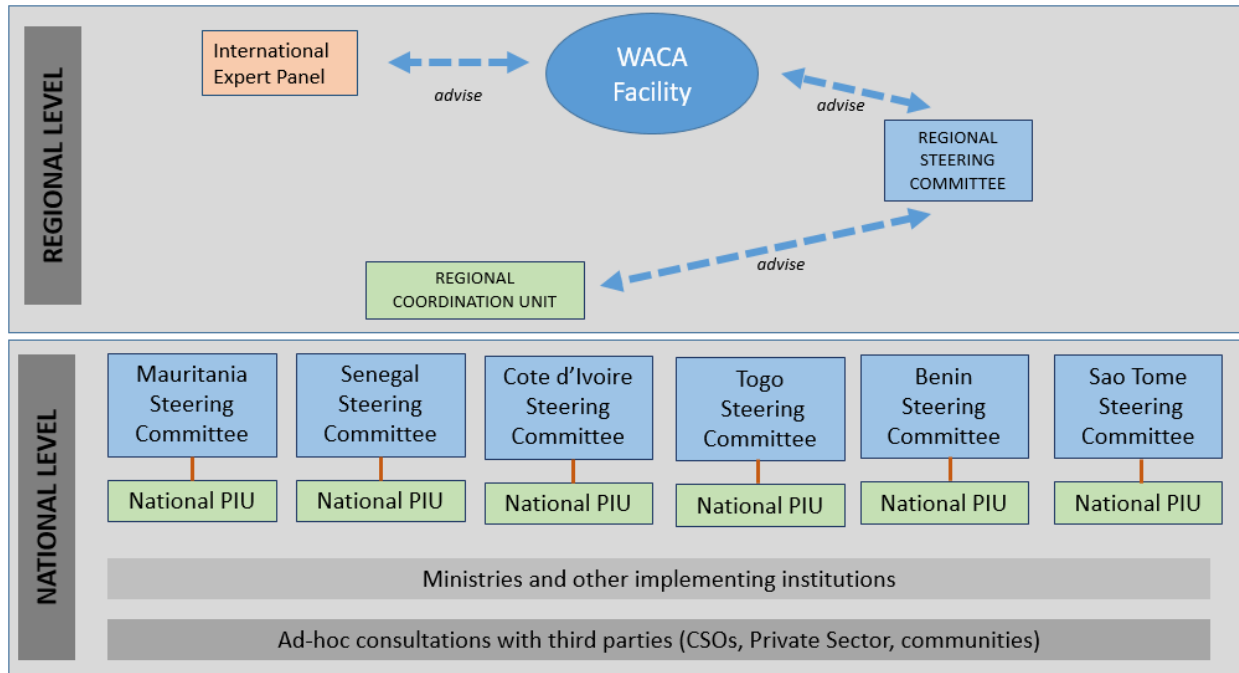
Target area. One of the smallest African nations, STP is an archipelago with two main islands and four islets located in the Gulf of Guinea, 350 km off the west coast of Africa. Although development indicators have been steadily improving, STP remains one of the poorest Small Island Developing States (SIDS), with approximately 63 percent of the population below the poverty line³⁴. Based on a simple 500 m buffer inland for both major islands, area of coastal zone can be estimated as 112 km².

Drivers of degradation. STP shares many of the challenges affecting other West African coastal countries, e.g. severe floods, coastal erosion and shoreline loss; overexploitation of fisheries and coastal aggregates; coastal pollution; rapid urbanization and unsustainable land use; and overlapping policies affecting coastal governance. In addition, oil, gas and mineral exploration are expanding throughout the GCLME, posing risks related to oil spills, tar balls and other discharges in the marine environment. Furthermore, due to its small size and isolation, the country is highly vulnerable to climate change effects, such as storms and sea level rise. STP has little capacity to respond to these risks and to minimize potential impacts of damaging events. In this target area, the GEF project will address the problem of coastal habitat destruction due to floods and coastal erosion.

³⁴ based on 2012 data.

Annex III: WACA Resilience Investment Project

Institutional and Implementation Arrangements



Annex IV. WACA and GEF investments

The programmatic approach of the overall WACA aims to help countries integrate infrastructure and natural resources management in order to enhance their resilience in the face of environmental degradation (coastal erosion and flooding) and climate change. The program provides technical assistance and offers finance for multi-sectoral solutions such as land management and spatial planning, infrastructure, natural habitat management, and pollution management.

Countries in West Africa are poised to move beyond quick and reactive measures to address emergencies to measures based on knowledge gained from lessons learned, a deeper understanding of the specific structural factors leading to the erosion of their own coasts, and anticipation of more extreme climate events. Such investments could include infrastructural solutions, such as grey infrastructure, green infrastructure, and pollution and waste management operations. Investments include support to innovative approaches aiming at increasing climate resilience in key coastal areas and could focus on (i) scaling up best practices on coastal adaptation across the region; (ii) restoring or preserving healthy and functioning ecosystems and (iii) protecting the built environment.

Notably, the overall Program vision includes the opportunity to provide a dynamic convening platform for coastal countries and partners, where they share knowledge, expertise, and access finance. The approach encourages countries to engage in technical assistance first in order to unbundle the complex coastal development challenges into actionable priorities, such as conducting multi-hazard risk assessments, preparation of multi-sector investment plans, and mobilizing the leadership at national and regional levels to effectively advance concrete projects. The countries engaged with this project have been part of the development of the approach, as supported by several Bank-executed trust funds. The Bank will also develop a separate technical assistance project which will put in place a mechanism to crowd in expertise and finance to extend resources and solutions to the rest of the countries.

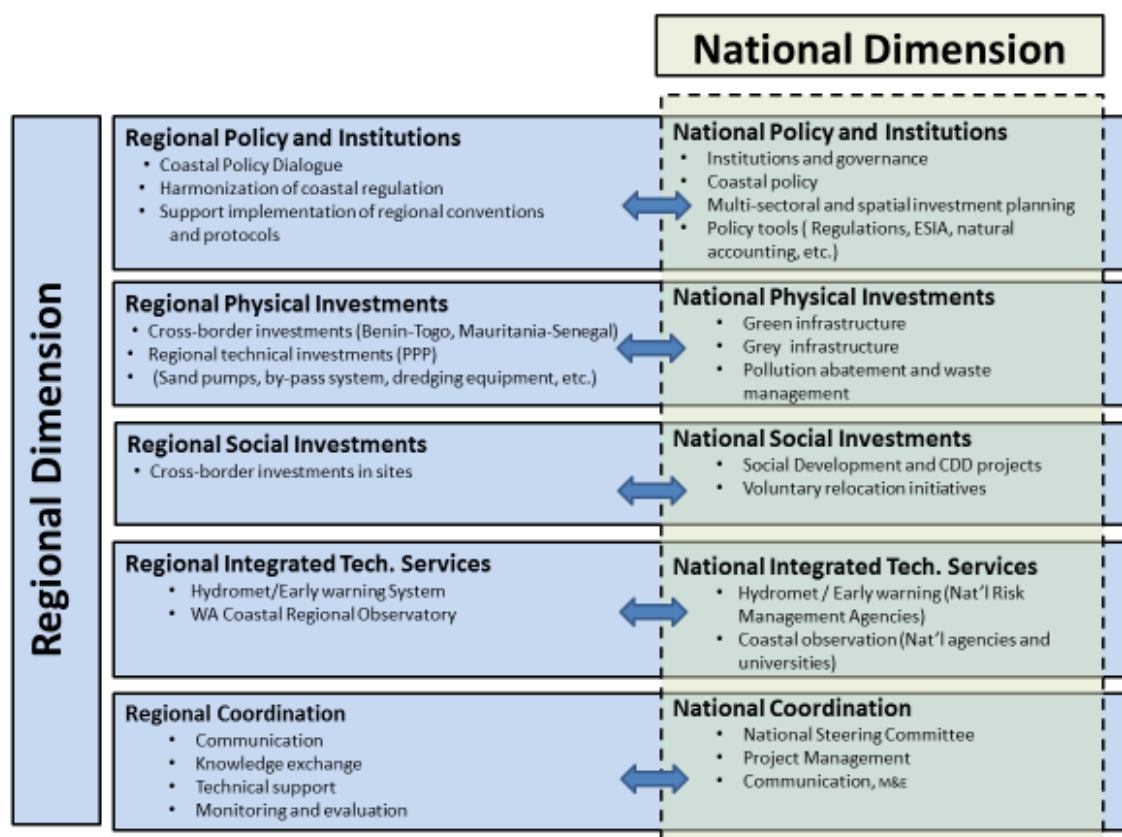
The proposed GEF project blended with the World Bank “WACA Resilience Investment Project is intended as part of this overall programmatic and regional initiative to support the strengthening of resilience of coastal communities and assets in West Africa countries, along the coastline between Mauritania and Gabon. The six countries benefiting from this first project (Benin, Côte d’Ivoire, Mauritania, Sao Tome and Principe, Senegal, and Togo) were the first to request technical and financial support from the World Bank. They have reached a degree of readiness through multi-sector investment planning (MSIP) processes and experience particularly vulnerable coastal challenges (erosion, flooding, pollution).

The project will encourage countries to engage collectively, at the regional level, in the management of shared environmental coastal resources to achieve economic, social and environmental benefits. Large marine ecosystems are transboundary in nature and major coastal ecosystems, such as mangroves and wetlands, stretch along the coasts, crossing boundaries between countries as is the case between Mauritania and Senegal, Côte d’Ivoire and Ghana and Togo and Benin. Similarly, pressures on these resources are regional in nature and requires a coordinated effort between countries. The long-term equilibrium of littoral sediment

transport has been affected by major infrastructures, both inland, such as dams, and coastal, such as ports, and the project will finance remediation activities to mitigate the negative impacts of these infrastructures.

The proposed project will be developed and implemented on the basis of established technical and financial partnerships and complementarity with achievements to date and on-going operations. Specifically, the World Bank has (informal) agreements with the African Union, the African Development Bank, the European Union, Food and Agriculture organization of the United Nations, the Global Environment Facility, the Green Climate Fund, the French government and European Space Agency to collaborate on WACA implementation. The project will also seek to maximize the opportunity for private sector finance to help mobilize the scale of finance needed.

The overall WACA Resilience Investment project design responds to the need for interventions at policy and institutional level, demand for physical and social investments, assistance for establishment of integrated support systems, such as coastal observation and early warning, and regional/national implementation support units to help with the communication, exchange of knowledge, scaling up of activities and monitoring of impacts. WACA will operate at both regional and national levels and is being designed to allow knowledge and information sharing in both directions. Figure 1 shows the preliminary approach, which is being further defined.



Preliminary Schematic of regionally-managed activities and their corresponding nationally activities for WACA

GEF financing has been integrated within the overall WACA structure and will provide incrementality and complementarity as shown in Table 1 below.

Table 1: WACA and GEF Activities

Country	Baseline WACA	GEF
Togo	<p>Construction of flood control works: clearing gutters, water reservoirs, flood control works, bank protection, dredging of lagoons and lakes</p> <p>Development infrastructure: development and rehabilitation of urban, peri-urban and rural roads</p> <p>Coastal protection works: soft sand recharging solutions (mega sand reloading), construction of new structures (groynes, breakwaters) and rehabilitation of existing structures.</p> <p>Voluntary displacement of populations in risk areas.</p>	<p>Green infrastructure (nature-based solutions): rehabilitation of flood banks along the canal (Chenal de Gbaga), implementation of watershed management plans, management of invasive species; reforestation of mangroves, adoption of sustainable land management practices; introduction of alternative income generating activities that discourage agricultural expansion (e.g. bee keeping, eco-tourism); development of value chains in key sectors (e.g. agriculture, fisheries, aquaculture, livestock); support towards designation of RAMSAR site.</p> <p>Identify the biophysical and socio-economic data needed to understand changes in the landscape; collect and share information at the national and regional levels.</p>
Benin	Soft investments (beach replenishment, sediment by-pass): massive replenishment (moteur de sable) in front of Hillacondji.	<p>Same activities as above.</p> <p>Capacity building on transboundary oil pollution management</p>
STP	Build capacity of regional and national institutions to collect, assess and share coastal zone data and information. Investments include: national coastal observation and monitoring (via national Antenna), regional coastal observation (via MOLOA), promoting the coastal research sector (meteorology, oceanography, hydrology, etc.) and knowledge implementation (production of thematic reference maps in GIS).	Participatory assessments to determine high-risk areas, modelling to study potential events, protocol drafted to conduct multi-sector/joint surveillance.

Annex V. Distribution of GEF funds by country, component and focal area

TOGO	IW	BD	LD	Total
Component 1	733,945	366,972	405,505	1,506,422
Component 2	2,385,321	1,192,661	1,317,890	4,895,872
Component 3	0	0	0	0
Component 4	366,972	183,486	202,752	753,211
Component 5	183,486	91,743	101,376	376,606
Total Togo	3,669,725	1,834,862	2,027,523	7,532,110

BENIN	IW	BD	LD	Total
Component 1	1,602,532	240,550	834,659	2,677,742
Component 2	3,844,715	781,789	2,712,642	7,339,146
Component 3	0	0	0	0
Component 4	435,780	120,275	417,330	973,385
Component 5	309,633	60,138	208,665	578,435
Total Benin	6,192,661	1,202,752	4,173,295	11,568,708

STP	IW	BD	LD	Total
Component 1	229,358	0	0	229,358
Component 2	0	0	0	0
Component 3	0	0	0	0
Component 4	860,092	0	0	860,092
Component 5	57,339	0	0	57,339
Total STP	1,146,789	0	0	1,146,789

GEF (all countries)	IW	BD	LD	Total
Component 1	2,565,835	607,523	1,240,164	4,413,521
Component 2	6,230,036	1,974,450	4,030,532	12,235,018
Component 3	0	0	0	0
Component 4	1,662,844	303,761	620,082	2,586,688
Component 5	550,459	151,881	310,041	1,012,380
Total (all)	11,009,174	3,037,615	6,200,818	20,247,607