

# Concept Note

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## **West Africa Coastal Areas Resilience Investment Project for Climate Change Adaptation (WACA ResIP-CCA)**

Benin, Cote d'Ivoire, Mauritania, Senegal, Togo | World Bank

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**GREEN  
CLIMATE  
FUND**

# Concept Note

Project/Programme Title: West Africa Coastal Areas Resilience Investment Project for Climate Change Adaptation (WACA ResIP-CCA)

Country(ies): Benin, Cote d'Ivoire, Mauritania, Senegal, Togo

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[YYYY-MM-DD] [V.0]

Please submit the completed form to [fundingproposal@gcfund.org](mailto:fundingproposal@gcfund.org),  
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## PROJECT / PROGRAMME CONCEPT NOTE Template V.2.2

## Notes

- The maximum number of pages should **not exceed 12 pages**, excluding annexes. Proposals exceeding the prescribed length will not be assessed within the indicative service standard time of 30 days.
- As per the Information Disclosure Policy, the concept note, and additional documents provided to the Secretariat can be disclosed unless marked by the Accredited Entity(ies) (or NDAs) as confidential.
- The relevant National Designated Authority(ies) will be informed by the Secretariat of the concept note upon receipt.
- NDA can also submit the concept note directly with or without an identified accredited entity at this stage. In this case, they can leave blank the section related to the accredited entity. The Secretariat will inform the accredited entity(ies) nominated by the NDA, if any.
- Accredited Entities and/or NDAs are encouraged to submit a Concept Note before making a request for project preparation support from the Project Preparation Facility (PPF).
- Further information on GCF concept note preparation can be found on GCF website [Funding Projects Fine Print](#).

<b>A. Project/Programme Summary (max. 1 page)</b>			
<b>A.1. Project or programme</b>	<input checked="" type="checkbox"/> Project <input type="checkbox"/> Programme	<b>A.2. Public or private sector</b>	<input checked="" type="checkbox"/> Public sector <input type="checkbox"/> Private sector
<b>A.3. Is the CN submitted in response to an RFP?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, specify the RFP:	<b>A.4. Confidentiality<sup>1</sup></b>	<input type="checkbox"/> Confidential <input checked="" type="checkbox"/> Not confidential
<b>A.5. Indicate the result areas for the project/programme</b>	<p><b>Mitigation:</b> Reduced emissions from:</p> <input type="checkbox"/> Energy access and power generation <input type="checkbox"/> Low emission transport <input type="checkbox"/> Buildings, cities and industries and appliances <input type="checkbox"/> Forestry and land use <p><b>Adaptation:</b> Increased resilience of:</p> <input checked="" type="checkbox"/> Most vulnerable people and communities <input type="checkbox"/> Health and well-being, and food and water security <input checked="" type="checkbox"/> Infrastructure and built environment <input checked="" type="checkbox"/> Ecosystem and ecosystem services		
<b>A.6. Estimated mitigation impact (tCO<sub>2</sub>e over lifespan)</b>		<b>A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)</b>	Approximately 12 million indirect beneficiaries <sup>2</sup> (direct beneficiaries will be determined during the project preparation)
<b>A.8. Indicative total project cost (GCF + co-finance)</b>	Amount: USD 382 million	<b>A.9. Indicative GCF funding requested</b>	Amount: USD 200 million
<b>A.10. Mark the type of financial instrument requested for the GCF funding</b>	<input checked="" type="checkbox"/> Grant <input type="checkbox"/> Reimbursable grant <input type="checkbox"/> Guarantees <input type="checkbox"/> Equity <input type="checkbox"/> Subordinated loan <input type="checkbox"/> Senior Loan <input type="checkbox"/> Other: specify _____		
<b>A.11. Estimated duration of project/ programme:</b>	a) disbursement period: January 2019 – January 2025 b) repayment period, if applicable: N/A	<b>A.12. Estimated project/ Programme lifespan</b>	6 years
<b>A.13. Is funding from the Project Preparation Facility requested?<sup>3</sup></b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Other support received <input type="checkbox"/> If so, by who:	<b>A.14. ESS category<sup>4</sup></b>	<input checked="" type="checkbox"/> A or I-1 <input type="checkbox"/> B or I-2 <input type="checkbox"/> C or I-3
<b>A.15. Is the CN aligned with your accreditation standard?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>A.16. Has the CN been shared with the NDA?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>A.17. AMA signed (if submitted by AE)</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If no, specify the status of AMA negotiations and expected date of signing:	<b>A.18. Is the CN included in the Entity Work Programme?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>A.19. Project/Programme rationale, objectives and approach of</b>	Brief summary of the problem statement and climate rationale, objective and selected implementation approach, including the executing entity(ies) and other implementing partners.		

<sup>1</sup> Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy ([Decision B.12/35](#)) and the Review of the Initial Proposal Approval Process ([Decision B.17/18](#)).

<sup>2</sup> Based on the population in low lying coastal areas in the 5 countries, World Bank team calculations using Landscan 2012 data. The analysis considered 1m Sea Level Rise, and estimated an area of land and population affected.

<sup>3</sup> See [here](#) for access to project preparation support request template and guidelines

<sup>4</sup> Refer to the Fund's environmental and social safeguards ([Decision B.07/02](#))

programme/project (max  
100 words)

With one third of West Africa's population and source of 42 percent of its GDP, coastal areas are the region's socio-economic nexus. Population growth, and associated anthropogenic stressors have imposed enormous pressure on coastal resources. Moreover, the region is among the World's **hotspots for climate change impacts**. **Many coastal African countries are vulnerable to sea-level rise, flooding and increased erosion**, which pose immediate and long-term risks to livelihoods, assets and natural resources. The project will strengthen the resilience of the most vulnerable coastal communities and areas against the climate change risks in five countries of West Africa. It will mainstream climate risks and the associated resilience measures in policies and plans at the national level, and implement structural resilience measures against the sea level rise (SLR), extreme events and flooding at the local level. The project will be housed within West Africa Coastal Areas (WACA) Program and will use its implementation arrangements.

## B. Project/Programme Information (max. 8 pages)

### B.1. Context and baseline (max. 2 pages)

*Describe the climate vulnerabilities and impacts, GHG emissions profile, and mitigation and adaptation needs that the prospective intervention is envisaged to address.*

*Please indicate how the project fits in with the country's national priorities and its full ownership of the concept. Is the project/programme directly contributing to the country's INDC/NDC or national climate strategies or other plans such as NAMAs, NAPs or equivalent? If so, please describe which priorities identified in these documents the proposed project is aiming to address and/or improve.*

*Describe the main root causes and barriers (social, gender, fiscal, regulatory, technological, financial, ecological, institutional, etc.) that need to be addressed.*

*Where relevant, and particularly for private sector project/programme, please describe the key characteristics and dynamics of the sector or market in which the project/programme will operate.*

The West African coast, spanning from Mauritania to Gabon, cover 17 countries<sup>5</sup> with a diversity of economic, political, and conflict situations. These areas are of crucial importance to the region, as they include one third of its population and generate 42 percent of its GDP<sup>6</sup>. The urban population, located mostly in these areas, is growing at an annual rate of 4 percent, which is almost twice the worldwide average<sup>7</sup>. This rapid urbanization and net migration to the coast are already increasing the demands on land, water, and other natural resources<sup>8</sup>. In addition, man-made infrastructure interrupting natural sediment flow (river dams, seawalls, breakwaters) and extraction of sand from beaches or dunes have led to significant coastal retreat in West Africa; the highest rates of retreat - in the order of 10 meters per year or more - occur near river mouths and harbor jetties, that is, in the most urbanized areas<sup>9</sup>. Coastal degradation is leading to significant losses of assets (e.g. houses, infrastructure) and critical ecosystems (e.g. beaches, wetlands, mangroves), with negative impacts on coastal communities.

Moreover, West African coastal communities – particularly the poorest, whose livelihoods depend on natural resources – are increasingly **vulnerable to climate change impacts**. Every year, an average of 500,000 people in the region are threatened by floods and aggravated coastal erosion, resulting in significant losses, estimated at 2.3 percent of Togo's GDP in 2013<sup>10</sup> and 3.2 percent of Mauritania's GDP in 2014<sup>11</sup>. In Senegal, flooding affects about 200,000 people annually, with impacts estimated at US\$89 million per year on average; while the extreme floods in 2009 caused substantially higher damages in Dakar (US\$104 million)<sup>12</sup>. SLR and expected extreme events like storm surges will be a major factor for coastal retreat at the regional level by the end of the century<sup>13</sup>. The IPCC 5<sup>th</sup> Assessment report identified West Africa as a **hotspot of climate change**, with unprecedented climates expected to occur one or two decades earlier than the global average<sup>14</sup>. Continuing climate change and variability are predicted to further aggravate these challenges<sup>15</sup>:

- **SLR greater than the global average.** *In the IPCC's high emission scenario, SLR could be as high as 0.97 meter compared to the 1986-2005 baseline and occur much earlier than the end of the century<sup>16</sup>.* The local SLR along WACA is expected to be greater than the global average, due to local factors such as land subsidence. SLR and storm surges will put larger coastal areas and productive assets at risk of inundation and erosion. In

<sup>5</sup> The 17 countries are Benin, Cabo Verde, Cameroon, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, The Gambia, and Togo.

<sup>6</sup> <http://www.worldbank.org/en/programs/west-africa-coastal-areas-management-program>

<sup>7</sup> <https://www.csis.org/analysis/urbanization-sub-saharan-africa>

<sup>8</sup> World Bank. 2015. West Africa Coastal Areas Management Program: A Partnership for Saving West Africa's Coastal Assets. <http://www.worldbank.org/en/programs/west-africa-coastal-areas-management-program>

<sup>9</sup> Giardino, A., Schrijvershof R., Brière C., Nederhoff K., Tonnon P. K., and Caires S., 2017. "Human Interventions and Climate Change Impacts on the West African Coastal Sand River." Washington, DC: World Bank.

<sup>10</sup> World Bank. 2015. *Rapid Cost of Environmental Degradation*. Togo. Background Document for the Systematic Country Diagnostic. Washington, DC : World Bank.

<sup>11</sup> Banque Mondiale. 2017. *Coût de la Dégradation et de la Restauration de l'Environnement Côtier, Marin et Maritime en Mauritanie en 2014*. Programme WACA, Banque Mondiale et MEDD. Washington, DC.

<sup>12</sup> <https://www.gfdr.org/senegal>

<sup>13</sup> World Bank. 2018. West Africa Coastal Resilience Investment Project. Project Appraisal Document.

<sup>14</sup> Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham, and P. Urquhart, 2014: Africa. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

<sup>15</sup> If not otherwise specified, the information below is based on the IPCC 5<sup>th</sup> Assessment: Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham, and P. Urquhart, 2014: Africa. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

<sup>16</sup> The global mean sea level rose by 0.19 meter during 1901-2010. Under the RCP8.5 scenario, the sea level is projected to rise further by 0.63 meter on average (within the range of 0.45-0.82 meter) by 2100 with respect to the 1986-2005 baseline level.

Senegal, for example, it is expected that in 2080, three quarters of the coastline will be at high risk of erosion and two-thirds will be at high risk of submersion<sup>17</sup>.

- **More intense and extreme rainfalls.** Large-scale global climate models predict that the rainy season will become wetter and will occur with slight delays towards the end of the 21st century. Regional climate models, which are better adapted to represent complex topography, suggest a tendency towards more intense and more frequent extreme rainfall events, and increases in annual mean wind speed over certain parts of West Africa<sup>18</sup>. However, uncertainties related to precipitation trends remain, mainly due to lack of local data.
- **Intolerable hotter climate.** Temperatures in Africa are projected to rise faster than the global average increase during the 21<sup>st</sup> century; West Africa is likely to experience a temperature increase of *3-6° C above the 1986-2005 baseline under high emissions scenarios*. Declining water supply and agricultural production due to a hotter climate could pose additional challenges in terms of population displacement, food security, and health risks. Similarly, major infrastructures like roads, buildings as currently built may not be able to maintain their functionality at such significantly higher temperatures.

The above challenges can pose **immediate risks**, especially to the poorest, loss of assets (e.g. due to flooding and coastal erosion risks) and productivity losses (e.g. due to increase in temperature, droughts, extreme rainfalls). Available estimates show for example that a one standard deviation increase in extreme flooding would raise poverty by 2.4 percent, reduce children's weight by 8.6 percent, and increase infant mortality by 9.6 percent<sup>19</sup>.

These problems point to an **urgent need** to protect the West African coastal areas from climate change impacts. The Multi-Sectoral Investment Plans (MSIP) of West African countries (Benin, Cote d'Ivoire, Mauritania, and Togo) estimated conservatively the initial cost needed for coastal protection at about US\$528 million<sup>20</sup>. In response to countries' request to meet this need, the World Bank created the WACA program<sup>21</sup>, which aims at strengthening the resilience of targeted communities and areas in coastal Western Africa. The program provides technical assistance and finance to help countries sustainably manage their coastal areas; and has announced a high-level international Platform to crowd in additional partners to mobilize the resources at the scale needed. Under this program, the first WACA Resilience Investment Project (WACA ResIP, US\$221.7 million<sup>22</sup>) has been recently approved, with the aim of addressing coastal erosion, floods, and coastal pollution issues in selected target areas of six West African countries (Benin, Cote d'Ivoire, Mauritania, Sao Tome and Principe, Senegal and Togo).

While the WACA ResIP is a first step in addressing coastal problems from a regional perspective in West Africa, it fulfils only part of the stated needs in the MSIPs. In fact, the WACA ResIP: (i) does not focus on specific climate change issues, such as SLR, increase in temperature and their potential effects in these countries; and (ii) seeks solutions only for selected hotspot areas with urgent coastal problems. The proposed **WACA Resilience Investment Project for Climate Change Adaptation (WACA ResIP-CCA) aims to fill this gap** by mainstreaming climate risks (i.e. SLR, flooding, temperature, extreme weather) and resilience measures into national policies and strategies; and by implementing social and physical investments in three sectors particularly vulnerable (i.e. transport, urban, natural resources) in hotspot areas threatened by coastal SLR, floods and erosion. The project will intervene in five West African countries: Benin, Togo, Cote d'Ivoire, Mauritania, and Senegal.

The proposed project is directly aligned with both regional agendas and countries' national priorities, by supporting:

- the **African Union's Agenda 2063**: "The Africa We Want", which aims for "a prosperous Africa based on inclusive growth and sustainable development" through several measures, among which addressing increased risks of inundation and erosion due to climate change.

<sup>17</sup> Banque mondiale/Gouvernement du Sénégal. 2013. Étude économique et spatiale de la vulnérabilité et de l'adaptation des zones côtières aux changements climatiques au Sénégal. Rapport de synthèse.

<sup>18</sup> However, there are still a lot of uncertainties and the lack of sufficient information around the future precipitation trends to support planning at the local level.

<sup>19</sup> One standard deviation increase in flooding corresponds to 186 mm of rainfall. As there were about 10,600 deaths in 2012, this increase in flooding would account for about 1,000 more infant deaths than there would otherwise have been. Background report for the ASA "Coastal Resilience in West Africa: Fostering partnerships for the regional development of coastal areas (ID: P161053).

<sup>20</sup> MSIPs focused on investments needed along the coasts in the four countries, in Cote d'Ivoire MSIP covered one of the most vulnerable coastal cities Grand Lahou. The estimate does NOT include the costs of coastal protection in Senegal.

<sup>21</sup> [www.worldbank.org/waca](http://www.worldbank.org/waca)

<sup>22</sup> The amount is provided by IDA (US\$190 million), GEF (US\$20.25 million parallel financing) and Government contributions in the form of parallel financing (US\$11.45 million) for the six participating countries. The amount includes funding towards all 6 countries.

- the **Abidjan Convention**, which objectives in West Africa focus on coastal development policy. Its final Declaration at COP12 (March 2017) recognized the negative impacts of coastal erosion on the socioeconomic viability of the West African coast and committed to supporting the implementation of the WACA Program.
- **National Action Plans** and **Multi-Sectoral Investment Plans**, which identify priority investments to be implemented in each country to tackle the highest environmental concerns. The project will specifically contribute to investing in measures that address adaptation to SLR, floods and increased risk of erosion in the urban/transport sectors as well as natural resource conservation.
- **Nationally Determined Contributions (NDCs)**, which highlight the role of coastal ecosystems for climate change adaptation, with recognition for mitigation co-benefits (Table 1).

**Table 1. Alignment of the proposed project with the countries' NDC**

Country	Timeline	Priority adaptation measures identified by NDC for which the project is consistent with
Mauritania	2020-2030	Protect cities of Nouakchott and Nouadhibou against risks of marine immersion and silting
Senegal	2016-2035	Prevent and manage disasters Improve the efficiency and management of the expansion of marine protected areas and marine parks
Cote d'Ivoire	2030	Regulate the construction and extraction of sand on the coastline Build active protection structures (groynes, breakwaters) and passive recovery (windbreaks, replanting or reforestation of mangroves)
Togo	2020-2030	Improvement of the regulatory framework and of knowledge management on the phenomenon of coastal erosion Making structural investments for coastal protection
Benin	2020-2030	Reduce erosion and sedimentary imbalance in the coastal area Restore fragile ecosystems (mangroves) and promote improved salt extraction technology by combining solar and wind energy.

**Market characteristics:** The proposed project will support generation of climate change related coastal observation data, including hydro-meteorological data, forecasts and other climate information products with market value. Currently, the available data in these countries are insufficient, sporadic or unreliable. The data and products generated through the project will be owned by the participating countries and regional entities, and will be considered "public goods", due to their public safety value and cross-cutting socio-economic benefits.

It is envisioned that data and information produced through the project will be shared with various climate vulnerable sectors to: (i) initiate or strengthen collaboration between the economic sectors and the hydro-met entity; (ii) provide the sectors with products and services that will aid their decision-making capacity in the changing climate. In the future, it is possible to further package the information produced through the project to cater to specific needs of private sector or profit-making end user. In such cases, public-private partnerships, revenue generating solutions, and partial cost recovery schemes can be designed.

## **B.2. Project/Programme description (max. 3 pages)**

*Describe the expected set of components/outputs and subcomponents/activities to address the above barriers identified that will lead to the expected outcomes.*

*In terms of rationale, please describe the theory of change and provide information on how it serves to shift the development pathway toward a more low-emissions and/or climate resilient direction, in line with the Fund's goals and objectives.*

*Describe how activities in the proposal are consistent with national regulatory and legal framework, if applicable.*

*Describe in what way the Accredited Entity(ies) is well placed to undertake the planned activities and what will be the implementation arrangements with the executing entity(ies) and implementing partners.*

*Please provide a brief overview of the key financial and operational risks and any mitigation measures.*

**Objective and Scope.** The proposed project will directly contribute to WACA program, which aims at strengthening the resilience of targeted communities and areas in coastal Western Africa. Specifically, the project will mainstream climate risks (i.e. SLR, flooding, extreme weather) into country policies and strategies, and will implement physical investments in vulnerable sectors in target areas highly exposed to the noted climate risks. As several efforts demonstrated the high

vulnerability of the urban sector<sup>23</sup>, transport sector<sup>24</sup>, and of the coastal natural resources<sup>25</sup> to climate change in West Africa, the project will focus its physical interventions in these three sectors.

**Approach.** The WACA ResIP-CCA will target the most vulnerable coastal communities and areas. The target areas are selected based on comprehensive technical analyses<sup>26</sup> and stakeholder engagement<sup>27</sup>. At the local level, resilience approaches to physical interventions will be implemented, tailored to the economic sectors at risk in consultation with local and sub-national stakeholders. These investments will be accompanied by national level policy improvements, institutional strengthening, development of climate services, to facilitate integration of adequate resilience measures in the vulnerable sectors.

**Project sites.** The project sites and the potential options for coastal resilience have been preliminarily identified in each participating country. This identification was based on: (i) existing WACA supported technical assessments, as well as other country assessments, which analysed the effects of current and projected climate change risks (SLR, flooding and storm surges) on the countries' coastal zone, estimated their socio-economic impacts and provided recommendations on potential adaptation measures; (ii) consultations with the country Nationally Designated Authorities (NDA), concerned national entities and the World Bank WACA program team. A new round of discussions at technical level are planned to ascertain the project sites and potential adaptation interventions (for more details, see Component 3 below).

**Components.** The project is composed of four components, and mirrors the WACA ResIP project structure.

*Component 1: Strengthen Regional Integration. The proposed project will not have specific activities under this component. However, as WACA ResIP includes dedicated activities under this component, and both projects (WACA ResIP and WACA ResIP-CCA) are part of the same WACA program, the proposed project will benefit from WACA ResIP's regional activities. Specifically, it will link with and benefit from sharing of knowledge and expertise on effective resilience measures through the regional WACA platform; and will leverage regional organizations, where appropriate, for national level implementation of resilient measures on the coast.*

*Component 2: Strengthen National Policy and Institutional Framework. This component will help countries establish an adequate policy framework and tools for the development and operationalization of their climate resilient coastal management strategies and plans. The activities envisaged are:*

*review and analyse key national level strategies and plans to deepen the inclusion of mid- and long-term climate risks into key coastal economic sectors.*

- *support implementation of the countries' coastal adaptation related NDC targets*
- *strengthen coastal cross-sectoral committee in each country to identify and plan for risks-shared among multiple sectors and develop climate resilient approaches that are mutually beneficial in the coastal areas.*
- *develop and deliver necessary trainings and capacity building activities at national and sub-national level for integration of climate change risks and response measures in Environmental Impact Assessments (EIAs).*
- *establish partnerships with research institutions and universities to better predict climate change effects and vulnerabilities on coastal zone systems with focus on climate information needs for the interventions in each country.*

*Component 3: Strengthen National Physical and Social Investments. This component will finance: investments in resilience options<sup>28</sup> that respond to extreme events (e.g. flooding, storm surges, extreme precipitation) and slow-onset risks (e.g. SLR- induced coastal erosion); and production of climate information services and improved awareness that will support such investments.*

The investments will target transport, urban and natural resources sectors in the project sites and will potentially include construction of new risk reducing and resilient infrastructure (combinations of nature based and hard infrastructures), retrofitting existing infrastructures to higher standards, and development of more adaptive management plans for operation of the infrastructures.

<sup>23</sup> Pauleit, S., Coly, A., Fohlmeister, S., Gasparini, P., Jorgensen, G., Kabisch, S., Kombe, W.J., Lindley, S., Simonis, I., Yeshitela, K. (Eds). 2015. Urban Vulnerability and Climate Change in Africa: A Multidisciplinary Approach. Future City 4. Springer.

<sup>24</sup> Cervigni, R., Losos, A., Chinowsky, P. Neumann, J. (Eds.) 2017. Enhancing the Climate Resilience of Africa's Infrastructure: The Roads and Bridges Sector. World Bank.

<sup>25</sup> USAID. 2013. Background paper for the ARCC West Africa Regional Climate Change Vulnerability Assessment. March 2013, USAID.

<sup>26</sup> The WACA program has conducted technical analyses to identify SLR, flooding and erosion related hotspots.

<sup>27</sup> The MSIPs were prepared with close stakeholder engagement at national and local levels

<sup>28</sup> Resilience measures differ from a sector to another, transport (e.g. flood protection of transport infrastructures, informed location, redundancy), urban (higher capacity for storm-water and drainage systems, redundancies) and conservation of natural resources (e.g. climate change informed restoration).

Potential target sites in each country and potential resilience interventions are described below (in attached maps). The site with the asterisk represents country preferred target area based on the initial consultations, to be confirmed following additional discussions with the countries.

**Benin:**

- \*Grand Popo and Ouidah (climate change risks-SLR and flooding induced erosion; Sector- natural resources): These areas lie on the western part of the Benin coastline and the areas are overall agricultural and peri-urban. There are a number of conservations areas, and the region has high potential for tourism. Mono estuary falls in this area, and the estuarine systems is interconnected with the sea via a narrow mouth. The areas have experienced higher frequency of storm surges, resulting in submersion of major parts of the beaches, hundreds of fishing shelters and houses of local communities. The expected SLR and extreme events will increase the incidence and intensity of coastal flooding affecting public infrastructures, fishing and other economic activities along the coast and health of the coastal ecosystems. Adaptation measures could include a comprehensive set of interventions (e.g. sediment management, dredging, stabilization/construction of estuary) and improvement in select public urban infrastructure based on further analysis.
- Eastern coast (climate change risks-SLR and flooding induced erosion; Sector - transport and natural resources): It is an industrial area with multiple groynes, and is mostly eroding though there are a few accretion pockets. The area is subject to intense storm surges, and regular coastal floods causing destruction to dwellings, roads, ship groundings etc. Potential adaptation measures include managing and establishing natural protected areas to buffer critical road infrastructures in the eastern part of the national coastline.
- Cotonou (climate change risks - erosion and flooding, sector - urban): This is a major urban area with significant port infrastructure. It is at high risk of erosion. A number of groynes have been built to manage the erosion. The area also faces high storm surges and is at risk of coastal floods. Potential adaptation options include retrofitting or upgrading critical urban infrastructures to manage expected increase in flooding frequency and volume.

**Côte d'Ivoire:**

- \*Abidjan (climate change risks-SLR and flooding and erosion, Sector- transport and urban): Abidjan is the economic hub for Cote d'Ivoire and characterized by high population growth and uncontrolled urbanization. The areas are dominated by low slope, significant rainfall and low drainage capacity, which puts these areas at high risk for flooding. There is also lack of data for appropriate adaptation planning. Adaptation measures could include integrated flood risk management through improvement in drainage infrastructure, retrofitting existing assets and implementing improved structural codes in areas currently exposed to erosion and flooding to protect transport infrastructure.
- *Grand-Bassam (climate change risks-SLR and flooding induced erosion; Sector- urban and tourism): In the city of Grand Bassam there is currently no sustainable connection between Ebrie lagoon and the Atlantic Ocean. High level of siltation has been obstructing efforts to open this access channel. Given the climate change risks of sea level rise and increased coastal and riverine flooding, the lack of connection will accumulate discharges, negatively affecting water quality. Adaptation measures include re-opening the Grand Bassam inlet, dredging and instalment of groynes combined with bank protections to block the longshore sediment transport to restore natural hydraulic conditions in the wider Grand Bassam. The government of Cote d'Ivoire and other donors may be supporting these activities at the site.*

**Mauritania:**

- \*Nouakchott (climate change risks-SLR and flooding; Sector- urban): Being below sea level, the city is at major risk of flooding due to expected sea level rise. Limited drainage networks and ruptures in the protective dunes increase the risks. Potential activities include improved hydrological planning/investment and conservation of natural ecosystems, with the aim of protecting vulnerable populations living on the lowest elevation along the coast.
- Senegal River Delta (climate change risks-SLR and flooding induced erosion, Sector- natural resources): The area consists of sensitive ecosystems along with developed agro-pastoral hinterland of the river valley and the wetlands complex and land with low agricultural productivity in the lower delta. The coastal dynamics in the area is sensitive to any disturbance, including the changes in salinity, hydrology and increased erosion expected due to climate change. Potential adaptation options include improved development planning (minimizing impacts of roads and basic urban infrastructure development), improvement in management of transboundary sediment in the Senegal Delta, aimed at increasing the longshore sediment transport, and managing sand retention in Senegal river.

- Authority of the Nouadhibou Free Zone (climate change risks – SLR, and erosion worsened by floods, sectors - natural resources and urban development): The major problem is the phenomenon of coastal erosion in the northern part of the bay that will greatly worsen the impacts of sea level rise; the area is rapidly developing and is a site for a pelagic port and other vital economic development. In the absence of an intervention, increased flooding and erosion can affect the bay's habitats, and their ecosystem functions, and also undermine the safety of ongoing and planned development. Adaptation actions could aim at securing the shore and observing the evolution of the coastline (e.g. shore fixation and coastline mapping).

**Senegal:**

- *\*Casamance (climate change risks-SLR and flooding, and erosion; Sector- urban and natural resources-tourism): The area is highly eroded and impacts of climate change is expected to induce accelerated coastal erosion, loss of land and assets, floods, marine submersion, salinization and changes in the distribution and abundance of coastal and marine habitats and species. There have been no adaptation interventions at this high-risk area so far and communities have been relying on autonomous adaptation. Adaptation options for this site could include implementation of a mix of interventions (e.g. large-scale mangrove planting, groynes, beach nourishment, and salinization reduction), and climate-risk informed land-use planning on the river banks of Casamance, to protect communities and biodiversity rich ecosystems from coastal erosion and the permanent submersion due to SLR. To protect the livelihoods of local communities coastal fishing infrastructures could be retrofitted. There is also need for monitoring for salt water intrusion in surface water and understanding for appropriate adaptation measures.*
- *Gorée Island (climate change risks-SLR and flooding, and erosion; Sector- urban and natural resources-tourism): This World Heritage Site is highly eroded and as the sea level rises, the threat of erosion increases and protective dykes are in poor conditions due to frequent heavy rains. Potential adaptation measures include conservation of homes and historic buildings of Gorée and to promote sustainable tourism for economic benefits of the local communities.*
- Senegal River Delta (climate change risks-SLR and flooding induced erosion, Sector- natural resources, urban tourism): The area consists of sensitive ecosystems along with developed agro-pastoral hinterland of the river valley and the wetlands complex and land with low agricultural productivity in the lower delta. The coastal dynamics in the area is sensitive to any disturbance, including the changes in salinity, hydrology and increased erosion expected due to climate change. Target areas include coastal areas around Senegal River estuary (St. Luis and surrounding areas) where complementarity with other interventions are sought. Potential adaptation options include improved development planning (minimizing impacts of urban and tourism infrastructure development), improvement in management of transboundary sediment in the Senegal Delta, aimed at increasing the longshore sediment transport, and managing sand retention in Senegal river.

**Togo:**

- *\*West of Hotel Novela Star (climate change risks - SLR and erosion caused by floods, Sector - natural resources, urban and transport): The area is subject high storms and is regularly flooded, these hazards are going to intensify due to climate change. There are also economically significant infrastructures in this area, such as hotels and artery roads. Erosion in the area can range from 8-20 m/year. Adaptation solutions include implementation of hybrid solutions including management of sediment transport, sand nourishment and hard infrastructures, to reduce the increasing erosion in this area.*
- *\*Lagoon systems along the coast (climate change risks-SLR and flooding induced erosion; Sector- transport, natural resources): Lagoons along the Togolese coast have high sedimentation which puts it at an increased risk of being inundated under climate change conditions, making close-by settlements and local assets such as fish processing and landing structures more vulnerable. Potential adaptation measures include investments in dredging, restoration of surrounding areas, and construction of diversion structures to increase the lagoon capacity for flood water.*
- East of Lome Port: (climate change risks-SLR and flooding induced erosion; Sector- natural resources) The area is characterized by erosion, but lower than in other areas along the Togolese coast. Infrastructures and groynes constructed to reduce erosion in Ghana has resulted in erosion in these areas in Togo. Protection against the erosion and increased flood risk due to expected SLR could include implementation of hybrid solutions such as management of sediment transport, sand nourishment and hard infrastructures, to provide long term protection to highly eroded areas east of Lome Port.

The above investments will be supported by adequate and timely access to climate risk information and improved communication. Such activities could include:

- awareness raising at community level, at the intervention sites, on the implications of climate change on livelihoods and on necessary emergency response actions.
- improved collaboration among all national, sub-national entities and communities in the intervention areas for exchange of critical information about current and emerging risks pertinent to the hotspot.
- provision of climate change information and knowledge to support adaptive planning and operation of project infrastructures.

Component 4: National Coordination. A Project Implementation Unit (PIU) has been established in each beneficiary country to manage WACA ResIP. The same PIUs will be in charge for the coordination of the proposed WACA ResIP-CCA in each country. They will ensure that the project is implemented according to the World Bank and GCF standards. The PIUs will convene national workshops and meetings, and will implement priority communication activities needed to ensure that the role of the project is understood by the stakeholders.

Theory of change. West African coastal areas are increasingly vulnerable to the effects of SLR, flooding and coastal erosion. Without the project, building coastal resilience will continue in its fragmentary and uncoordinated fashion, due to budget constraints and lack of adequate capacity to design and implement suitable coastal protection measures. As a result, the investments prioritized in the countries' MSIPs would go unfunded; this would lead to losses of houses, infrastructure, and critical ecosystems (beaches, wetlands, mangroves).

With the project, the most vulnerable coastal areas and communities will benefit from both short-term and long-term protection from climate change risks. The project focuses simultaneously on two issues:

By building climate-smart physical interventions (e.g. nature based or hard infrastructures) in the coastal hotspots threatened by imminent risks of damage, the proposed project provides direct and immediate benefits – i.e. avoided losses of lives, assets and land - to the most vulnerable coastal communities and areas in the five countries. As these interventions will be designed with consideration of future projections of climate-risk parameters (e.g. potential increase in height of storm surges, expected inundated area from flooding), they will bring local-level benefits to the target communities both in the short and in the long run.

By incorporating projected climate risks and resilience measures into national policies and planning and supporting multi-sectoral approach to climate change resilience planning, the project will support decision-makers better understand the complexity of climate risks and provide them with tools to implement climate-informed interventions. Beyond SLR, flooding and erosion, the project will facilitate integration of slow on-set risks like temperature increase into sectoral policies and plans, paving path for future investments to respond to risks due to broader climate change parameters. The project, housed under WACA Program, will leverage linkages with the WACA ResIP and the WACA Platform to replicate and scale-up the most locally successful investments as well as policy reforms, thus building long-term resilience and adaptive capacity at the national and regional levels along West African coastal areas.

As such, the project lends itself to facilitate paradigm shift, by promoting systemic change towards climate-resilient development pathways and replication within and across countries.

World Bank's value added. The World Bank currently supports the 48 Sub-Saharan countries with customized solutions for specific development challenges. The World Bank Strategy for supporting West Africa is derived from its 10-year Strategy document "Africa's Future and the World Bank's Support to it" (2011), which lays out the roadmap for its action, focusing on the following themes: governance and public-sector capacity, competitiveness and employment, vulnerability and resilience.

The World Bank will build on its sound technical experience developed through its climate change portfolio in the region. Its commitment towards contributing to climate change resilient Africa is presented in the "Africa Climate Business Plan (ACBP)," which supports a strong pipeline of innovative and transformational projects to tackle climate change across sectors and to establish a platform to mobilize investments addressing the climate financing gap in the region. Currently, there are 204 projects contributing to ACBP implementation, with a cumulative commitment of US\$22 billion. Thus, the proposed project will benefit from extensive lessons learned from the design and implementation of a significant number of climate change-focused World Bank executed projects in the region and globally.

In West Africa, the World Bank has been a pioneer in supporting the development of coastal areas facing the adverse impacts of climate change. Currently, there are more than 60 projects<sup>29</sup> that protect coastal areas of Benin, Cote d'Ivoire, Mauritania, Togo, Sao Tome and Principe and Senegal. Many of them promote measures for climate change mitigation and adaptation of the most vulnerable coastal communities. In addition, with the launch of the WACA program, the World Bank has doubled down its efforts and capacity to strengthen the resilience of coastal communities in Western Africa. Through its Programmatic Technical Assistance, the WACA program conducted a number of studies to better understand

<sup>29</sup> Including projects that are just completed, under implementation, or under preparation.

biophysical and economic aspects of coastal degradation related to erosion and flooding in West Africa, including: a regional long-shore sediment transport study<sup>30</sup>, economic analyses of environmental degradation<sup>31</sup>, integrated coastal planning<sup>32</sup>, regional dialogues on coastal planning<sup>33</sup> and other ongoing advisory services and analytics, “Fostering Partnerships for the regional development of coastal areas” to facilitate regional dialogue, and provide technical guidance on the selection, prioritization, and design of coastal investments and policy actions. As an initiation of technically based strong investments, the WACA ResIP has been approved and will support the strengthening of resilience of coastal communities and assets in Mauritania, Senegal, Côte d’Ivoire, Togo, Benin, and Sao Tome and Principe.

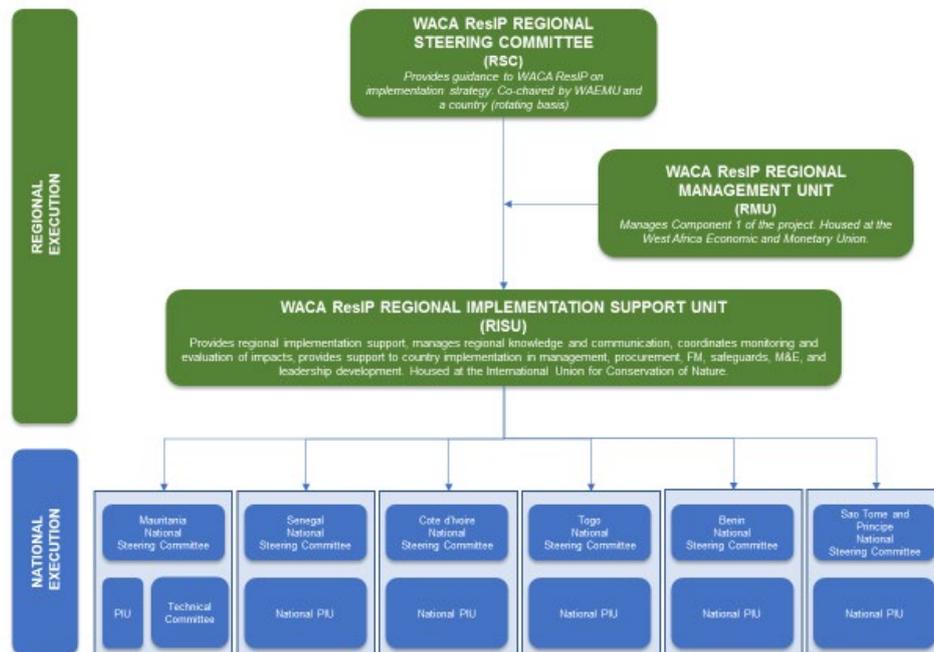
Therefore, the World Bank’s knowledge and operational experience in meeting development needs and reducing expected risks - including climate change in coastal West Africa - strongly positions it to undertake the planned activities of the project.

The implementation arrangements of WACA ResIP-CCA benefit from the arrangements made for WACA ResIP (Figure 1). The project will focus on the country level, thus its implementation will be supported through national implementation arrangements put in place for WACA ResIP. Full project for WACA ResIP-CCA will be developed as five separate country-specific projects. Therefore, the project will not have a regional coordination unit; however, it will benefit from sharing of effective resilience measures through WACA platform and regional activities of WACA ResIP.

At national level in each of the five countries, a Project Implementation Unit (PIU), guided by a national multi-sector National Steering Committee (NSC), is set up to manage the project on a day-to-day basis. The PIU includes a coordinator, a procurement specialist, a financial management specialist, a safeguards specialist, a monitoring and evaluation specialist, a stakeholder engagement specialist, some of which may be part time consultants.

The World Bank, as the GCF-accredited entity, will oversee the implementation of the Project, in line with World Bank procedures standards and requirements in the AMA/FAA, as agreed with the GCF.

- Figure 1. Institutional Arrangements for the WACA ResIP \*



- \*the WACA ResIP-CCA follows the same structure as above, but without covering Sao Tome e Principe

Key financial and operational risks and mitigation measures. The risks described below are based on the assessments completed for the WACA ResIP. The risks that have been rated substantial or high and their mitigation measures are mentioned below.

<sup>30</sup> which quantifies natural sediment transport patterns and the potential effects of major human interventions and climate change on sediment budget and consequent shoreline changes (Cote d’Ivoire, Ghana, Togo and Benin).

<sup>31</sup> including the cost of environmental degradation in Mauritania, Togo, Benin and Cote d’Ivoire which assessed in monetary terms the magnitude of environmental degradation on the countries’ coasts.

<sup>32</sup> in Benin, Togo, Cote d’Ivoire, Mauritania and Sao Tome and Principe, which incorporate climate change issues.

<sup>33</sup> including communication and awareness action plan, as well as stakeholder and political economy analyses (Benin, Togo, Ghana, and Cote d’Ivoire).

Sector strategies and policies (Substantial): At the national level, many sectors are involved in the management of the coastal areas, with very often overlapping mandates. The project will provide technical assistance to transport, urban and sectors related to natural resources management in assessment of the current legal situation in each country and support the development and strengthening of the policies, plans and technical capacity. To manage these risks, the Steering Committees of the project at the national levels will be placed at higher levels, very often under the Presidency or the Prime Minister, to ensure the necessary arbitrage among sectors (including land use and land tenure policies).

Technical design of project (Substantial): The project is technically and operationally complex, with activities potentially needing to be flexible and updated based on improved understanding of climate change risks. The countries have already identified the physical and social investments during the preparation of their MSIPs. However, in some cases, further studies may be required to verify the feasibility of the identified options and to integrate adaptive features. Where possible, activities for each country will draw from lessons and experiences from other participating countries, and activities will be packaged together in larger contracts wherever it is feasible to do so.

Institutional capacity for implementation and sustainability (Substantial). Some of the national implementing agencies have relatively weak implementation capacity, particularly due to limited human resources and technical capacity. This risk will be mitigated through the support provided by the WACA ResIP through RISU. At the country level, significant training and capacity development have been included in WACA ResIP, which provides a firm basis to build sector specific capacity for climate change resilience.

Fiduciary (High). For the WACA ResIP, the rating is high because implementation happens at regional and national levels at the same time. This risk is mitigated by adding a fiduciary support function in the RISU. However, for the WACA ResIP-CCA implementation is limited to national level, thus the risk could be lower.

Environment and social (High). The WACA ResIP has been rated category A for safeguards policies in view of its potential environmental and social impacts. Given the nature of the project, the intervention zones of the project are highly exposed to natural hazards-like coastal erosion and coastal flooding. The occurrence of disasters during project implementation might reduce the potential of project interventions in that zone. During implementation, the project will support the preparation of contingency plans for the main agencies involved, both for project duration and beyond. This will help these institutions develop or strengthen the capacity to absorb the shock, respond to it adequately in the short term, and be prepared to build back better following such events.

Stakeholders (Low/Medium). Both physical and social investments might have high impacts on coastal communities. The project is designed to provide safety to the coastal communities in face of expected climate change risks and to generate positive impacts to their quality of life. The project by design will have consultative process with local and national stakeholders in determination and implementation of project activities. The Bank is currently engaging the NDAs and other stakeholders in a consultative process to select the target areas and the interventions needed to improve coastal resilience. The stakeholder risk has been rated "low/medium" for WACA ResIP CCA due to the early engagement with stakeholders in the preparation process, and the framework already laid out by WACA ResIP for mitigating such risks.

### B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

*The GCF is directed to make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change, and promoting the paradigm shift towards low-emission and climate-resilient development pathways by limiting or reducing greenhouse gas emissions and adapting to the impacts of climate change.*

*Provide an estimate of the expected impacts aligned with the GCF investment criteria: impact potential, paradigm shift, sustainable development, needs of recipients, country ownership, and efficiency and effectiveness.*

**Impact potential.** The project has considerable potential to contribute towards climate-resilient development of coastal areas by (i) mainstreaming climate risks at national level policies, plans, and building technical capacity to identify climate risks and integrate resilience measures in sectors most vulnerable to climate change impacts (ii) implementing physical investments against climate change hazards at the most at risk local areas. The project will use WACA platform as a mechanism to replicate the most successful investments, thus generating adaptation benefits beyond the end of the project. As such, relevant GCF indicators for the project include:

- a) *Expected total number of direct and indirect beneficiaries, (reduced vulnerability or increased resilience); number of beneficiaries relative to total population (PMF-A Core 1), particularly the most vulnerable groups*
- b) *Degree to which the activity avoids lock-in of long-lived, climate-vulnerable infrastructure*
- c) *Expected reduction in vulnerability by enhancing adaptive capacity and resilience for populations affected by the proposed activity, focusing particularly on the most vulnerable population groups and applying a gender-sensitive approach*

- d) *Expected increase in generation and use of climate information in decision-making (PMF-A 6.0 and related indicator(s))*
- e) *Expected strengthening of adaptive capacity and reduced exposure to climate risks (PMF-A 7.0 and related indicator(s))*
- f) *Expected strengthening of awareness of climate threats and risk-reduction processes (PMF-A 8.0 and related indicator(s)).*

**Paradigm shift potential.** The project will catalyse considerable impact beyond its lifetime. First, it will contribute to the creation and strengthening of climate knowledge and learning in multiple ways:

- a) at the local level, the project will inform coastal communities of the climate risks in their areas, and will involve them in the determination of appropriate resilience measures;
- b) at the local level, it will support generation and collection of data necessary to monitor climate change parameters and their impacts on the coast, and to develop information services (ICT packages) that will support climate change informed decisions in the target vulnerable sectors (transport, urban and natural resources);
- c) policy reforms will contribute towards sustainable coastal zone management and local level interventions will provide practical examples;
- d) the project will provide substantial impact across sectors, by bringing different economic sectors together (i.e. urban, transport, natural resources) to examine the climate change impacts in each of them, and to collectively build policies that are mutually resilient in all of them.

Secondly, the project will support activities that will improve enabling environments to manage the coastal zone in an integrated and sustainable manner. In each country, the project will invest in technical capacity for risk assessment and resilient measures, thus enabling it to make the necessary policy and institutional changes, as the needs of the coastal communities and economies evolve. Specifically, the project will ensure sustainability of its results beyond its completion by using WACA platform: (a) as a mechanism for future replication of successful investments conducted within WACA ResIP-CCA; (b) as a tool to crowd in additional partners to mobilize resources at the scale needed to address coastal issues in West Africa. The following indicators are relevant for the project:

- Existence of a monitoring and evaluation plan and a plan for sharing lessons learned, so that they can be incorporated within other projects (1 M&E plan and 1 plan for sharing lessons)
- Arrangements that provide for long-term and financially sustainable continuation of relevant outcomes and key relevant activities derived from the project beyond the completion of the intervention (arrangements for replication of 5 successful investment, one in each country)

**Sustainable development potential.** The project contributes substantially to the sustainable development of West Africa's coastal natural resources by conserving these resources to build coastal resilience. Through its physical investments, the project will protect the coast from potentially significant losses of land and natural resources (due to floods and erosion). The project interventions such as reinforced embankments, reforestation or ecosystem conservation will create positive externalities that will protect habitats for coastal biodiversity as well as resources for local livelihoods. The following GCF indicator is relevant for the project:

- Degree to which the project or programme promotes positive environmental externalities such as air quality, soil quality, conservation, biodiversity

**Needs of recipient.** The project targets climate-vulnerable coastal areas, highlighted in the country NDCs and confirmed analytically through technical assessments. The assessments took account of biophysical as well as socio-economic impacts of climate change hazards such as SLR, extreme conditions and flooding. The choice of hotspots allowed the identification of the most vulnerable communities as well as assets of high value to the communities and the nations. The country-led MSIP process costed and prioritized investments needed to protect the vulnerable coastal areas in four countries, and the proposed project will significantly contribute towards filling the financial gap in implementing the investments. In addition to helping vulnerable populations adapt to the most critical climate change risks, the project puts considerable focus to strengthen institutional capacity in integrating critical as well as slow on-set climate change risks and resilience measures in vulnerable coastal sectors, mainly transport, urban and natural resources. The following GCF indicators are relevant for the project:

- Proposed programme/project supports groups that are identified as particularly vulnerable in national climate or development strategies, with relevant sex disaggregation.
- Potential of the proposed programme/project to strengthen institutional and implementation capacity

**Country ownership.** The project will build on over several years of World Bank engagement with the Governments of the five countries to take action towards building resilience to climate and disaster risks. The World Bank has a strong track record and country-buy in for the projects in the region, with 204 projects contributing to the climate change resilience, with a total commitment of US\$22 billion.

The Bank is now actively engaging the NDAs and other government authorities in a consultative process to select the target areas and the investments to be funded by the project. This process, conducted under the leadership of NDAs, will strengthen the country ownership of the project. Based on the above, the following GCF indicators are relevant for the project:

- Proponent demonstrates a consistent track record and relevant experience and expertise in similar or relevant circumstances as described in the proposed project (e.g. sector, type of intervention, technology, etc.)
- Proposal has been developed in consultation with civil society groups and other relevant stakeholders, with particular attention being paid to gender equality, and provides a specific mechanism for their future engagement in accordance with the Fund's environmental and social safeguards and stakeholder consultation guidelines. The proposal places decision-making responsibility with in-country institutions and uses domestic systems to ensure accountability.

**Efficiency and effectiveness.** Single sector approaches, isolated projects, and individual institutions can not sufficiently address the multi-sectoral challenges posed by climate change on West African coastal areas. The synergistic and systematic programming of financing conducted through WACA program, will strengthen the economic viability of this project. Although an economic analysis is underway, preliminary estimates, drawn from other interventions (see WACA ResIP), suggest that project activities will be cost-effective. Furthermore, the project provides significant leverage for every dollar of GCF spent (1: 1). The following GCF indicator is relevant for the project:

- Proposed financial structure (funding amount, financial instrument, tenor and term) is adequate and reasonable in order to achieve the proposal's objectives, including addressing existing bottlenecks and/or barriers.

**B.4. Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)**

*Please describe how engagement among the NDA, AE and/or other relevant stakeholders in the country has taken place and what further engagement will be undertaken as the concept is developed into a funding proposal.*

Stakeholder engagement and country ownership are central features of the proposed project. The project builds on over several years of World Bank engagement with the Governments of the five countries to take action towards building resilience to climate and disaster risks. This cooperation led to the development of plans that identify priority investments for coastal protection: (i) Benin, Côte d'Ivoire, Mauritania and Togo have developed such plans (MSIPs); (ii) Senegal has developed integrated coastal zone management plans (e.g. Dakar, Saint Louis), which outline priorities for combating flooding and erosion, also based on a World Bank commitment in 2011-2012. In addition, the WACA program has built a robust base for stakeholder engagement. Each of the five countries has a WACA focal point, representative from a lead ministry in coastal management in the country, who has been government counterpart for the WACA program since its inception. Using this basis of stakeholder engagement, and technical assessments, the World Bank is now actively engaging the NDAs and other government authorities in a consultative process to select the target areas and the investments to be funded by the project.

The technical robustness and the country ownership built through this consultative process will induce confidence to other financing entities - private and public - to invest in building resilience in the coastal West Africa. In addition, through the WACA platform, the World Bank will build partnership with other multilateral agencies (e.g. IUCN, AfDB, AFD) to mobilize resources at the scale needed to address coastal issues in West Africa. The platform will include a mechanism for donor coordination to attract additional investments for scaling up the most successful resilience measures implemented by both WACA ResIP and WACA ResIP-CCA.

**C. Indicative Financing/Cost Information (max. 3 pages)**

**C.1. Financing by components (max ½ page) The amounts shown in the tables below are tentative and to be confirmed in consultations with the countries, as project preparation continues.**

*Please provide an estimate of the total cost per component/output and disaggregate by source of financing.*

Component/Output	Indicative cost (USD)	GCF financing		Co-financing*		
		Amount (USD)	Financial Instrument	Amount (USD)	Financial Instrument	Name of Institutions

Component 1/	12,000,000	0	Grant	12,000,000	Grant (IDA)	IDA
Component 2/	59,950,000	30,000,000	Grant	24,500,000	Concessional loan and grant(IDA)	IDA
Component 3/	303,050,000	160,000,000	Grant	130,400,000	Concessional loan and grant (IDA)	IDA
Component 4/	26,100,000	10,000,000	Grant	15,100,000	Concessional loan and grant(IDA)	IDA
<b>Indicative total cost (USD)</b>	382,000,000	200,000,000			182,000,000	

- In addition to the GCF co-financing, the project is leveraging US\$11.3 million from Governments of Benin (US\$2m), Cote d'Ivoire (US\$3m), Mauritania (US\$2m), Senegal (US\$1.3m), and Togo(US\$3m), in the form of parallel financing. Additional parallel financing is provided by the GEF in a total amount of US\$ 20.2 million

Country	Components	GCF financing	co-financing
All countries	1	0	12,000,000
Benin	2, 3, 4	58,483,000	45,000,000
Cote d'Ivoire	2, 3, 4	32,934,000	30,000,000
Mauritania	2, 3, 4	21,956,000	20,000,000
Senegal	2, 3, 4	31,238,000	30,000,000
Togo	2, 3, 4	55,389,000	45,000,000
<b>Total</b>		<b>200,000,000</b>	<b>182,000,000</b>

*For private sector proposal, provide an overview (diagram) of the proposed financing structure.*

**C.2. Justification of GCF funding request (max. 1 page)**

*Explain why the Project/ Programme requires GCF funding, i.e. explaining why this is not financed by the public and/ or private sector(s) of the country.*

*Describe alternative funding options for the same activities being proposed in the Concept Note, including an analysis of the barriers for the potential beneficiaries to access to finance and the constraints of public and private sources of funding.*

*Justify the rationale and level of concessionality of the GCF financial instrument(s) as well as how this will be passed on to the end-users and beneficiaries. Justify why this is the minimum required to make the investment viable and most efficient considering the incremental cost or risk premium of the Project/ Programme (refer to Decisions B.12/17; B.10/03; and B.09/04 for more details). The justification for grants and reimbursable grants is mandatory.*

*In the case of private sector proposal, concessional terms should be minimized and justified as per the Guiding principles applicable to the private sector operations (Decision B.05/07).*

The project is a strategic intervention designed to build long-term climate resilience along the coast. It aims to implement activities that are innovative for the countries and demonstrate value-added relative to GCF programming objectives. As stated earlier, WACA ResIP covers only a part of the cost of building coastal resilience in the participating countries (US\$221.7 million, from the minimum needs of US\$528 million); therefore, additional financial and technical support is necessary to replicate, improve upon and scale up the investments of WACA-ResIP and to invest in resilience measures at critical locations not covered through the WACA-ResIP. This is particularly urgent for the West African coastal zones, as they represent the region's socio-economic nexus and one of the world's hotspots for climate change impacts. Through WACA ResIP project, countries have already provided a significant contribution of US\$221.7 million – of which US\$190 million as IDA, US\$20.25 million as GEF parallel financing, and US\$11.45 million as Government contributions in the form of parallel financing from the six participating countries - towards this priority.

Coastal communities and the countries alone cannot afford to cope with the magnitude of the remaining needs of investment to implement adaptation measures for their immediate and long-term protection. Moreover, as these investments are primarily meant to provide public goods (e.g. protection from storms, coastal erosion), the private sector does not have sufficient incentive to invest in their protection. Considering the financing gap, economic status of the countries and the debt burden they already have, grants are sought from the GCF to cover part of the financial gap needed to build long-term climate resilience in the region.

With GCF financing, the resilience of coastal zones will be built relative to the current management practices, and relative to current and future climate risks and adaptive capacity at local level as well as national institutional level. Moreover, by its simultaneous focus on the implementation of physical interventions in the coastal hotspots threatened by imminent risk of disasters, while also incorporating salient climate risks into policy and planning process, the proposed project brings together the crucial elements needed for both targeted effectiveness in the near-term and long-term. There are two major reasons for GCF involvement, each of which is closely aligned with the GCF's mandate.

- **Implement investments in critically vulnerable hotspots at imminent risk of damage or loss:** Available estimates show that a 1-meter SLR would affect over 5 million people in coastal West Africa population by 2100<sup>34</sup>. In the targeted five countries, such increase in sea level is estimated to affect indirectly approximately 12 million people who dwell in coastal provinces<sup>35</sup>. The GCF will deliver localized adaptation benefits, responding to SLR, flooding and extreme events, to one of the world's most vulnerable regions to climate change. The coastal protection measures, financed through GCF, will be put in place in target areas that currently experience severe flooding, imminent risks of housing and livelihoods loss, and damages to critical coastal infrastructure. GCF involvement in setting up coastal defenses will promote risk reduction from the dual threats of SLR and intensifying storm activity. The local SLR is projected to be greater than the global average and will exacerbate what is already an existential threat to the West African coast survival. Without GCF involvement, building coastal resilience will continue in its piecemeal and uncoordinated fashion due to budget constraints to fund plans and prioritized investments, and to lack of adequate national capacity to design and implement suitable coastal protection measures.
- **Integration of climate change risks into long-term coastal decisions:** The proposed GCF project allows multifaceted barriers to be addressed in a comprehensive manner within a single program framework (WACA program) which past donor support has not been able to accomplish. This project has an element of launching a new paradigm as an integral part of WACA program's long-term sustainability. Without the incorporation of climate change knowledge and resilience measures in policies, strategies and plans, key infrastructure, ecosystems, and coastal communities would be subject to uncoordinated, potentially maladaptive coastal

<sup>34</sup> CIESIN (Center for International Earth Science Information Network, Columbia University) (2012). National Aggregates of Geospatial Data: Population, Landscape and Climate Estimates.

<sup>35</sup> World Bank internal analysis using Landsat data and population in the coastal provinces.

protection investments that may ultimately amplify the climate change threat and require otherwise unneeded erosion/flood response and reconstruction.

### C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

*Please explain how the project/programme sustainability will be ensured in the long run and how this will be monitored, after the project/programme is implemented with support from the GCF and other sources.*

*For non-grant instruments, explain how the capital invested will be repaid and over what duration of time.*

Developing an exit strategy for the GCF requires attention to two interrelated conditions: providing a strong basis for country ownership of the outputs, and creating conditions favorable to the sustainability of the measures introduced:

**Country ownership:** The proposed project is designed through extensive consultations and involvement of the NDAs, government officials and communities, to ensure ownership of the interventions and effectiveness of their impact. Selection of the project target areas and investments, conducted in a consultative process, under the leadership of NDAs, will strengthen the client buy-in of the project. Empowering project beneficiaries through a participatory approach to intervention identification will strengthen both local ownership and project sustainability. Moreover, consultations with decision-makers at the highest levels of government have resulted in a better understanding of the urgency of addressing climate risks (i.e. SLR, temperature, precipitation) into national policies, strategies and plans, reflected in a commitment to and ownership of the need to provide co-financing. As such, there is a broad-based degree of acceptance towards the proposed project among the coastal protection community.

**Sustainability:** The long-term sustainability of the proposed project will be ensured in several ways:

- The project will use WACA platform for regional dialogue and collaboration on climate action, continuing to generate climate knowledge and replication of investments at the regional scale, after the end of the project.
- The project will remove key technical and institutional capacity barriers in enhancing long-term coastal resilience, by strengthening capacity to monitor and assess the impact of climate change on dynamic coastal processes, and by including climate change considerations in coastal zone planning and environmental impact assessments. Analytically robust design of interventions, implemented with consultation and participation of local communities will increase likelihood of effectiveness of the implemented measures and motivate beneficiaries to continue the management or behaviour after the end of the project, e.g.: providing grants/loans for *alternative income-generating activities* conditional to demonstrating the expected results on the ground (e.g. maintenance of plantations, etc), thus releasing pressure on natural resources.
- The project interventions protect the coasts that are economic and population hub for the countries. The project will contribute towards removing the technical and financial barriers in implementing coastal adaptation measures. Given the importance of the project structures or management approaches in protecting the countries' most vulnerable communities and vital assets, it is expected that the governments will commit to finance the operation and management of the coastal protection measures, after the project ends and for their whole lifetime.

### D. Supporting documents submitted (OPTIONAL)

- Map indicating the location of the project/programme
- Diagram of the theory of change
- Economic and financial model with key assumptions and potential stressed scenarios
- Pre-feasibility study
- Evaluation report of previous project
- Results of environmental and social risk screening

### Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes  No

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes  No