

**PROPOSAL FOR FINAL CONSIDERATION**
**Project Fact Sheet**

C107-109 REGIONAL AFRICA: West Africa Coastal Areas Program (WACA)	
<b>Partner Agency</b>	World Bank (WB)
<b>Executing Agency</b>	Ministries of Environment in Benin and Senegal, World Bank
<b>Sector</b>	Disaster prevention and preparedness CRS code: 74010
<b>Region or Country</b>	Benin, Senegal, and Regional West Africa
<b>Budget<sup>1</sup></b> - NDF - Partner Agency - Other Funders	<b>TOTAL approx. EUR 197.2 million (approx. USD 232.7 million)</b> NDF total EUR 13.1 million (EUR 4.0 million loan to Benin + EUR 4.0 million loan to Senegal + EUR 5.1 million grant to West Africa region) WB/International Development Association (IDA) credit + grant USD 190.3 million (EUR 161.3) Global Environment Facility (GEF) grant USD 20.2 million (EUR 17.1) Global Fund for Disaster Risk Reduction and Recovery (GDFRR) grant USD 1 million (EUR 0.8) Six governments (in-kind contribution) USD 5.8 million (EUR 4.9)
<b>Project Period</b>	2018 - 2023
<b>Mode of Finance</b>	Concessional loans as parallel financing to Benin and Senegal; One grant as joint co-financing with WB to regional activities.
<b>Previous Support to Country</b>	Credits: EUR 24.2 million, SDR 41.7 million Grants: EUR 16.4 million
<b>Rio Markers</b>	Mitigation: 1 Adaptation: 2
<b>Gender Marker</b>	1=significant objective
<b>Climate Screening</b>	Satisfied
<b>Environmental and Social Policy</b>	The project has been assessed by WB and a safeguard framework exists. The risk level has been assessed "High". Qualifications: Site-specific environmental and social reviews will be concluded when relevant and has to be in compliance before advancing with physical investments. Monitoring to be assessed as part of the site-specific review process.
<b>Processing Schedule</b>	Pipeline - November 2017 Final - January 2018 Effective - June 2018

<sup>1</sup> Exchange rate of 8.12.2017: 1 EUR= 1.18 USD

## **PROJECT SUMMARY**

NDF financing: EUR 13.1 million, consisting of EUR 4.0 million loan to Benin, EUR 4.0 million loan to Senegal and EUR 5.1 million grant to West Africa region

Project Period: 2018 – 2023

Partner Agency: World Bank

Implementing Agency: Ministries of Environment in Benin and Senegal, World Bank

### **Objective**

The general objective of the West Africa Coastal Areas Program (WACA) is to strengthen the resilience of the targeted communities and areas in coastal West Africa.

The objective of the NDF funding is to improve climate resilience in coastal regions of Benin and Senegal. Another objective is to strengthen regional climate change cooperation through the WACA Platform to allow regional integration and joint action, test innovative financial instruments, and where relevant involve the private sector.

### **The following outcomes are expected of the NDF financing**

#### In Benin:

- Feasibility studies, detailed design, tender preparations and supervision of works for the restoration of the land strip at a coastal site in West Benin
- Environmental and social impact studies to safeguard the physical investments for the site
- Measures for protection of the selected segment of the land strip in Benin.

#### In Senegal

- Establishment and operationalisation of a National Coastal Observatory in Senegal
- Operationalising and strengthening the geographical information system
- Upgrading and strengthening the early warning system

#### In the West Africa region

- Contribute to the design and launch of the WACA Platform, which has as a goal to leverage public and private financing of USD 2 billion. NDF's original small grant (NDF C77) has already leveraged more than USD 6.5 million of other financing, helped leverage the total project costs (USD 233 million) of this project and will continue to leverage even more financing for the project in the future
- Contribute to the design and piloting of new climate financing instruments
- Maintain regional and national policy engagement, scale up and prepare new projects based on field evaluation and follow-up to secure uptake of new skills. The WACA Program was showcased at the One Planet Summit in December 2017.
- Support Independent Technical and Scientific Panel of Experts to ensure that climate criteria and private sector, innovation, leveraging investments become integral parts of the solutions for coastal zone climate resilience
- Support the technical implementation of the NDF loans to Benin and Senegal.

### **Financing**

The total project cost estimate is EUR 197.2 million. NDF is providing EUR 4.0 million in loan to Benin, EUR 4.0 million in loan to Senegal and EUR 5.1 million in grant to the West Africa region, while IDA provides approximately EUR 161.3 million.

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**Map of WACA Project Area**



## ABBREVIATIONS

AFD	Agence Française de Développement
ANACIM	National Meteorological Authority ( <i>Agence Nationale de l'Aviation Civile et de la Météorologie</i> )
CBP	Capacity Building Plan
CSE	Ecological Monitoring Centre ( <i>Centre de Suivi Ecologique</i> )
DEEC	Department of Environment and Classified Establishment
DSP	Civil Protection Directorate
EIA	Environmental Impact Assessment
EU	European Union
FERC	Fund for Studies and Capacity Building
GDP	Gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographical information system
GIZC	National Integrated Coastal Zone Management Plan ( <i>Gestion Intégrée des Zones Côtières</i> )
IA	Implementing Agency
IT	Information Technology
IUCN	International Union for the Conservation of Nature
M&E	Monitoring and Evaluation
MEDD	Ministry of Environment and Sustainable Development
MOLOA	West African Coastal Regional Observatory
MSIP	Multi-Sector Investment Plans
NDF	Nordic Development Fund
NPIU	National Project Implementation Unit
NSC	National Steering Committee
O&M	Operation and Maintenance
PIU	WACA Project Implementation Unit
RRC	Disaster Risk Reduction Platform
SEIA	Social and Environmental Impact Assessment
SMS	Short Message Service
WACA	West Africa Coastal Areas Management Program
WACAResIP	West Africa Coastal Areas Resilience Investment Program
WAEMU	West Africa Economic and Monetary Union

## **1. INTRODUCTION AND PROJECT BACKGROUND**

The present proposal seeks financing to follow up on investments identified through the successful NDF small grant West Africa Coastal Area Erosion and Adaptation Project (NDF C77). This project catalysed the creation of the West Africa Coastal Area Program (WACA) and the EUR 500,000 NDF grant leveraged more than USD 6.5 million of other financing, has helped leveraging the WACA investments of USD 233 million presented here, and will continue to leverage even more financing for the project in the future. On this basis, the World Bank prepared studies, analyses and national multi-sectoral investment plans laying out priority interventions for coastal adaptation and building climate change resilience.

The West African coast from Mauritania to Gabon includes 17 countries, and the coastal area is home to almost one third of the population of those countries. Half of those countries' GDP originates from agriculture, fisheries, industries and services produced on their coast. Almost all capital cities are located on the coast, and rapid population and economic growth along the coast present both an opportunity and a challenge for the sustainability of coastal ecosystems and manmade environments. Climate change-related events such as sea-level rise and warming, land subsidence, storm surge, and increased coastal flooding contribute to the increased vulnerability of the region. Coastlines are eroding by as much as 10 metres per year in some areas, and up to 30% of mangroves have been lost to degradation and destruction in recent decades.

In response to demand from six of the 17 countries (Benin, Ivory Coast, Mauritania, Sao Tome and Principe, Senegal, and Togo), the World Bank has developed the West Africa Coastal Areas Resilience Investment Program (WACA ResIP) to be presented to the Bank's Board in March 2018. In addition, the World Bank will establish a WACA Platform<sup>2</sup> to provide overall strategic guidance, take policy decisions, ensure the coherence of the program's priorities, and crowd in knowledge and finance that could extend resources and solutions for potential follow-up investments to other countries on the coastline between Mauritania and Gabon. The Abidjan Convention<sup>3</sup> COP12 has requested expansion of WACA to all African Atlantic coast countries.

Based on the positive experience of NDF C77 and the needs expressed by the World Bank, Senegal and Benin, NDF proposes to scale up the activities in the two NDF target countries, and pave the way - through the Secretariat of the proposed Platform - for developing new financial instruments in the initial six target countries as well as in the rest of the countries.

NDF participated in the pre-appraisal of WACA and an NDF-recruited consultant has developed the detailed activities for Benin and Senegal. NDF's consultations with Benin and the World Bank led to replacing the originally selected NDF components with physical investments prioritised by the government of Benin; the government has decided to finance the original NDF activities with its own means.

## **2. RELEVANCE AND RATIONALE**

### **2.1. Project Relevance**

NDF has positive experience from collaboration with the WB from the preparatory phase and of the visibility that NDF has been given. NDF also has good experience from cooperation with relevant authorities and sectors in Senegal and Benin.

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<sup>2</sup> Subject to separate approval in June 2018 for this World Bank operation linking closely to WACA ResIP.

<sup>3</sup> The Abidjan Convention covers a marine area from Mauritania to South Africa which has a coastline of just over 14,000 km. The Convention provides an overarching legal framework for all marine-related programmes in West, Central and Southern Africa. The Convention was approved in 1981 and there is a secretariat in Abidjan.

The project is fully in line with NDF's climate mandate, strategy and business plan. The WACA Program will contribute to the countries' policies, strategies and NDCs and is aligned with the World Bank's country strategies and Africa Climate Business Plan in addition to the Maximizing Development Finance<sup>4</sup> approach promoted by the World Bank. The WACA Program was showcased at the One Planet Summit in December 2017.

The project will help develop Africa's blue economy and contribute to nearly all of the SDGs: No 1 End poverty, No 2 End hunger, No 3 Good health and wellbeing, No 5 Gender equality, No 6 Water and sanitation, No 8 Decent work and economic growth, No 9 Resilient infrastructure, No 10 Reduced inequalities, No. 11 Sustainable cities and communities, No 12 Responsible consumption and production, No 13 Climate change, No. 14 Life below water, No 15 Life on land, and No 17 International partnerships.

The proposed intervention in Senegal supports NDC priorities on establishing a coastal observatory, early warning system, protection of vulnerable areas and restoration of coastal areas. Likewise, the planned intervention on coastal protection in Benin is also a priority action stipulated in the NDC.

## **2.2. Relevance to NDF's Mandate and Strategy**

The proposal passes the NDF screening since our support will target climate-relevant interventions and it is expected that at least 50% of the budget will be used for measures helping countries adapt and build resilience to the current or expected impacts of climate change. NDF's activities in Benin and Senegal will build coastal resilience which will help the countries to adapt to climate risks. Furthermore, NDF's activities in Benin will contribute to planting vegetation, which will have mitigation benefits.

*Catalytic Role and Leverage:* The NDF small grant support catalysed the creation of the WACA Program and leveraged additional financing: USD 6.5 million for the preparation phase as well as USD 233 million for the WACA Program presented in this document. The World Bank expects that the WACA Program will leverage substantial follow-up investments from the World Bank and development technical and financial partners.

*Project Preparatory Funding:* NDF support will finance upstream planning activities and generate data that will pave the way for preparation of further investments.

*Support for Innovation:* The NDF financing will design and pilot new financing instruments (such as Blue Bonds). The project is designed so that similar types of financing can be proposed for replication and scaled-up to other countries along the coast.

*Support for Private Sector Development:* West African countries have substantial private sector investments in coastal areas, and WACA will engage with the private sector to explore opportunities to involve them in opportunities relating to coastal climate resilience.

*Emerging Climate Change Issues:* This is the first time the World Bank will support a project that simultaneously integrates multi-sectoral and multi-country interventions at the scale proposed. There is a growing recognition that sectors and countries must interact closely to tackle regional challenges relating to the effects of climate change which know no borders.

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<sup>4</sup> The WBG helps countries maximise their development resources by drawing on private financing and sustainable private sector solutions to provide value for money and meet the highest environmental, social, and fiscal responsibility standards, and reserve scarce public financing for those areas where private sector engagement is not optimal or available. See: "Maximizing Finance for Development: Leveraging the Private Sector for Growth and Sustainable Development" World Bank for the October 14, 2017 Development Committee Meeting.

### 3. THE PROPOSED PROJECT

#### 3.1. Objectives

The general objective of WACA is to strengthen the resilience of targeted communities and areas in coastal West Africa. The activities are estimated to directly and indirectly benefit over 40 million people in the six beneficiary countries (Benin, Ivory Coast, Mauritania, Sao Tome and Principe, Senegal, and Togo). These people, including rural and urban women and youth, and people living in marginal lands on barrier islands and near lagoons, are at immediate risk from impacts of a changing climate that threatens livelihoods, economic activities and infrastructure. The climate change impacts are deeply interlinked with existing anthropogenic influence. Coastal geomorphology will be affected by an increased sea water level and possibly stronger and more frequent storm surges leading to coastal erosion, flooding, and salinity intrusion.

The objective of the NDF funding is to improve climate resilience in coastal regions of Benin and Senegal. Another objective is to strengthen regional climate change cooperation through the WACA Platform to allow regional integration and joint action, test innovative financial instruments, and where relevant involve the private sector.

#### 3.2. Project Activities

The proposed financial packet from NDF will blend concessional loans with grant financing in support of the following three components:

1. NDF concessional loan for coastal protection investments identified in Benin's multi-sectoral investment plan for integrated coastal zone management and adaptation;
2. NDF concessional loan for technical assistance and equipment to Senegal's integrated coastal zone management plan;
3. NDF grant for the Bank-executed WACA Platform and regional activities.

The concessional loans will be provided as parallel co-financing to the two countries, while the grant will be joint co-financing with the World Bank. The NDF-supported activities are:

##### **Component 1: NDF loan to Benin (EUR 4 million)**

The proposed intervention is a priority action in Benin's coastal multi-sectoral investment plan and NDC. The loan to Benin will be used to protect and to preserve the physical integrity of Grand Popo lagoon and wetland in South West Benin, which is an extremely vulnerable and critical hotspot, and to avoid any potential dramatic environmental, social or economic impact on the area by:

- a. Providing technical assistance for feasibility studies, detailed design, tender preparations and supervision of works for the protection and restoration of the land strip;
- b. Carrying out environmental and social impact studies to safeguard the physical investments; and
- c. Implementation of a combination of measures identified under subcomponent a. for protection of this segment of the land strip, potentially including dredging, banks fixation, revetment, fixation with vegetation of the shores and other land development measures.

The bulk of NDF's loan will go to physical investments under subcomponent c. The government of Benin decided to finance the originally proposed NDF activities with its own means. NDF's subsequent consultations with Benin and the World Bank led to replacing the originally selected NDF components with physical investments prioritised by the government of Benin.<sup>5</sup>

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<sup>5</sup> Therefore the activities presented for Benin here differ from those presented in the pipeline document.

The NDF project site in Benin and the potential measures are presented in Annex 2. The proposed intervention would benefit local livelihoods, economic activities and preserve important infrastructures such as the coastal road. The Grand Popo is also an important biodiversity area and the coastal wetland continues into neighbouring country Togo.<sup>6</sup> Nature-based solutions for flood risk management will make use of existing ecosystems, native species, and comply with basic principles of ecological restoration and conservation.

The NDF investments will not be stand-alone but will be complemented by other investments in the coastal zone. For example, the Global Environmental Facility (GEF) will, in addition to the World Bank's loan under WACA Benin, finance complementary activities strengthening local involvement including NGOs and ecological safeguarding in the broader Mono River delta zone, and synergies are foreseen between NDF's and GEF's activities.

The activities for Benin build on NDF's experience from protecting ecosystems and infrastructure implemented in other NDF projects, as well as on the NDF-financed studies on the costs of coastal environmental degradation, multi-hazard risk assessment and cost-benefit analysis as well as on quantitative evaluation of sedimentary movements and river bank stabilisation works.

### **Component 2: NDF loan to Senegal (EUR 4 million)**

The NDF loan to Senegal will strengthen institutions responsible for coastal decision support systems and information services to enhance Senegal's climate resilience by:

- a. Supporting the design, establishment and operationalisation of a National Coastal Observatory, focusing on mapping and monitoring the coast line, coastal erosion and flooding, with the aim of reducing the risk to local people to climate change impacts;
- b. Operationalising and strengthening the geographical information system (GIS) to be managed by the National Coastal Observatory; and
- c. Upgrading and strengthening the early warning system managed by the National Meteorological Authority (ANACIM).

There are strong interlinkages between these three areas. Therefore, technical assistance will be provided with an integrated approach to activities that will include, but not be limited to the following:

- Review of existing resources, arrangements and capacities, and needs assessment and gap analysis including gender and private sector aspects;
- Preparation and design of institutional and operational knowledge-based and physical investments, operations, services and management systems involving private sector actors when possible and taking into consideration special needs of e.g. women and vulnerable groups;
- Support the implementation of institutional and operational arrangements;
- Assistance to procurement-related planning, design, evaluation and quality control;
- Planning, design, administration, implementation and monitoring of training, including on-the-job training, knowledge-sharing and capacity-building; and
- Ensuring social and environmental compliance and that all deliverables are technically, financially, and economically feasible, and can be operated and maintained with national resources after the project has been completed.

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<sup>6</sup> Chenal de Gbaga ecosystem, located in the transboundary Mono River basin.

The direct beneficiaries are the inhabitants living in vulnerable parts of the coastal zone and micro, small and medium sizes businesses who depend on land and marine resources, as well as the public authorities in charge of protecting people, land and infrastructure.

The activities will be based on successful results from NDF's Flood Risk Management Project (NDF C33) in Senegal, as well as on work supported by other partners including AFD (feasibility study of the National Coastal Observatory), the EU (the GIS component for coastal mapping and monitoring) and others.

### **Component 3: NDF grant for WACA Platform and regional activities (EUR 5.1 million)**

The proposed activities under this component will help establish the WACA Platform<sup>7</sup> and bring WACA to scale in terms of mobilising additional financial resources. The Secretariat of the WACA Platform will help countries develop innovative financial instruments and actively engage the private sector in coastal management, and will support regional integration and learning in areas of climate knowledge for coastal resilience.

#### **3.1 NDF grant for WACA Platform (EUR 2 million)**

- a. Contribute to the design and launch of the WACA Platform (EUR 1 million); and
- b. Contribute to the design and piloting of new financing instruments (e.g. Blue Bond or Blue Guarantee Scheme) in support of the World Bank's new approach to "Maximizing Development Finance" in association with IFC and MIGA, and the Bank's team on Global Infrastructure Finance (EUR 1 million).

#### **3.2 NDF grant for WACA regional activities in support of WACA ResIP (EUR 3 million)**

- a. Maintain regional and national policy engagement, and scaling up and preparation of new projects based on field evaluation and follow-up to secure uptake of new skills and scaling up to other countries (EUR 0.9 million);
- b. Independent Technical and Scientific Panel of Experts to ensure the technical viability of the proposed investments and that climate criteria, gender considerations and private sector, innovation, leveraging investments become integral parts of the solutions for coastal zone climate resilience (EUR 1.3 million); and
- c. Technical implementation support to the NDF loans to Benin and Senegal (EUR 0.8 million).

#### **3.3 Monitoring and evaluation (EUR 0.1 million)**

This amount will be held back and reserved for monitoring and evaluation of the NDF WACA grant and loans carried out by NDF and/or NDF contracted consultants.

The NDF will support private sector involvement in numerous ways. First, new innovative financing mechanisms will be developed and tested with private sector partners. Second, private sector stakeholders identified with the support of the NDF initial small grant will be encouraged to invest their own resources to protect their livelihood. Third, NDF will support the development of business and investment opportunities in the form of new products and services needed to reduce climate vulnerability. Finally, the public sector will be encouraged to seek public-private partnerships to achieve greater resilience.

The NDF grant financing will be executed by the World Bank and will cover the same project period as the Benin and Senegal loans and will support:

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<sup>7</sup> The WACA Platform is intended to provide overall strategic guidance, take policy decisions, ensure the coherence of the program's priorities, and crowd in knowledge and finance that could extend resources and solutions for potential follow-up investments to some of the remaining eleven coastal countries between Mauritania and Gabon.

- Leveraging public and private financing for coastal resilience investments to a goal of USD 2 billion;
- Facilitating and increasing access to knowledge, expertise, global good practices and technical assistance programming; and
- Galvanising and providing a forum for high level political dialogue and facilitate involvement of the private sector and other key partners.

The NDF-financed activities will include:

- Leveraging existing and piloting new financial instruments: credits, grants, risk guarantees, bonds and public-private partnerships. This would include exploring opportunities with the NDF-funded African Guarantee Facility;
- Exploring if a financing window could be provided to women in coastal areas to support their entrepreneurship and livelihood;
- Developing bankable business models for climate-resilient products and services;
- Enhancing local skill development in topic areas like coastal erosion management, disaster risk management, entrepreneurship for coastal livelihood, climate change adaptation, etc.;
- Supporting gender disaggregated data collection aiming at analysing impact on women and tailoring investments to address gender-specific issues for coastal communities; and
- Assisting Ghana with the development of a multi-sectoral investment plan for WACA for integrated coastal management and adaptation.

### 3.3. Cost Estimates and Financing Plan

The table below provides the estimated costs (in USD million) for WACA per program's intervention, implementing party and financier:

Program	Implementing party	IDA	GEF	NDF	Gov	GFDRR	TOTAL
<b>WACA Platform &amp; regional activities</b>	World Bank	0.3		6.0 <sup>a)</sup>		1.0	7.3
<b>WACA ResIP (comprising national and regional activities to be implemented by national and regional institutions)</b>	Regional institutions <sup>b)</sup>	12.0					12.0
	Benin	45.0	11.6	4.7	2.0		63.3
	Cote d'Ivoire	30.0					30.0
	Mauritania	20.0					20.0
	Senegal	30.0		4.7	1.3		36.0
	Sao Tome and Principe	8.0	1.1		0.5		9.6
	Togo	45.0	7.5		2.0		54.5
<b>TOTAL</b>		190.3 <sup>c)</sup>	20.2	15.4 <sup>d)</sup>	5.8	1.0	232.7

- a) A part of NDF's grant will be used to support regional activities to be implemented by regional institutions, to be agreed between NDF and the WB.
- b) Activities to be implemented by WAEMU, IUCN, the Secretariat of the Abidjan Convention and CSE.
- c) Consisting of USD 12.3 million is IDA grant and USD 178 million IDA credit.
- d) NDF's financing is committed in EUR and it consists of two EUR 4.0 million loans and one EUR 5.1 million grant. The exchange rate is 1EUR=1.18 USD (8 December 2017).

The NDF loans to Benin and Senegal will be parallel co-financing based on the IDA terms. The NDF grant will be joint co-financing executed by the World Bank. Not more than ten percent of the grant will be used for World Bank staff costs. EUR 100,000 of the grant will be held back and controlled by NDF to be used for monitoring and evaluation.

It is expected that other co-financiers will join the WACA programme, including the French Fund for the Global Environment (FFEM), the African Development Bank (AfDB) and the French Development Agency (AFD). Moreover, the Green Climate Fund (GCF) has indicated

interest in providing financing for WACA, matching the IDA allocation. A proposal is expected to be submitted to the GCF Board in 2019. NDF's original small grant of EUR 500,000 will thus continue to leverage public and private financing beyond its current achievements: more than USD 6.5 million of other financing leveraged for preparation of the WACA Program and USD 233 million leveraged for the WACA Program itself.

### **3.4. Nordic Interest**

The Nordic countries have strong knowledge and experience from integrated coastal management. There is also considerable Nordic experience in river course stabilisation modelling and planning. NDF has financed such a feasibility study for African Development Bank supported investments on the Songwe River between Malawi and Tanzania.

The Nordic Council of Ministers has recently come out with a publication on ecosystem services in the coastal zones of the Nordic countries. Analytical tools and protection methodologies have been developed by the University of Copenhagen. Sweden has for many years provided training courses in integrated coastal zone management for stakeholders from developing countries. The courses entail specialised theoretical and practical hands-on training in both Sweden and Africa.

The Nordic know-how is of interest to the WACA stakeholders. Already during NDF's small grant support to WACA, Danish experience on erosion control on the west coast of Jutland was shared with partners. NDF's grant will support knowledge-sharing in the WACA region by technical and scientific experts including Nordic expertise when relevant.

### **3.5. NDF's Added Value and Comparative Advantage**

NDF participated in the pre-appraisal of WACA and NDF also provided a consultant to develop the detailed activities for Benin and Senegal. NDF has significant experience from erosion and floods projects which has been taken into consideration in the project design. NDF has also co-financed with World Bank a comprehensive study to prioritise actions to promote sustainable coastal livelihoods and ecosystems in mainland Tanzania and Zanzibar, in light of climate change. Moreover, NDF has a sizeable portfolio on climate services in Africa.

NDF has successfully brought up both gender aspects and private sector development in its discussions with the World Bank and partners in Benin and Senegal, and the WACA project document is now strengthened in these areas. The WACA project document also has strong references and evidence to challenges relating to climate change and health, an emerging area in which NDF and the World Bank have collaborated.

Without NDF's financing, the activities will probably be implemented but with a delay. NDF's possible early contribution is likely to send a strong signal which will help catalyse other financing.

NDF will continue to contribute to WACA by sharing lessons learned and experiences in climate change and coastal management from NDF's coastal resilience work in Mozambique, Senegal, Tanzania, as well as from Nordic countries.

The project fits well with NDF's coastal erosion and floods portfolio. This is the first opportunity for NDF to provide climate-related loans to Africa. The West African focus of the project complements nicely the strong Nordic and NDF emphasis on South and East Africa.

## **4. IMPLEMENTATION ARRANGEMENTS**

### **4.1. Technical Aspects**

The key technical challenge of WACA is to design and implement the project combining the specificities of each country with the transboundary constraint and to develop the necessary social consensus and crowd in the financing needed from the public and private sector. The project is technically complex as the problems are multi-sectoral in nature and with inter-linkages at regional, national and local levels (fisheries, transport, trade).

No country alone can fix West Africa's coastal erosion, flooding, and pollution problems. Solutions are bound to be expensive, beyond one single country's public finances or any single development partner's means. A massive, cross-country coordinated effort is needed to tackle this challenge. Solutions require coordination and collaboration among agencies in each country and include significant transaction cost. It requires a long-term vision and commitment at national and regional levels, and that commitment has yet to be achieved.

The regional implementation support mechanism designed for WACA and for the West Africa Coastal Observatory will ensure access and exchange of relevant information to increase the impact of the investments at the regional level.

Many sites in the WACA intervention zone have already been subject to feasibility studies, and some coastal protection options have already been proposed. The multi-hazard risk assessment and cost of environmental degradation study financed by NDF under the small grant (NDF C77) includes stress-tests for different adaptation strategies, for instance, for the hot spot proposed to be financed by the NDF loan to Benin.

### **4.2. Institutional Aspects and Project Organisation**

The WACA Platform will be supported by a Secretariat established as a World Bank-executed trust fund which will act as a coordinating mechanism. The Platform will work with many regional institutions, including but not limited to the Abidjan Convention Secretariat. The vision is that with time, the WACA Platform will be housed at a suitable regional institution in West Africa.

For the WACA ResIP, the Regional Implementation Support Unit (RISU) will coordinate activities at regional level, and provide implementation support services to the countries, supervised by a Regional Steering Committee. National Project Implementation Units will be established in each country embedded into existing institutions and reporting to a National Steering Committee. Project Implementation Manuals are being prepared for each country. At the regional level, a Regional Project Implementation Manual will be prepared that reflects the rationale for regional integration, and described the modalities at regional level for implementation, including the Regional Steering Committee.

IUCN will be one of the institutions playing a key role: it will prepare the regional operational manual and technical guidance notes for WACA ResIP based on the body of knowledge existing in WACA already and from regional expertise available at IUCN. IUCN will also establish the RISU providing technical support to project implementation in the six WACA countries under the project, and managing contracts for regional contractors. RISU is likely to be based in Dakar, Senegal. The Ecological Monitoring Centre (CSE) will be contracted to lead in technical matters related to coastal observatory.

The Implementing Agencies (IA) for NDF's loans to Senegal and Benin will be the Ministries of Environment. The IA for the NDF grant to the WACA Platform and the regional activities will be the World Bank.

### 4.3. Procurement and Contract Structure

The procurement arrangements and procedures for NDF's two loans will be the same as for the parent project, i.e. the World Bank's procurement guidelines from July 2016 will apply. Advanced procurement will be applied for selected contracts under the NDF loans to ensure that NDF's components can be implemented without delays. NDF engaged a consultant to develop the loan components and prepare initial TOR outlines for the contracts. This will also help the start of implementation.

**Table 2: Contracts foreseen for NDF's loan to Senegal**

No. of contracts	Description	Budget (EUR)
1	Technical assistance services supporting national observatory and the GIS and early warning systems	2,000,000
2-4	National observatory, GIS and early warning equipment (including hardware and software IT equipment for processing, appropriation, archiving, and sharing of geographical and meteorological data and systems; telecommunication equipment; marine monitoring equipment; development of platform for voice and SMS alerts)	1,300,000
1	Works: refurbishment and renovation of office premises	100,000
NA	Unallocated amount	600,000
	TOTAL	4,000,000

**Table 3: Contracts foreseen for NDF's loan to Benin**

No. of contracts	Description	Budget (EUR)
1	Technical assistance services for comprehensive technical studies such as feasibility studies and detailed design for works for the restoration of the lido	1,000,000
1	Technical assistance services to produce environmental and social impact studies relating to the physical investments	300,000
1	Works: Implement measures for protection of this segment of the land strip including reforestation, dredging and other land development measures	2,100,000
NA	Unallocated amount	600,000
	TOTAL	4,000,000

### 4.4. Risk Analysis

The following key risks and questions of potential concern have been identified:

Key risks	Rating	Mitigation measures and responses
Countries unable to collaborate and make decisions timely in public interest	Substantial	Transparency and accountability mechanisms will be integrated into the decision-making process.
The solutions may be complex and cause conflicts between sectors and policies	Substantial	A multi-sector planning and implementation approach will continue to be applied.
Weak institutional capacity for implementation	Substantial	TA will be provided to support institutions.
Social and environmental risks. The project is categorised by the World Bank as an A project.	High	Appropriate environmental and social safeguard measures will be applied. These will be incorporated into the ToRs of the NDF-financed TA in Senegal. In Benin, site-specific studies will be financed by NDF.
Stakeholders in coastal communities may be negatively affected.	High	The project will include strategic engagement and communication activities.
Integrity risks	Substantial	Appropriate preventive measures will be applied.

#### **4.5. Monitoring and Evaluation**

Monitoring and evaluation (M&E) in the project is designed for accountability, communication, learning, and to support project management. M&E activities will: (i) generate information on progress of the project; (ii) analyse and aggregate data generated at regional, country and local levels; and (iii) document and disseminate key lessons to users and stakeholders across the participating countries and elsewhere together with the communication function of WACA.

Monitoring and evaluation will be undertaken both at the regional level (by RISU) and at national level by the participating countries through the respective Project Implementation Units (PIUs). The RISU will have the overall coordinating role of the M&E function of WACA and will ensure that data and information from all countries are produced on time and of sufficient and necessary quality. The RISU will also design and implement data collection efforts which are best done at the regional level. The RISU will also provide technical backstopping to the countries on M&E, put in place a data quality assurance mechanism as well as undertake data collection on its own and encourage cross-country learning.

A monitoring and evaluation manual will be prepared, including, among other things, the means of channelling the results and outcomes from the country level to the regional level. Reporting on progress will be made public on a website to ensure full transparency in project execution.

The monitoring and evaluation of results of the NDF components in Senegal and Benin will be integrated in the arrangement of the WB WACA ResIP through the PIUs. A separate monitoring and evaluation framework for the NDF WACA grant is in the process of being drafted as part of the WACA Platform concept and design. NDF will monitor progress towards the results with the help of the reports and monitoring and supervision missions.

NDF and other partners contributing to the WACA Platform will meet once or twice a year to review the proposed annual work plan and budget for the following year, and assess the outcomes and results of the achieved activities. NDF will also have the chance to comment on TORs developed for the Platform and the regional activities and in that way contribute with its expertise and knowledge from other regions.

An amount of EUR 100,000 of the grant budget is reserved for monitoring and evaluation carried out by NDF or NDF-contracted consultants to ensure learning as well as documentation and dissemination of results.

### **5. ECONOMIC AND SOCIAL ASPECTS**

#### **5.1. Economic Justification**

Studies on coastal adaptation generally show high rates of economic return. For example, there is clear evidence that economic returns from activities similar to early warning systems are very high. Typically, the economic benefits of early warning vary from 1:4 to as high as 1:40.

The World Bank's overall economic analysis of all the WACA ResIP activities in all six countries show that the project is economically viable and has been assessed to have a cost-benefit ratio of 1:8.

Poorer communities are likely to face economic displacement as their livelihoods are affected by sea-level rise, coastal erosion, flooding, and pollution. By helping build climate-resilient cities, tourism, and transport, the project can help boost shared prosperity among the extreme poor.

#### **5.2. Environmental and Social Aspects**

Environmental and Social Assessments and Environmental and Social Management Frameworks (ESMF) have been developed for each country to minimise the potential adverse effects of the planned infrastructure and social investments. The risk level has been assessed as "High." Site-specific environmental and social impact assessments and, whenever needed, resettlement action

plans will be prepared by consultants recruited by the implementing agencies once program activities and locations have been confirmed. This will be concluded in compliance before advancing with physical investments. The needs for monitoring the environmental and social aspects during implementation will be assessed as part of the site-specific review process.

The World Bank's environmental and social safeguard policies that may apply to the infrastructure that will be realised under the WACA are: OP 4.01 "Environmental Assessment"; OP 4.04 "Natural Habitats", OP 4.11 Physical Cultural Resources; and OP 4.12 "Involuntary Resettlement." Other World Bank safeguard policies are not triggered by the project. The World Bank's safeguards will be applied to the NDF-financed activities.

The NDF-funded components in Senegal are related to information-gathering, processing and dissemination as well as institutional capacity-building. This would place these components in the NDF category 72 "Scientific research and development project involved in monitoring and data collection" which rates their environmental, social and overall risks as Low. There will be smaller interventions like setting up monitoring stations and renovation of buildings with no significant impacts. Nevertheless, to be on the safe side, the consultants financed by NDF will be requested to ensure the necessary environmental and social clearance of the interventions according to NDF's environmental and social guidelines.

The NDF-funded components in Benin relates to the stabilisation of the Mono River course in the delta area to stop the river from breaking through a very important land strip between the river and the sea. This breach is likely to happen if no action is taken. The width of the land strip in a particularly vulnerable area is constantly shrinking due to erosion in the river bend and the instability is exacerbated by the hydrological extremes due to climate change. The objective of the NDF project interventions is to protect the people and environment against these threats by stopping the river from taking a short-cut through this important land strip thus changing the environmental, social, cultural, and livelihood conditions dramatically. The NDF-funded mitigation measures will include dredging and green interventions like tree-planting and revegetation. The environmental, social and overall risk rating of Civil Engineering category activities in sensitive locations is generally rated High.

A main project risk might be if the project is poorly designed or if the implementation work accidentally leads to bank rupture (excavator operator making a wrong move, e.g.). Other possible negative impacts of the work include temporary water quality disturbances like high water turbidity (high concentration of suspended solids) during dredging (short-term impact on tourism, fisheries, etc.) and the risk if the green protection applied non-indigenous harmful tree/plant species. To mitigate the above, the project will take several precautions including thorough investigations and feasibility studies before the detailed design, transfer the precautions into contract conditions for the contractors, and ensuring high quality project implementation supervision. In addition, an independent social and environmental impact assessment (SEIA) will be carried out to safeguard the NDF-funded component.

The WACA project plans to undertake analysis to identify project- relevant gaps between males and females. Furthermore, specific actions to address these gender gaps will be identified to improve women or men's empowerment. Indicators are included in the Results Framework to monitor outcomes from these actions.

## **6. CONCLUSION**

The NDF loan contribution to the WACA ResIP Senegal and Benin amounting to EUR 4 million in each country will add considerable value to the overall World Bank WACA ResIP goals of strengthening the climate change resilience of coastal communities and assets. The NDF-funded

grant contribution will also provide a platform for continued replication and up-scaling efforts in other West Africa Coastal countries.

The NDF involvement will support preparation of new investment opportunities in climate-resilient projects by financing upstream upgrading of the knowledge base and long-term collection, storage, processing, and dissemination of crucial information. This will pave the way for fact-based investments in climate change adaptation projects involving mobilisation of governmental and private funding. The NDF support will also directly benefit vulnerable coastal settlements through early warnings directly communicated by SMS, for example, to individuals (with an emphasis on reaching out to women) about eminent risks threatening the livelihood of the families. To improve the statistics and knowledge base on gender issues, the NDF components will increase the spectre of gender-related information in the observatory data base. The project will also directly invest in preservation of specific vulnerable communities to protect their social, cultural and economic resources. Finally, the proposed project will contribute to the development of Africa's blue economy.

## 7. RECOMMENDATION

*The Board approved financing of up to EUR 13.1 million to the project WEST AFRICA COASTAL AREA PROGRAM (WACA) as follows: up to EUR 4.0 million loan financing for C107 WACA - Senegal + up to EUR 4.0 million loan financing for C108 WACA - Benin + up to EUR 5.1 million grant financing for C109 WACA - Regional Africa*

Helsinki, 15 January 2018



Pasi Hellman  
Managing Director



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## Annex 1: Draft Results Framework

PDO Level Indicators	Unit of measurement	Baseline	Target	Data source and methodology	Responsibility	Description / definition
PDO Indicator 1: Households in targeted coastal areas with less exposure to erosion due to the project (disaggregated by country)	Number	0	17,764	Field survey	Regional Implementation Unit M&E function	The indicator measures resilience by design to erosion through infrastructure solutions, nature-based solutions and/or voluntary relocation.
PDO Indicator 2: Households in targeted coastal areas with less exposure to flooding due to the project (disaggregated by country)	Number	0	49,113	Field survey	Regional Implementation Unit M&E function	The indicator measures resilience by design to flooding through infrastructure solutions, nature-based solutions and/or voluntary relocation.
PDO Indicator 3: Households in targeted coastal areas with less exposure to pollution supported due to the project (disaggregated by country)	Number	0	20,871	Field survey	Regional Implementation Unit M&E function	The indicator measures resilience by design to pollution through infrastructure solutions, nature-based solutions and/or voluntary relocation.
PDO Indicator 4: Share of target beneficiaries with rating 'Satisfied' or above on project interventions (disaggregated by country, sex)	Percentage	0	72	Perception survey	Regional Implementation Unit M&E function	Citizen engagement and gender indicator (corporate requirement)  Focus in perception survey will be on: environmental benefits, livelihoods aspects and participation.
PDO Indicator 5: Regional Observatory operational	Yes/No	No	Yes	Institutional assessment	Regional Implementation Unit M&E function	
IR Indicator 1.1: Regional Observatory established according to defined criteria	Yes/No	No	Yes	Institutional assessment	Regional Implementation Unit M&E function	Defined criteria include data production, data management, data analysis, country coverage, dissemination.

PDO Level Indicators	Unit of measurement	Baseline	Target	Data source and methodology	Responsibility	Description / definition
IR Indicator 1.2: Countries that timely submit datasets to Regional Observatory	Number	0	6	Review of entry data	Regional Implementation Unit M&E function	
IR Indicator 1.3: Countries with national Multi-Sector Investment Plans updated to integrate regional environmental considerations	Number	0	6	Review of national Multi-Sectoral Investment Plans	Regional Implementation Unit M&E function	Coastal area investments in one country will take account of and mitigate potential negative environmental impact in neighbouring country
IR Indicator 2.1: Score on policy instruments and legal framework (disaggregated by country)	Score	0	5	Policy and legal review	Regional Implementation Unit M&E function	Overall scoring based on assessment of the following 5 dimensions: -Coastal Management Plan elaborated and under implementation -Coastal Multi-Sector Management Plan operational -Multi-Sector Investment Plan operational -Laws and regulations for management of coastal areas in place -Dissemination campaign on multi-sectoral coastal management designed and implemented
IR Indicator 2.2: Inter-Ministerial Coastal Zone established and operational (disaggregated by country)	Yes/No	No	Yes	Institutional assessment	Regional Implementation Unit M&E function	
IR Indicator 2.3: National Early Warning System operational according to defined criteria	Yes/No	No	Yes	Institutional assessment	Regional Implementation Unit M&E function	National early warning systems include active on-line hydrological and meteorological models to minimise impact of flooding.  Defined criteria: -Target population identified -Early Warning System technically established including IT and parameters -Dissemination and communication

PDO Level Indicators	Unit of measurement	Baseline	Target	Data source and methodology	Responsibility	Description / definition
IR Indicator 3.1: Targeted coastal area with flooding control measures (disaggregated by country)	Ha	0	26,050	Technical review upon completion of works	Regional Implementation Unit M&E function	channels established -Response mechanism designed The specific flooding control measures may differ between countries.
IR Indicator 3.2: Shoreline erosion control measures (disaggregated by country)	Km	0	110.8	Technical review upon completion of works	Regional Implementation Unit M&E function	The specific erosion control measures may differ between countries.
IR Indicator 3.3: Sites/zones with pollution control measures (disaggregated by country)	Number	0	16	Technical review upon completion of works	Regional Implementation Unit M&E function	The specific pollution control measures may differ between countries.
IR Indicator 3.4: Natural ecosystems conserved and/or restored (disaggregated by country)	Ha	0	42	Field survey	Regional Implementation Unit M&E function	The specific measures in nature conservation may differ between countries.
IR Indicator 3.5: Coastal communities with access to improved livelihood activities (disaggregated by country)	Number	0	49,757	Field survey	Regional Implementation Unit M&E function	The indicator covers the social investments under the project. The improved livelihood activities cover those improvements in existing livelihood activities as well as alternative livelihood activities, and could also include livelihood activities in new settlement.

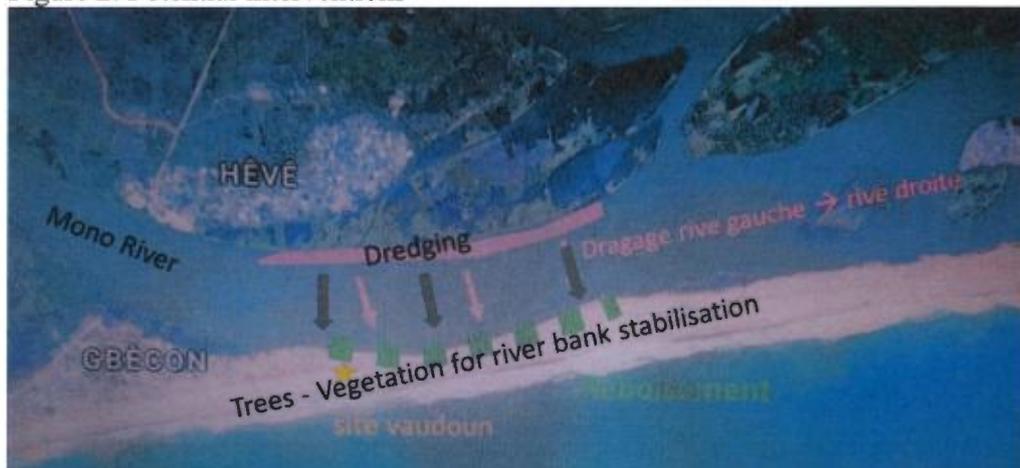
## Annex 2

The NDF project site in Benin and the potential measures are illustrated in Figures 1 and 2 below:

Figure 1: Location of project site



Figure 2: Potential interventions



The proposed intervention is a priority action in Benin's investment plan and National Direct Contributions (NDC). The investments will focus on river course stabilisation in an extremely vulnerable and critical hotspot to avoid dramatic environmental, social and economic impact and to preserve the physical integrity of Grand Popo lagoon and wetland in South West Benin. The interventions will comprise a combination of measures for protection of this segment of the land strip potentially including dredging, banks fixation, revetment, fixation with stabilisation of the shores and other land management measures.

NDF will fund the detailed feasibility study; the social and environmental impact study, and the construction and commissioning of the planned infrastructure investments

The NDF investments will not be stand-alone but will be complemented by other investments in the coastal zone.

For example, under WACA Benin, GEF will finance activities to safeguard the ecology of the broader Mono River delta zone and will strengthen local involvement – including NGOs. The activities of NDF and GEF are expected to be complementary.