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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF EURO 24.4 MILLION  
(US\$30 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SENEGAL

FOR A

SAINT-LOUIS EMERGENCY RECOVERY AND RESILIENCE PROJECT

MAY 24, 2018

Social, Urban, Rural And Resilience Global Practice  
Africa Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2018)

Currency Unit = CFA Francs

FCFA 531 = US\$1

US\$1 = 0.81126029 Euro

## FISCAL YEAR

January 1 - December 31

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## ABBREVIATIONS AND ACRONYMS

ADC	Technical Support Department ( <i>Association de développement communautaire</i> )
ADM	Municipal Development Agency ( <i>Agence de développement municipal</i> )
AFD	French Development Agency ( <i>Agence française de développement</i> )
ARD	Regional Development Agency
BCA	Benefit Cost Analysis
CCA	Climate Change Adaptation
CERC	Contingent Emergency Response Component
CIF	Carriage, Insurance, and Freight
CQS	Consultants Qualification Selection
DALY	Disability-adjusted life years
DEEC	Department of Environment and Classified Entities ( <i>Direction de l'environnement et des établissements classés</i> )
DREEC	Regional Division of Environment and Classified Entities ( <i>Division régionale de l'environnement et des établissements classés</i> )
DUA	Department of Urban Planning and Architecture ( <i>Direction de l'Urbanisme et de l'Architecture</i> )
DRM	Disaster Risk Management
DRUH	Division of Urban Planning and Housing ( <i>Division régionale de l'urbanisme et de l'habitat</i> )
ECOWAS	Economic Community of West African States
EOI	Expression of Interest
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FEM	Fonds pour l'Environnement Mondial
FND	Fond Nordique de Développement
FoB	Free on Board
GDP	Gross Domestic Product
GoS	Government of Senegal
GPN	General Procurement Notice
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GTO	Technical Operational Group ( <i>Groupe Technique Opérationnel</i> )
IBRD	International Bank for Reconstruction and Development
ICZM	National Integrated Coastal Zone Management Plan
IDA	International Development Association
INDC	Intended Nationally Determined Contribution
IRR	Internal Rate of Return
M&E	Monitoring and Evaluation
NAPA	National Action Program for Adaptation
NGO	Non-Governmental Organization
NPV	Net Present Value

PACASEN	Municipal and Agglomerations Support Program
PAD	Project Appraisal Document
PAP	Project Affected Population
PDO	Project Development Objective
PGIRE	Senegal River Basin Multi-Purpose Water Resource Development Project
PIE	Project Implementation Entity
PPSD	Project Procurement Strategy for Development
PIM	Project Implementation Manual
PRECOL	Local Authorities Development Project
PROGEP	Stormwater Management and Climate Change Adaptation Project
PSC	Project Steering Committee
PSE	Senegal's National Development Plan ( <i>Plan Sénégal Emergent</i> )
PTC	Project Technical Committee
PV	Present Value
QCBS	Quality and cost based selection
RAP	Resettlement Action Plan
REOIs	Request for Expressions of Interests
SAP	Safeguards Action Plan
SCD	Systematic Country Diagnostic
SERRP	Saint Louis Emergency Recovery and Resilience Project
SPN	Specific Procurement Notice
TA	Technical Assistance
TORs	Terms of Reference
UNDB	United Nations Development Business
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
VfM	Value for Money
VSL	Value of Statistical Life
WACA	West Africa Coastal Areas Resilience Investment Project
WB	World Bank
WHO	World Health Organization
YLL	Years of life lost due to premature mortality
YLD	Years of life lost due to disability



**BASIC INFORMATION**

Country(ies)	Project Name		
Senegal	Senegal - Saint-Louis Emergency Recovery and Resilience Project		
Project ID	Financing Instrument	Environmental Assessment Category	Process
P166538	Investment Project Financing	A-Full Assessment	Urgent Need or Capacity Constraints (FCC)

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Disbursement-linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
07-Jun-2018	30-Jun-2023

Bank/IFC Collaboration

No

**Proposed Development Objective(s)**

The Project Development Objective (PDO) is to reduce the vulnerability of populations to coastal hazards along the Langue de Barbarie and strengthen urban and coastal resilience planning of the city of Saint-Louis.

**Components**

Component Name	Cost (US\$, millions)
Component 1: Meeting Immediate Needs of the Disaster Affected Population	3.70



Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the Langue de Barbarie	18.35
Component 3: Strengthening Urban and Coastal Resilience Planning	8.85
Component 4: Contingent Emergency Response Component	0.00
Component 5: Project Management, Monitoring and Evaluation	4.10

**Organizations**

Borrower:	Republic of Senegal
Implementing Agency:	Municipal Development Agency (Agence de développement municipal - ADM)

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

<b>Total Project Cost</b>	50.00
<b>Total Financing</b>	35.00
<b>of which IBRD/IDA</b>	30.00
<b>Financing Gap</b>	15.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	30.00
IDA Credit	30.00

**Non-World Bank Group Financing**

Counterpart Funding	5.00
Borrower	5.00

**IDA Resources (in US\$, Millions)**

	Credit Amount	Grant Amount	Total Amount
National PBA	30.00	0.00	30.00
<b>Total</b>	<b>30.00</b>	<b>0.00</b>	<b>30.00</b>



**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2018	2019	2020	2021	2022	2023
Annual	0.00	3.00	3.00	4.00	8.00	12.00
Cumulative	0.00	3.00	6.00	10.00	18.00	30.00

**INSTITUTIONAL DATA**

**Practice Area (Lead)**

Social, Urban, Rural and Resilience Global Practice

**Contributing Practice Areas**

Environment & Natural Resources

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**Gender Tag**

**Does the project plan to undertake any of the following?**

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

**Risk Category**

**Rating**

1. Political and Governance

● High

2. Macroeconomic

● Moderate

3. Sector Strategies and Policies

● High

4. Technical Design of Project or Program

● Substantial

5. Institutional Capacity for Implementation and Sustainability

● High



6. Fiduciary	● Substantial
7. Environment and Social	● High
8. Stakeholders	● High
9. Other	● High
10. Overall	● High

**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04	✓	
Forests OP/BP 4.36		✓
Pest Management OP 4.09		✓
Physical Cultural Resources OP/BP 4.11	✓	
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12	✓	
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50		✓
Projects in Disputed Areas OP/BP 7.60		✓

**Legal Covenants**

Sections and Description

No later than two (2) months after the Effective Date, the Recipient shall ensure the recruitment of: (i) an environmental safeguards specialist, (ii) a social safeguards specialist, (iii) a civil engineer (iv) an urban resilience





expert, (v) an assistant in monitoring and evaluation, (vi) a procurement specialist, (vii) an accountant, (viii) a technical assistant; and (ix) a local coordinator to support the day to day monitoring and coordination of the Project activities in Saint-Louis (Section I.A.1(b) of Schedule 2 in the Financial Agreement).

**Sections and Description**

No later than two (2) months after the Effective Date, the Recipient shall ensure the Project Implementing Entity enters into (i) Memorandums of Understanding with ARD and the Municipality of Saint-Louis to set out the terms and conditions of their respective participation in the Project; and (ii) an Outputs Agreement with UNOPS in accordance with the Procurement Plan (Section I.A.4(a) of Schedule 2 in the Financial Agreement).

**Sections and Description**

No later than two (2) months after the Effective Date, the Recipient shall ensure that the Project Implementing Entity prepares under terms of reference acceptable to the Association, and furnishes to the Recipient and the Association, an implementation manual for the Project and update the procedural manual specific to the financial management of the Project as an annex to the Project Implementation Manual (Section I.A.5(a) of Schedule 2 in the Financial Agreement).

**Sections and Description**

The Recipient shall open and maintain a counterpart funds account especially dedicated to the counterpart funds (“Counterpart Funds Account”) to be maintained and operated on terms and conditions satisfactory to the Association, and managed by the Project Implementing Entity, into which it shall deposit from time to time its counterpart contribution corresponding to its share of the cost of the Project for each Fiscal Year (Section IV.A.1(a) of Schedule 2 in the Financial Agreement).

**Sections and Description**

The Recipient shall not later than the last day of every quarter, beginning in the 1st quarter of FY2019, deposit into the Counterpart Funds Account an amount corresponding the Recipient’s minimum share of the cost of the Annual Work Plan and Budget for that Fiscal Year as set forth in the following schedule or in accordance with such other schedule as may be agreed from time to time between the Recipient and the Association: 609,796 in FY 2019; 990,919 in FY 2020; 990,919 in FY 2021; 838,470 in FY 2022 ; 381,123 in FY 2023 (Amount of Counterpart Funds is in Euros) (Section IV.A.1(b) of Schedule 2 in the Financial Agreement).

**Conditions**

Type	Description
Effectiveness	The Subsidiary Agreement (i) has been executed on behalf of the Recipient and the Project Implementing Entity and (ii) has been duly authorized or ratified by the Recipient and the Project Implementing Entity and is legally binding upon the Recipient and the Project Implementing Entity in accordance with its terms.



Type	Description
Disbursement	No withdrawal shall be made Under Category 2 (Micro-projects supporting the livelihood of the Affected Persons through the creation and the restoration of socio-economic activities and provision of training to acquire new skills), unless the Recipient has prepared and developed the Project Implementation Manual as set forth in Section I.A.5 of Schedule 2 in the Financial Agreement.

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SENEGAL  
**SENEGAL - SAINT-LOUIS EMERGENCY RECOVERY AND RESILIENCE PROJECT**

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## I. STRATEGIC CONTEXT

### A. Country Context

1. **Senegal has enjoyed a strong economic performance and a steady growth over recent years, however, the population's living standards are still very low.** Over a third of the population is considered poor based on the international poverty line, and two thirds live on less than US\$ 3.2 a day<sup>1</sup>. In 2016, the country ranked 162<sup>nd</sup> of 188 countries in the United Nations Development Programme's (UNDP) human development index<sup>2</sup>. Senegal has made significant progress in some areas, including selected health areas (life expectancy and infant mortality), safe water access (now reaching 92 percent of population), coverage of electricity (to 64 percent in 2017) and social assistance programs.<sup>3</sup> However, other areas still lag substantially, with more than half of its population lacking access to sanitation services and underwhelming results in key education indicators (literacy rates, net enrollment rates). Moreover, the positive developments have been overshadowed by pronounced socio-economic and spatial inequalities, with poverty concentrated in rural areas and in rapidly growing urban suburbs.

2. **Senegal is highly prone to natural disasters, including, floods, droughts, coastal erosion and land degradation.** These environmental shocks disproportionately impact the poor, mainly through decreased agricultural productivity, food price shocks, coastal flooding and erosion in cities and associated health hazards. With 702 km of coastline bordering the Atlantic Ocean and approximately two thirds of the country's population residing in the coastal zone (mostly in urban areas), Senegal is particularly vulnerable to coastal hazards. Coastal erosion, inundation, extreme swell events, and soil and water salinization pose a significant threat. Situated on the western-most point of Africa, most of the Senegalese coastline is made up of a shallow, sandy coast with dominant waves from the northwest. Some of the natural causes of erosion include low coastal topography, intense waves and high winds and weak soils. However, human activities such as sand mining and rapid population growth and unplanned development have exacerbated risk to the coastal population, infrastructure and ecosystems. The coastal zone is the main socioeconomic driver for the country, as it hosts 80 percent of economic activities (horticulture, seaside tourism, fishing, services, and so on). Changing coastal dynamics are already threatening societal and economic interests.

3. **Climate change impacts, particularly rising sea levels and increasingly frequent and intense storms, are exacerbating hazard risk in Senegal.** Senegal's climate is characterized by two distinct seasons: a dry season from roughly October to May and a rainy season from June to September. Climate projections indicate that mean annual temperatures could increase by 1.1-3.1°C by the 2060s and 1.7-4.9°C by the 2090s. Sea level rise is projected to be as much as one meter by the end of the century, which could result in the disappearance of between 55 and 86 square kilometers of the country's beaches and flood 6000 square kilometers of low-lying areas. Recent simulations show that Senegal may lose up to 8 percent of Gross Domestic Product (GDP) by 2030 due to climate change effects. The bottom 40 percent is likely to be the most affected, with their incomes reduced by more than 9 percent<sup>4</sup>.

<sup>1</sup> From forthcoming SCD

<sup>2</sup> United Nations Development Program (2016). Human Development Report 2016. Briefing Note on Senegal. Available at: [http://hdr.undp.org/sites/all/themes/hdr\\_theme/country-notes/es/SEN.pdf](http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/es/SEN.pdf)

<sup>3</sup> Access rates provided by the national survey *Listening to Senegal* (ANSD 2014).

<sup>4</sup> SCD



## Situations of Urgent Need of Assistance or Capacity Constraints

4. **City of Saint-Louis Context:** The historical city of Saint-Louis (registered as a World Heritage Site by UNESCO in 2000) is located on the northwest coast of Senegal at the mouth of the Senegal River. With a population of 232,000 (2017), the city has experienced rapid growth in population over the last 50 years. The so-called *Langue de Barbarie* is a thin, sandy peninsula adjacent to the Atlantic Ocean that separates the ocean from the final sections of the Senegal River. This sand spit varies in width from around 100 to 400 meters, and has historically played an important role not only in the protection of the lower Senegal delta plain (including the city of Saint Louis), but also in regulating saltwater intrusion by diverting the mouth of the river several kilometres southwards. Over time, the city has progressively encroached upon the *Langue de Barbarie*, resulting in both populations settling in areas of high risk and reducing the natural protective barrier function of the sand dunes.

5. **In recent years, coastal erosion along the *Langue de Barbarie* has accelerated, with up to 5 to 6 meters of beach loss per year<sup>5</sup>.** A large longshore transport of sand towards the south is generated by Atlantic waves from the northwest to the north. However, climate change impacts such as sea level rise and changes in storm patterns have exacerbated the erosion problem. Moreover, unplanned settlement in the area has disrupted circulation and sediment transport patterns and has contributed to the degradation of the coastal zone. Approximately 80,000 people reside in the densely populated fishing neighborhoods along the *Langue de Barbarie*. The neighborhoods of *Guet Ndar*, *Goxou Mbathie* and *Ndar Toute* are situated along the four kilometer-stretch of beach most at risk, among the most densely populated in Senegal, and characterized by high levels of social vulnerability.

6. **The city of Saint-Louis experiences frequent extreme storm surges, which have displaced a number of families due to extensive flooding and coastal erosion along the *Langue de Barbarie*.** The most recent and notable events that caused extensive damage took place in August 2017, and in February 2018. Several houses located along the shoreline, as well as household and livelihood assets, were completely destroyed. Preliminary census data indicates that 199 families (about 2000 people) were displaced by the August 2017 storm surge, and another 59 families (about 590 people) lost their homes in the February 2018 surge. Most of the 258 displaced families are currently living in a relief camp in the *Khar Yalla* site. In addition to being situated in a flood prone area, families in the relief camp are living in crowded tents, with no sanitation services and inadequate access to water, electricity and transport. In such sub-optimal conditions, the affected population continue to face significant health and flood risks, and thus require urgent attention. Additionally, since the *Langue de Barbarie* area experiences two to three severe storm surges per year, it is expected that more families may lose their homes by the summer of 2018.

7. **In addition to the families that have already lost their homes, the Municipality of Saint Louis has identified all households within a band of approximately 20 meters along the sea as being within the zone of extremely high risk.** These homes are under constant attack from the sea and it is anticipated that at least some of them will be destroyed by future storm surges by summer 2018. The population in the high-risk zone in the *Langue de Barbarie* is estimated to be a total of 927 households (441 *concessions*<sup>6</sup>, 9158 people including the already 258 displaced families). The high levels of vulnerability require quick intervention as the population needs to be protected from frequent and extreme storm surge impacts and permanently relocated to a safe zone. This is consistent with the 2013 EGIS/WB study, which recommended progressive strategic retreat of the population

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<sup>5</sup> EGIS study

<sup>6</sup> *Concession* is a French term used in Africa to describe a courtyard with a set of dwellings comprised of multi-generational households connected by kinship.



at risk in the *Langue de Barbarie*.

8. **The Government has initiated its emergency response mechanism, under the leadership of the Central Governor and the Municipality of Saint-Louis.** Following the August 2017 storm surge event, affected families who lost their houses were initially provided shelter in local schools. However, to allow for the resumption of classes in the beginning of October, these families were moved to the *Khar Yalla* site. At the relief camp, typically one *concession* (about 2-4 households, with a total of 20 to 40 people) are living within a twenty-five square meter living space in the tents provided. The Municipality has undertaken to address the difficult living conditions of the displaced population through better access to potable water and electricity. As an immediate response, the Government has also provided some relief supplies, food kits and social support measures. However, conditions in the camp remain extremely challenging and precarious. Additionally, as more families have been displaced following the February 2018 storm surge, conditions in the overcrowded camp have become even more precarious. Given that the relief camp is situated in a flood zone, there is an urgent need to move the displaced population out of the hazard prone area before the 2018 rainy season, beginning in June. Households in the relief camp face significant health and flood risk, and may also experience considerable long term negative impacts since livelihood activities have been disrupted and many children have dropped out of school.

9. **The Government has requested the World Bank's support to respond to the crisis and ongoing coastal erosion problems in the city of Saint Louis.** Several key issues and recommendations have been highlighted through assessment of the situation. First, as described above, the conditions of the displaced population in the *Khar Yalla* relief camp are extremely tenuous and require immediate and urgent action. Second, in the medium term, families currently living within the 20-meter band high-risk zone need to be permanently relocated to a safe area to be protected from impending storm surge and coastal erosion. Third, in addition to the above, a long-term sustainable solution is required for the *Langue de Barbarie* area, both to protect the more than 80,000 residents that live on the peninsula itself, but also to ensure the stability of the peninsula and its coastal protection role for the broader city of Saint Louis. The US\$30 million Senegal: Saint Louis Emergency Recovery and Resilience Project (SERRP) aims to address the above immediate, medium and long-term needs.

10. **Any long term structural measures to try and protect the settlements along the *Langue de Barbarie* can have irreversible negative impacts to the coastal zone if they are not supported by and designed in line with comprehensive technical studies.** Construction of such structures without proper design could further threaten the city of Saint Louis by destabilizing the entire ecosystem (ie: the 2003 example of the four-meter breach that was cut in the *Langue de Barbarie* peninsula with the intention to counter possible flooding, but was conducted without a proper impact assessment and has now resulted in the loss of more than four kilometers of land and irreversible changes to the flora and fauna of the peninsula). Any long-term design solution will require thorough assessment and detailed studies given the complex coastal dynamics of the local environment along the coast of Saint Louis, as well as the climate change challenges of sea level rise and increasing frequency and intensity of storm surges.

11. **Deferral of Safeguard Requirements:** The proposed operation meets the emergency provisions of Paragraph 12 (Situations of Urgent Need of Assistance), Section III of the Investment Project Financing (IPF) policy and is being prepared using condensed procedures provided therein. The proposed operation therefore defers environmental and social safeguard requirements to the project implementation phase. As required under such circumstances, a Safeguards Action Plan (SAP), highlighting the detailed time-bound plan for the preparation of relevant safeguards instruments has been prepared to ensure compliance with all safeguards requirements (Annex V). No works will be undertaken until a) all safeguards documents have been approved by the Bank,



consulted with Project Affected People (PAPs) and disclosed; and b) the Grievance Redress Mechanism (GRM) is in place.

## B. Sectoral and Institutional Context

### Overview and key challenges in sectors

12. The challenge of coastal urban resilience in Senegal cuts across many sectors, including Disaster Risk Management (DRM) and Climate Change Adaptation (CCA), environment, and urban planning. As Senegal remains exceedingly vulnerable to the effects of climate change and environmental shocks, the country has increased its focus on DRM/CCA over the past decade. However, institutional and operational frameworks remain weak, there is a lack of dedicated budget for DRM/CCA activities, and the absence of data and modelling tools provides a challenge for effective decision making and policy planning. Even if a comprehensive and integrated approach to managing the coastal environment exists, it is not fully operational. Some isolated coastal erosion response measures have halted the process in one area, while aggravating it in another. And finally, while Senegal's urbanization rate has almost doubled since 1960, (increasing from 23 to 44 percent in 2016), the lack of adequate planning and coordination of urban development has led to the proliferation of unplanned urban households. Less than 30 percent of Senegalese cities and municipalities have urban plans and most of those are obsolete, or not enforced, owing to weak local government capacities for urban management.

### Strategies and Actions to Address Sectoral Issues

13. **The Government of Senegal (GoS) has demonstrated strong resolve and country ownership for resilient recovery and development in the city of Saint-Louis.** The Senegalese Government from the highest level to the Municipality has underscored the need to secure the threatened population in the *Langue de Barbarie* as well as find a sustainable solution to the coastal erosion and flood problems in Saint-Louis. The project presents a window of opportunity to leverage a dedicated multi-sectoral and multi-stakeholder resilient recovery plan and integrated urban resilience program for Saint-Louis led by the government and the Municipality of Saint-Louis.

14. **The Bank has been providing ongoing support to the GoS for several years in the city of Saint Louis, and the proposed emergency operation will coordinate with both ongoing and pipeline projects.** The Stormwater Management and Climate Change Adaptation Project (PROGEP, P122841 and P152150) has and continues to support a number of technical assistance studies, including an economic analysis of coastal adaptation to climate change in Saint-Louis, hydrodynamic and sediment transport modelling of the Saint-Louis delta, and an urban development plan for Saint-Louis. The Senegal River Basin Multi-Purpose Water Resources Development (PGIRE, P153863) is supporting management and study of the Diama dam north of the city and Saint-Louis' sea-river port. The West Africa Coastal Areas Management Program (WACA, P162337) is a regional program designed to help countries access expertise and finance to sustainably manage their coastal areas. In Senegal, at the national level, WACA will support the elaboration of the National Integrated Coastal Zone Management Plan (ICZM) as well as the constitution of the agency in charge of its monitoring. Specifically, for the city of Saint Louis, WACA will contribute to citizen engagement and sustainable livelihoods solutions for populations affected by coastal erosion. The SERRP and WACA projects will work in close coordination to develop one strategy and ensure complementarity of activities for engagement in Saint Louis.

15. **A multi-partner crisis response has been activated, given both the urgency and complexity of the coastal erosion challenges in the city of Saint Louis.** The World Bank is collaborating closely with the French





Development Agency (AFD) in preparing complementary emergency and long-term solutions. The World Bank is also collaborating with the Red Cross and World Vision, who are supporting the provision of immediate humanitarian needs for the displaced population in the relief camp.

### Rationale for Bank Involvement

16. The World Bank and development partner France/AFD have quickly responded to the Mayor of Saint-Louis' call for support at the One Planet Summit in December 2017. On February 3, 2018 the President of Senegal, along with World Bank Group (WBG) President Kim and President Macron of France, visited the city of Saint Louis and areas under the threat of coastal erosion along the *Langue de Barbarie*. Both development partners committed joint action on adaptation to climate change.

17. The World Bank has a long history of engagement in Senegal regarding the coastal urban environment (PROGEP, PGIRE, WACA). Similarly, the Bank has been financing emergency response and resilience building projects, not only in the Africa region, but across the globe. The project aims to respond to both the immediate and medium-term needs of relocating populations that have been displaced and are imminently about to be affected by coastal erosion, while also supporting transformational change to build resilience within the city of Saint Louis. Planned relocation is a transformational risk mitigation and climate change adaptation measure, which has been successfully implemented in WB financed projects in Latin America and the Caribbean (Argentina P006051 and Columbia P085727) and South Asia (India P148868) and is proposed under the Metro Manila Flood Management Project in the Philippines (P153814) and the WACA project (P162337) for select cities (piloted in Sao Tome). Annex 9 of the WACA Project Appraisal Document (PAD) on Community Development, Resilience and Decision Making provides a framework for planned relocation. The urban resilience strategy developed under the SERRP project will help to provide a more forward looking and multi-sectoral approach to dealing with disaster risk, and will provide a prioritized and phased list of actions and investments, which can guide further engagements of the Bank and other development partners.

### C. Higher Level Objectives to which the Project Contributes

18. **The project contributes to the World Bank Group's (WBG) twin goals of eliminating extreme poverty and boosting shared prosperity, and to goals of the WBG Climate Change Action Plan, 2016-2020.** Through addressing the immediate needs of disaster affected families, the planned relocation of households living along the coast in an extremely high-risk area (including livelihood restoration/creation), and longer term planning activities to help strengthen the urban and coastal resilience of the city of Saint Louis, the SERRP interventions will improve the living conditions of residents in the affected areas and strengthen the means for reducing extreme poverty and boosting shared prosperity. The project targets the most vulnerable populations that have been affected by the storm surge/coastal erosion disaster and climate change. The project also contributes to the Priority III of the WBG's Climate Action Plan 2016-2020 to scale up climate action, accelerating transformational change with more focus on adaptation and resilience to climate change.

19. **The project aligns with Senegal's principles of sustainable growth and poverty reduction as outlined in the forthcoming Systematic Country Diagnostic (SCD).** According to the Senegal SCD (in preparation), the country is highly vulnerable to shocks associated with coastal erosion and sea level rise, which are increasingly exposing both the urban and rural poor to stress thus affecting poverty levels and overall growth. It further identifies that out of approximately 40 climate change projects, currently only one is focused on the coastal sector. Thus, the project will deepen engagement in this very important sector, which has been identified as



being extremely vulnerable to the impacts of climate change and critical to economic and social development.

20. **Senegal's national development plan (Plan Sénégal Emergent, PSE, 2014), its National Adaptation Plan for Action (NAPA, 2006) and its Intended Nationally Determined Contribution (INDC, 2015) all identify the vulnerability of the coastal zone as a major adaptation challenge.** The PSE identifies climate change impacts, with emphasis on floods, coastal erosion and salinization as major challenges for which sustainable solutions need to be developed to help populations adapt. In the NAPA for Senegal, coastal erosion is recognized as one of the four main natural risks that affect the country and vulnerability of the coastal zone is identified as an area of intervention. Finally, the INDC identifies protection of vulnerable areas and/or displacement of populations vulnerable to disaster risk as a priority action for the country.

## II. PROJECT DEVELOPMENT OBJECTIVES

### A. PDO

21. The Project Development Objective (PDO) is to reduce the vulnerability of populations to coastal hazards along the *Langue de Barbarie* and strengthen urban and coastal resilience planning of the city of Saint-Louis.

### B. Project Beneficiaries

22. The project, in its first phase, will directly benefit about 500 households (5,000 people) in the city of Saint Louis who have already been displaced by coastal erosion and/or are amongst the most vulnerable currently living within the 20-meter extremely high-risk zone. This includes approximately half of the 927 households (9,158 people) living in the 20-meter zone. The second phase of the project, for which there remains a financing gap, will directly benefit the remaining 427 households (4,158 people) who live in the 20-meter zone of extremely high risk. Of the project beneficiaries, approximately half are women.

23. The project will equally benefit the entire population of the *Langue de Barbarie* and the greater agglomeration of the city of Saint Louis. The technical studies and design of a long term coastal protection solution for the *Langue de Barbarie* coastline, under Component 3, will benefit the approximately 55,000 people living in this coastal zone. Similarly, the urban resilience plan will provide the foundation for future investments to reduce the vulnerability of the city's 213,000 inhabitants to its major risks.

### C. PDO-Level Results Indicators

24. **The achievement of the PDO will be monitored by the following outcome indicators:**

- (a) People provided with improved urban living conditions (specifically, this will include the number of households successfully relocated from high risk areas to safe housing, or satisfactorily compensated; number of which are women);
- (b) Urban Coastal Resilience Plan of Saint-Louis developed and adopted (Y/N)

## III. PROJECT DESCRIPTION

### A. Project Components

25. **The project components have been designed to respond to immediate, medium and longer term needs to reduce the vulnerability of coastal populations and increase urban resilience planning in Saint Louis.**



**Component 1** supports meeting the immediate (and temporary) needs of the displaced population living in the extremely challenging conditions of the flood prone *Khar Yalla* relief camp. **Component 2** responds to the medium term need to relocate the affected families to permanent housing. Specifically, it will support transformational change through planned relocation of the most vulnerable populations living in the high risk coastal zone; including the design and works for development of a new relocation site, provision of permanent dwelling units, and support for livelihoods and citizen engagement/social facilitation activities throughout the relocation process. **Component 3** responds to the longer-term needs of Saint Louis to begin planning and implementing activities on its way to becoming a more resilient coastal city. Within the context of an emergency project, this is particularly important to begin the longer-term processes necessary to address underlying root causes of vulnerability and minimize the impacts of future hazardous events.

26. **Phased Approach for Relocation and Financing Gap:** Based on the severity of coastal erosion taking place along the *Lingue de Barbarie*, the medium-term need of the Municipality is to relocate all populations living within the 20-meter zone along the coast that has been delineated as extremely high risk (927 households). Under the SERRP project, the relocation site will be developed to accommodate this number of households, however due to an existing financing gap, permanent housing will be allocated on a phased basis. The first phase will consist of families that have already had their homes destroyed (as of March 2018, this consists of 258 households), and future victims who may lose their homes in future storm surges during project implementation, up to 500 families. A financing gap of US\$15 million currently exists to complete the second phase of relocation, and move the remaining 427 households out of the 20-meter extremely high-risk area. A phased approach to planned relocation is in line with the 2013 EGIS/WB study, which indicates that beach erosion is taking place at a rate of five to six meters per year and recommends progressive strategic retreat of populations.

**Component 1: Meeting Immediate Needs of the Disaster Affected Population – (IDA: US\$3.7 million equivalent)**

27. **The objective of this component is to support the GoS to provide temporary accommodation and related services for households currently displaced by the disaster, and urgently improve their living conditions in line with global standard practices.** The component will finance: (i) the provision of rental subsidies; and (ii) good, services and civil works required to erect temporary dwellings and provide related essential services on the permanent relocation site (electricity, water supply, sanitation), to be situated in an area not prone to flooding. The *concessions* will have the choice to select their preferred option of rental subsidies or moving to the temporary accommodation on the relocation site. Preliminary results indicate that over 80 percent of the population prefer to relocate to the temporary accommodation.

28. **Given the urgent need to improve the living conditions of disaster victims in the relief camp, some preparatory work has already been initiated using financing from the PROGEP (P122841, P152150) project.** This includes: (i) a Feasibility Study of various options for temporary shelter and design of a support program; (ii) the recruitment of a consultant for Social Facilitation Activities to lead the participatory process with disaster affected families for input into the feasibility study and design of the temporary relocation program; and (iii) preparation of relevant Safeguard Documents, including a RAP for the temporary relocation of the affected population. While the studies have been initiated with financing from PROGEP, the SERRP will support any additional inputs and the required investment for implementation of the selected option (acquisition of materials, goods and services, works or rental subsidies, etc.).

29. This would be a fast-disbursing component, as much of the technical design, feasibility studies and



safeguard instruments have already been initiated using financing from PROGEP. Given their comparative advantage in emergency response for providing quick and temporary housing solutions and their ability to mobilize quickly, UNOPS will be contracted to implement parts of this component. The temporary shelter solution will accommodate disaster victims during the transitory phase until a permanent housing solution is available, for an estimated period of two to three years.

**Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the *Langue de Barbarie* (IDA: US\$14.35 million equivalent + US\$4.5 million counterpart financing)**

30. **This Component will finance the planned relocation of households affected by coastal erosion, and living in the extremely high-risk zone along the *Langue de Barbarie*.** The activities under this component will be financed through four sub-components: (i) design and implementation of the citizen engagement and social support strategy; (ii) development of the relocation site; (iii) construction of permanent dwellings for the population affected by coastal erosion; and (iv) livelihood restoration for the displaced populations.

31. **Several preparatory studies are being conducted (financed under PROGEP), both to ensure early participation of the project beneficiaries in the relocation process and to avoid delays in developing solutions to the emergency situation.** These include: (i) surveys of the households affected by the coastal erosion to obtain their socio-economic profile and ideas and opinions regarding the relocation, as well as surveys of the host community for the selected area; (ii) a study to identify and analyze potential relocation sites, including design of site development works and preparation of bidding documents for the selected option; (iii) an environmental and social impact assessment (ESIA) to assess potential social and environmental impacts of this component, and propose measures to mitigate against negative impacts and strategies to increase the positive impacts; and (iv) a Resettlement Action Plan (RAP) for the population to be permanently relocated.

32. **Sub-component 2.1: Design and Implementation of the Citizen Engagement and Social Support Strategy (US\$0.55 million):** The sub-component will finance the recruitment of a consultant, NGO or firm to facilitate and implement the citizen engagement activities, and finance the monitoring and implementation of the RAP. To ensure that target beneficiaries are sufficiently involved, this sub-component will support continued citizen engagement and participatory processes for relocation planning and decision-making. Feedback mechanisms will be developed to ensure transparency, accountability and learning as well as a continuous dialogue with target beneficiaries and other stakeholders. Strategies will be identified to ensure diversity among the community representation, including women, children, the elderly, persons with disabilities and ethnic and religious minorities. Activities will not only target persons to be relocated, but also the host population.

33. The sub-component will be implemented in complementarity with the intervention of WACA focused on supporting social dialogue and support to vulnerable populations.

34. **Sub-component 2.2: Development of the Relocation Site (US\$7.5 million):** This sub-component will finance the recruitment of a company to carry out the construction works required to develop the relocation site. This will include, but not be limited to the provision of power, water, sanitation, drainage systems, road networks and communication services. The relocation site will be designed to accommodate at least 1,000 households in line with technical and social specifications ensuring good living conditions for both displaced and host populations.

35. Land for the relocation site will be provided by the Government and no acquisition of land will take place



under the Project. Preparatory activities, including: (i) a feasibility study to assess options and select the relocation site; and (ii) the spatial planning design and preparation of bidding documents is already being conducted under PROGEP. The feasibility study includes a multi-criteria analysis including key criteria such as level of social and environmental impacts, social acceptance and vulnerability to risks (flooding, coastal erosion, etc.) to ensure the relocation site is not situated in an area at risk. Prior to the closing of Project Negotiations, the Government confirmed the availability of suitable land, which meets the Bank's social and technical requirements, for use as a relocation site. This was provided through an Act signed on May 10, 2018.

36. **Sub-component 2.3: Permanent Dwellings for the Population Affected by Coastal Erosion (US\$5.0 million):** This sub-component will finance: (i) a study and design of the permanent dwellings to be constructed on the relocation site; (ii) the construction of the permanent dwellings for *concessions* to be relocated; (iii) supervision of the construction; and (iv) development of a strategy for the modalities of housing relocation to support preparation of the RAP. Dwelling units on the relocation site will be constructed with the objective of providing a basic unit that can be incrementally expanded. Should they choose not to move to the relocation site, cash compensation will be provided strictly for the purpose of finding accommodation, subject to terms to be outlined in the Project Implementation Manual. Cash compensation will be provided with counterpart funding.

37. **Under the SERRP project, the relocation site in Sub-Component 2.2 will be developed to accommodate the estimated 927 households living in the 20-meter high risk zone, however, permanent dwellings under sub-Component 2.3 will be allocated to the first phase of affected households (up to 500 households).** The project will initially focus on the estimated 258 families already displaced by the August 2017 and February 2018 storm surges. Since severe storm surges occur two to three times per year, it is expected that additional families will become displaced over the project implementation period, and are to be included up to the 500 threshold. However, if more families do not become displaced, then the project will target the most vulnerable households within the 20-meter zone for relocation. The project will continue to work with development partners to try and source additional financing required to implement the second phase of relocation, providing permanent housing to the remaining families (estimated at 427). However, in keeping with the overall strategic approach to relocate all families living within the 20-meter high risk zone, and for reasons of "economies of scale", the project will finance the design and works to develop the relocation site in its entirety.

38. **Sub-component 2.4: Livelihood Restoration for the Displaced Populations (US\$1.3 million):** This sub-component will consist of financing micro-projects for the creation and restoration of socio-economic activities for displaced populations. To the extent practicable, relocated persons will be supported to maintain their traditional or previous livelihoods (mostly fishing) where desired and be provided with opportunities to acquire new skills and livelihoods that are suitable to, and feasible in the settlement site, recognizing that the planned relocations may offer relocated persons the opportunity to pursue new livelihoods.

39. The sub-component will be implemented in complementarity with the US\$500,000 intervention of WACA focused on supporting micro-projects to help families affected by coastal erosion to improve their livelihoods.

### **Component 3: Strengthening Urban and Coastal Resilience Planning (IDA: US\$8.85 million equivalent)**

40. **Sub-component 3.1: Reclamation/Restoration of the Liberated Area Along the *Langue de Barbarie* (US\$1.9 million):** The sub-component will consist of: (i) the recruitment of a consultant to conceptualize and design a site development plan for the liberated area, including participatory input from the local community; and (ii) site development works to reclaim the area. Land rights will be transferred to the Government so that





they can exercise effective control of new occupation, and reclaim and maintain the at-risk area. It will include the demolition of all existing housing and structures, fencing as a temporary measure to ensure no further encroachment of the vacated land, and reclamation of the vacated area for public use such as parks and recreation area, incorporating nature based coastal resilience solutions such as replanting forest/species.

41. **Sub-component 3.2: Design of Coastal Risk Management Sustainable Solution to Protect the Langue de Barbarie shoreline (US\$3.6 million):** This sub-component will finance the technical design of a sustainable, long-term coastal risk management solution (including a combination of hard and soft measures) to protect the Langue de Barbarie area. This study will integrate a drainage master plan. The results will include detailed concept plans and bidding document, consistent with the results of the ongoing hydrodynamic and sedimentary transport study for the Saint-Louis delta of the Senegal River (financed under PROGEP). The WACA project aims to contribute to financing the coastal risk management sustainable solution developed under this sub-component to protect the Langue de Barbarie shoreline in the long-term.

42. **Sub-component 3.3: Development of a Local Early Warning System and Community Response Plan (US\$0.6 million):** The sub-component will consist of developing and operationalizing an early warning system at the local level (city of Saint Louis), including a mechanism for monitoring hazards and areas at risk, collecting and processing data and disseminating warning messages to targets populations. The development of the local early warning system will be complemented by the national level early warning system activities to be financed under the WACA project. Activities will include recruitment of a firm to design and conceptualize the local early warning system and community response mechanism, and acquisition of goods, equipment and services (purchase and installation of rain gauges, equipment for organizations involved in the operation of the early warning system, etc.) for implementation.

43. **Sub-component 3.4: Development of an Urban Resilience Plan for the City of Saint Louis (US\$2.0 million):** This sub-component will finance the recruitment of a firm to undertake: (i) an urban resilience study; and (ii) the development of a disaster risk financing framework to guide housing reconstruction and/or relocation for households affected by disaster. The urban resilience plan will build upon the technical assistance studies under preparation with PROGEP (hydrodynamic and sediment transport modelling of the Saint-Louis delta, a drainage master plan, and an urban development plan) to develop an overall urban resilience plan for the agglomeration of Saint-Louis. The key outcome for the urban resilience study will be a prioritized and phased list of actions and investments to enhance the resilience of Saint Louis, which can guide further engagements of the Bank and other development partners. The activity will also propose the governance mechanism for the implementation and monitoring of the resilience plan.

44. **Sub-component 3.5: Institutional and Technical Capacity Building (US\$0.75 million):** This sub-component will support capacity building for the main project stakeholders to ensure sustainability of project achievements. It will entail the design of a capacity building plan, implementation of the plan, and the acquisition of any materials, goods and services to implement the plan.

#### **Component 4: Contingent Emergency Response Component (CERC, US\$0 million)**

45. Following an eligible crisis or emergency, the Borrower may request the Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted credit resources under the project from other project components to cover emergency response.



**Component 5: Project Management, Monitoring and Evaluation (IDA US\$3.1 million equivalent + US\$3.5 million counterpart financing)**

46. This component will support project management and coordination and monitoring and evaluation for the project. It will finance the administrative management of the Project by the Project Coordinating Unit (ADM) and implementing partners, including: (i) recruitment of specialists in financial management, procurement, and monitoring and evaluation; (ii) carrying out the fiduciary aspects of the Project including audits; (iii) technical and safeguard audits, including beneficiary surveys; (iv) design and operationalization of the Grievance Redress Mechanism (GRM); (v) the provision of training and workshops; (vi) communication; (vii) the financing of the necessary goods, equipment, and operating costs; and (viii) costs associated with convening and reporting to the Project Technical Committee (PTC) and Project Steering Committee (PSC). It will also support the design and implementation of a detailed monitoring and evaluation plan.

**B. Project Cost and Financing**

47. The project will allow flexibility in resource allocation across project sub-components. This is achieved by not having itemized disbursement categories, in anticipation of evolving needs in a fluid and fast-moving recovery context. Such flexibility allows the project to adapt if the government mobilizes different sources of financing to support certain priorities, and to maximize synergy and complementarity with other related interventions. The project budget breaks down as follows:

*Table 1 Project Cost (US\$ million)*

<b>Project Components</b>	<b>Project cost</b>	<b>IDA Financing</b>	<b>Counterpart Financing</b>	<b>Financing Gap</b>	<b>Total</b>
<b>Component 1: Meeting Immediate Needs of the Disaster Affected Population</b>	3.7	3.7	-	1.3	5.0
<b>Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the <i>Langue de Barbarie</i></b>	18.35	14.35	4.0	11.1	29.45
2.1 Design and Implementation of the Citizen Engagement and Social Support Strategy	0.55	0.55			0.55
2.2 Design and Works for the Development of the Relocation Site	7.5	7.5		1.5	9.0
2.3 Permanent Dwellings for the Population Affected by Coastal Erosion	9.0	5.0		8.6	17.6
2.4 Livelihood Restoration for the Displaced Populations	1.3	1.3		1.0	2.3
<b>Component 3: Strengthening Urban and Coastal Resilience Planning</b>	8.85	8.85	-	2.6	11.45
3.1 Reclamation of the Liberated Area Along the <i>Langue de Barbarie</i>	1.9	1.9		2.1	4.0
3.2 Design of Coastal Risk Management Sustainable Solution to Protect the <i>Langue de Barbarie</i> shoreline	3.6	3.6			3.6
3.3 Development of a Local Early Warning System	0.6	0.6			0.6



and Community Response Plan					
3.4 Development of an Urban Resilience Plan for the City of Saint Louis	2.0	2.0		0.5	2.5
3.5 Institutional and technical Capacity Building	0.75	0.75			0.75
<b>Component 4: Contingent Emergency Response Component</b>	-	-	-		
<b>Component 5: Project Management</b>	4.1	3.1	1.0		4.1
<b>Total</b>	35.0	30.0	5.0	15.0	50.0

48. Given the urgency to address the needs of the displaced population, subject to Board approval of the Project, and upon Project effectiveness, the Legal Agreement will include the option of retroactive financing for eligible expenditures. The use of retroactive financing allows the Government to finance eligible expenditures under the Project, and be reimbursed once the Project is effective and provided the retroactive financing conditions are met. For operations prepared under Emergency Procedures (Paragraph 12 of the IPF policy), the retroactive financing limit is 40 percent.

**C. Lessons Learned and Reflected in the Project Design**

49. The project design has incorporated lessons learned from various planned relocation projects, supported by the World Bank in the recent past. The project has adopted an inclusive and participatory approach to plan for the relocation of the affected communities by ensuring active involvement of local communities throughout the project cycle. The initiative for strong community participation will not only strengthen existing community network and promote the sense of ownership and solidarity within the community, but also provide an opportunity to build overall community resilience to future disaster risks. It is also important to consider flexible strategies to meet the different needs of households, and take into account differences in household socio-economic profile, existing housing condition, tenure status etc.

50. The project adopts an approach to protect the reclaimed land from any illegal land grabbing or encroachment once the planned relocation process starts. It is important to ensure that no future settlement takes place on the vacated land in the high-risk zone. Land rights will be transferred to the Government so that they can exercise effective control of new occupation, and reclaim and maintain the at-risk area. This piece of land should be fenced at earliest, and with the help of security or local police, it should be patrolled for any future encroachment. Moreover, a clear no-build policy on this reclaimed land should be introduced, thereby ensuring that no building permits are permitted for this reclaimed land, once the planned relocation process starts. Opportunities will be explored to incorporate nature based solutions, such as replanting forest/species, into the design of the vacated area.

51. The project has designed a methodology to prioritize most vulnerable households for the phased approach of planned relocation, in order to improve their capacity to deal with multiple shocks and stresses in the city. First the households that have already been displaced will be prioritized. Secondly, households will be prioritized based on their hazard exposure (i.e., those closest to the shoreline). Finally, elements of social





vulnerability of beneficiaries (gender, age, disability, income group and tenure status) will also be considered in the selection/prioritization of households for the phased approach to planned relocation, under this project. This will help to ensure that the most vulnerable population of the affected households are better prepared to cope and adapt to the multiple shocks and stresses of the city.

52. Learning from the recent WB financed Dakar Diamniadio Toll Highway Project in Senegal (P087304), which involved the resettlement of approximately 30,000 people, the project will construct permanent dwelling units for affected families rather than providing a lot on a relocation site with a housing cash grant. In the case of the above-mentioned project, it was often found that households did not spend the housing cash grant as intended. In some cases, heads of households chose not to buy a house, which left family members more vulnerable than before.

53. Under the implementation arrangements of the project, a decentralized core-team/unit of multi-sectoral technical experts will be based at the municipal level and work solely on this project throughout the entire project cycle. The decentralized core team will be based in the city of Saint-Louis in the Regional Development Agency (ARD) headquarter. Key technical experts recruited by the Project Implementation Entity, including the project social safeguards specialist, environmental safeguards specialist, a civil engineer (ideally with coastal engineering expertise), accountant, and a project local coordinator will support the day to day monitoring and coordination of project activities in Saint-Louis. This team of experts will actively participate in all activities under the project, guide and facilitate the dialogue with local community and other stakeholders, and assist with the monitoring and follow-up during the project implementation phase.

54. In order to help the city of Saint Louis to become more resilient, the project will integrate both immediate and medium-term recovery needs for families affected by coastal erosion, as well as planning activities to support sustainable longer-term solutions. While short-term interventions address the most urgent needs, undertaking long-term interventions also ensures sustained support to the government for resilience and capacity building. Building resilience is a long-term process that needs to be initiated to start to address the root causes of vulnerability, rather than simply responding to recovery needs.

55. The project includes a contingent emergency response component (CERC) to account for any future emergencies during the course of implementation. Due to the high potential for more coastal disasters to take place in Saint Louis city and particularly in *Langue de Barbarie*, the project has included a contingency plan to be able to respond quickly to future disaster events. This would allow the project to quickly re-allocate funding across components, while requesting for additional financing to address any additional disaster needs.

## IV. IMPLEMENTATION

### A. Institutional and Implementation Arrangements

56. **The implementation of the SERRP will be built on the experiences and lessons learned from the PROGEP sustainable cities sub-component in Saint-Louis.** A schematic of the implementation arrangements is shown in Annex II. The recovery and resilience program will require close coordination with stakeholders at the various administrative levels, from national to regional to local. The Municipal Development Agency (ADM) will act as the Project Implementation Entity (PIE), and manage the implementation of each component, in close coordination with the relevant implementing partners. All financing will be managed by the ADM, which will carry out all procurement, financial management and internal auditing for the project. Overall strategic and policy



oversight will be provided by a Project Steering Committee (PSC), while the Project Technical Committee (PTC) will be established to provide technical guidance at both strategic and operational levels.

57. **The project will be implemented over a period of five years.** Project completion is expected on June 2023, and a midterm review (MTR) will be carried out by January 2021, or 30 months after project effectiveness. Given the multi-institutional nature of the project, high-level oversight will be required to ensure consistency of interventions, removal of occasional government bureaucracy blockages, and continued resonance of project objectives with client's development objectives. This implies (a) establishing and operationalizing a fully functioning high-level Project Steering Committee (PSC) with agreed terms of reference, which would, among others, provide strategic advice and oversee project progress; (b) reinforcing the capacity and ensuring the required support to assure that ADM will act as a functioning PIE; (c) ensuring proper management of the relocation program and long term solutions technical studies preparation; (d) providing clearance of the annual work program by the PSC; and (e) ensuring legal and proper structures are in place to assure that all the World Bank Group safeguards rules are strictly adhered to.

58. **Project Steering Committee.** The PSC will provide overall strategic oversight and ensure policy coordination. It will facilitate project execution by providing in-time policy and strategic guidance, and also ensure elimination of blockages as a result of official bureaucracy that could negatively affect project implementation as well as integration with other urban development programs. The PSC will be chaired by the governor of Saint-Louis to ensure the highest level of coordination and political support, and will include representatives of all the involved technical regional departments and representatives of the central government, the prefect of Saint-Louis and the Sub-Prefect of Rao, beneficiary municipalities, the president of the Departmental Council of Saint-Louis. The Municipality of Saint-Louis and its Technical Support Department (ADC) will serve as secretariat of the PSC and will be in charge of: (i) organizing the PSC meetings; and (ii) providing all necessary information on project performance and monitoring to the PSC. The PSC will meet twice a year and on an ad hoc basis when required. As the project implementing entity, ADM will provide support to the functioning of the PSC as needed.

59. **The Project Technical Committee.** The PTC will be responsible for ensuring efficient and effective technical decision making and for helping to resolve technical issues and implementation challenges. Chaired by the Prefect of Saint-Louis, the PTC will comprise representatives from implementing partners and key state actors with the requisite qualifications and experience to contribute to technical reviews. The PTC will be supported by a Technical Operational Group (GTO) to review and pre-validate project technical outputs. The GTO is co-chaired by the DEEC/DREEC and the DUA/DRUH. In regard to the activities of the GTO, the Representatives of the Directorate of Environment and the Directorate of Urban Department will serve as chairpersons for the respective Environment and Urban aspects. ARD will serve as the Secretariat to the PTC and will be in charge of: (i) organizing the PTC meetings; and (ii) providing all necessary information on project performance and monitoring to the PTC and the World Bank Group when needed.

60. **Project Implementation Entity (PIE).** The PIE will be the Municipal Development Agency (ADM), which will have the overall coordination responsibilities for the project including financial management and reporting activities. ADM has a strong technical and fiduciary experience in carrying out disaster risk reduction and urban development projects with large infrastructures and resettlement activities. As the implementing agency of the ongoing Stormwater management and CCA project/PROGEP (P122841, P152150), the PACASEN (P157097) and the former Local Authority Development Project (PRECOL, P084022), it is familiar and experienced with World Bank policies and procedures related to environment and social safeguards, financial management and



procurement of goods and services, and has shown satisfactory performance to date. ADM will play a central technical role in project management and design, while working closely with implementing partners at the regional and local level. ADM will be responsible for the following functions, including, but not limited to: (i) contract management activities, (drafting terms of references, bidding documents, evaluating proposals); (ii) environmental and social safeguard studies, (iii) monitoring and evaluation (M&E); (iv) donor coordination; (v) communication and community engagement for the project; and (vi) ensuring the maintenance of a high ethical standard and transparency. ADM, however, will work in close coordination with the beneficiary municipalities and the other relevant ministries and agencies involved in urban and coastal management. ADM will monitor and evaluate the overall project implementation, and with input from its implementing partners, provide biannual progress reports and an annual progress report for submission to the World Bank and the PSC (and if needed to the PTC). It will ensure steady progress in accordance with an implementation schedule reviewed and approved by the World Bank. ADM will benefit from various technical assistance including on coastal engineering and additional capacity strengthening and training activities financed by the project.

**61. Implementing partners will be responsible for technical inputs into their respective components.** As most of the activities are focused on Saint-Louis, it was agreed that ADM will rely on the Regional Development Agency (ARD) and the Municipality of Saint Louis and its technical support department (ADC) to support implementation at the local level. Components 1 (Meeting Immediate Needs of the Disaster Affected Population) and 2 (Planned Relocation of Populations Living in the Highest Risk Zones in the *Langue de Barbarie*) will be implemented by ADM with the support of the Municipality of Saint-Louis and the ADC. Due to their ability to mobilize the relevant technical expertise rapidly, UNOPS will be contracted for implementing some of the activities (i.e., provision and installation of temporary accommodation) under this Component 1. Component 3 (Strengthening Urban and Coastal Resilience) will be implemented with ARD. Due to their strategic regional perspective, the ARD will also support ADM to facilitate the coordination of inter-communal activities. ARD has been acting in the same role under the ongoing PROGEP project, with satisfactory results.

**62.** The role of the implementing partners (Municipality/ADC and ARD) will include, but not be limited to: (i) taking part in the PSC and PTC meetings; (ii) providing technical input to the implementation of their respective project components; (iii) providing regular activity reports to the ADM, and as needed on an ad-hoc basis; and (iv) actively participating in supervision missions and organized field visits. ADM will provide regular technical assistance to the implementing partners, regularly share documents produced under the SERRP, and involve them in any necessary trainings or capacity building. Similar to the PROGEP project, Memoranda of Understanding (MoUs) will be signed between ADM and all of its implementing partners to clearly define the framework for collaboration.

**63. PIE capacity enhancement.** To meet the project objectives, ADM will strengthen its capacity to oversee the implementation of the components, with particular emphasis on the additional technical and fiduciary skills required for the SERRP. This will include the recruitment of: (i) one environmental safeguards specialist; (ii) one social safeguards specialist; (iii) a civil engineer (ideally with coastal engineering expertise); (iv) one urban resilience expert; (v) an assistant in Monitoring and Evaluation; (vi) a procurement specialist; and (vii) as needed, an accountant. Additionally, ADM will recruit a local coordinator to support the day to day monitoring and coordination of the project activities in Saint-Louis. Given the complexity of the project in regard to the planned relocation and social safeguards issues, the project will also incorporate a flexible, adaptive management approach to monitor the volume and intensity of work for the safeguard specialists, and provide additional resources as required. The project environmental safeguards specialist, social safeguards specialist, civil engineer, accountant, and the project local coordinator will be based in Saint-Louis in the ARD headquarter.



64. **A Project Implementation Manual (PIM) will be drafted by the ADM, with input from all implementing partners and in consultation with the World Bank Group.** This manual will provide: (i) detailed descriptions of the roles and responsibilities of the project implementation entity and all implementing partners, the PSC and the PTC; (ii) the institutional and operational guidelines for each component/subcomponent; and (iii) a detailed project performance framework.

## **B. Results Monitoring and Evaluation**

65. **Monitoring and evaluation (M&E) activities will be the direct responsibility of ADM, with support from the implementing partners and consultants, as needed.** Monitoring Project progress and achievements will entail a process of reviewing continuously and systematically the various Project implementation activities. A comprehensive M&E framework and system will be established under the Project to provide stakeholders with timely data regarding the progress and results of the Project. The objectives of the M&E are to: (i) measure input, output, and outcome indicators; (ii) provide on a regular basis information on progress towards achieving desired results and to facilitate reporting to the management of oversight and participating technical agencies in government and to the Bank; (iii) alert government and the Bank to actual or potential problems in implementation so that timely adjustments can be made; and (iv) provide a process whereby the project implementation agencies can reflect and improve on performance. Financing for the M&E arrangements will be provided through Component 5: Project Management, Monitoring and Evaluation.

66. **M&E activities will be carried out by ADM on the basis of the indicators and milestones developed in the Results Framework (section VII).** The results framework is designed to collect data related to two PDO-level indicators and several project component intermediate indicators. Targets have been identified based on the census data provided by the municipality which specified that around 199 families have already been displaced by the disaster and that a total of 927 households live within the high-risk coastal zone. Detailed household surveys are currently being undertaken to confirm these data and provide more information on the socio-economic profile of affected households. This will include the number of female headed households that have been affected in the project area, so that gender disaggregated baselines and targets can be included and monitored throughout project implementation.

67. **Project monitoring will occur as a periodic function, and will include process reviews/audits, reporting of outputs, and maintaining progressive records as well as third party monitoring and social auditing.** The monitoring process will also focus on community participation and includes periodic independent monitoring of the performance of social facilitation activities. It is also envisaged to undertake a number of studies during the project investigation and design stages to enhance efficiency of key aspects of the Project. This will include among others: (i) household surveys on the relocated population before and after relocation to gauge the changes in their socio-economic status; and (ii) beneficiary feedback and satisfaction surveys.

68. **The capacity of ADM will be reinforced to include a full-time M&E Specialist.** The M&E Specialist will support the monitoring process to track progress and improve the quality of project implementation. They will collect and present data in a standardized reporting format from the identified data sources in progress reports for bi-annual review by the Project Steering Committee in conjunction with the Bank's supervision missions. The project will include external evaluations prior to the Mid-Term Review and End-of-Project Evaluation processes.

69. Communication of projects results and activities as well as project documents (e.g., project documents,



safeguard documents, study reports, workshop reports, etc.) will be done through the upgraded existing ADM webpage. This, together with the communication tools developed, is expected to improve substantially coordination among the different stakeholders and related initiatives and strengthen engagement and ownership.

### C. Sustainability

70. Proposed interventions address both short term (emergency) needs as well as the longer-term needs of the affected community (including resilient housing, service delivery and livelihood restoration), to build upon and improve the overall resilience of the city to resist, cope and adapt better to any future disaster or climate-change risk. The SERRP includes integrated and multi-sectoral interventions that span from immediate recovery needs of the community (temporary shelter) to medium-term needs of the community (resilient housing, livelihood restoration, improved service delivery, community empowerment etc.). These scalable interventions would ensure the longer-term sustainability of the project, reduce the exposure and vulnerability of the communities-at risk to future disaster or climate-change event, and help to improve urban resilience of the city.

71. The proposed approach to recovery and planned relocation is inclusive in nature, and these components will be designed and implemented in close collaboration with local government, local institutions and community members, thereby promoting ownership of investments and project results. Active participation of the municipal authorities, local institutions and beneficiary communities is adopted throughout the project cycle to ensure an inclusive approach to planning and implementation and to promote the sense of ownership and satisfaction within the community, which would not only strengthen community network but also provide an opportunity to build longer-term community resilience to future disaster and climate-change risks.

72. Planned relocation adopts a build back better and contextually relevant approach to project design and implementation. The proposed interventions for planned relocation under the SERRP, will be designed in consideration to local context (housing typology, culture, local materials, construction technology, socio-economic profile and tenure status), exposure and vulnerability to disaster/climate-change event, and cost-effective resilient building practices (building codes, resilient infrastructures, risk reduction measures at household/community level etc.).

### D. Role of Partners

73. The World Bank is collaborating closely with the AFD in preparing complementary emergency and long-term solutions. The World Bank is also collaborating with the Red Cross, who is supporting the provision of immediate humanitarian needs for the displaced population in the relief camp.

## V. KEY RISKS

### A. Overall Risk Rating and Explanation of Key Risks Role of Partners

74. **The overall risk rating for the project is High.** While Senegal has a good track record of implementing coastal zone management projects and has experience with resettlement from the most recent Dakar Toll Road Project, the High risk rating stems primarily from: (i) the potential social and environmental impacts (Category A), specifically linked to the relocation of approximately 10,000 people; (ii) the need to strengthen institutional





capacity at the local level to support implementation of activities under components 1 and 2; (iii) complexity associated with the involvement of many sectors and stakeholders, and the need to enhance institutional capacity and coordination mechanisms; (iv) the need to move beyond community participation to community empowerment with beneficiaries and stakeholders for successful relocation; and (v) risk of new storm surge events resulting in additional affected families. However, appropriate mitigation measures will be put in place and built into the project during design and implementation.

<b>Risk Categories</b>	<b>Rating</b>
1. Political and Governance	High
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	High
4. Technical Design of Project	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	Substantial
7. Environment and social	High
8. Stakeholders	High
9. Others	High
<b>Overall</b>	<b>High</b>

75. **The political and governance risk is considered as High.** Overall the risks are related to the potential jurisdictional disputes between the local authorities and the government since both have key roles in the implementation of the project activities as well as in the decision making. The National entities are well coordinated under the leadership of the central government representative at regional level. Under Senegal’s decentralization framework, collaboration with the local authorities is often complex since local and national entities are sharing a very close mandate with overlap in their respective responsibilities. Local and presidential elections both planned next year in 2019 might exacerbate this risk of conflict for decision making and responsibility sharing. Additionally, lack of land availability is a key problem in Saint-Louis where neighboring municipalities used to be in conflict, mainly with the municipality of Saint-Louis which has very few opportunities of urban extension.

76. **The macroeconomic risk is considered Moderate.** Until recently, historically low and volatile economic growth has positioned Senegal among the slowest growing economies in Sub-Saharan Africa. More recently, growth has accelerated, surpassing six percent for three consecutive years, turning Senegal from one of the slowest to one of the fastest growing economies in Sub-Saharan Africa. Other macroeconomic indicators have also been showing positive trends, although public debt is trending upwards. The fiscal deficit declined in the last few years, attaining 4.8 percent of GDP in 2015, 4.2 percent in 2016 and expected to reach 3 percent in 2018, thus complying with the convergence commitment of the Economic Community of West African States (ECOWAS) before the 2019 deadline.

77. **The risk for sector strategies and policies is rated as High.** At national level, many sectors are involved in the management of coastal areas, with very often overlapping mandates. Also, as highlighted in the Strategic Context of the PAD, there is a lack of legislative and regulatory reforms to build a coherent legal basis for coastal management. While not mitigated directly under this project, the WACA initiative plans to support the elaboration of a National Integrated Coastal Zone Management Plan for Senegal. SERRP will continue to collaborate with WACA counterparts to provide local level input that help to ensure that the policies and



strategies developed are evidence based and technically sound. At the local level, less than 20 percent of Senegalese cities and municipalities have urban plans and most of those are obsolete. As part of its objectives, the SERRP project will develop an urban resilience plan for the city of Saint Louis, that will include a prioritized and phased list of actions and investments to enhance urban planning and guide future engagements.

78. **The risk for technical design of the project is rated as Substantial.** The selection of the relocation site has not yet been confirmed, due to the necessary social and environmental studies/processes that need to be completed to ensure both technical feasibility and social acceptability of the new site. As a result, technical designs for the development of the site will be finalized during implementation, which poses a risk for potential cost overruns. Site development works include earthworks, the provision of services (power, water, sanitation, drainage systems, road networks and communication services) and any required community and social service facilities to be assessed based on existing neighborhood facilities. Given that the technical designs have not yet been completed, there is a risk that cost overruns may occur in the development of the relocation site. To mitigate against this risk, contingencies have been added to this component of the project budget based on the ongoing study initial estimations.

79. **Institutional capacity for implementation and sustainability risk is rated as High.** The project is being implemented across three levels of government: national (ADM), regional (ARD) and local (Municipality of Saint-Louis/ADC), and is multi-sectoral in nature (coastal zone management, urban planning, social development and livelihoods). It is critical to strengthen the vertical coordination between the municipality and national level technical staff, as well as horizontal coordination of multi-sector technical staff at the local, regional and national level. The flow of information, planning of activities, and implementation progress should be regularly shared amongst technical staff. To ensure this, the project will decentralize a project coordination team at local level in Saint Louis (within ARD) and will also establish a Technical Committee to be comprised of representatives from implementing agencies and key stakeholders that will meet on a regular basis to discuss and resolve any technical and implementation challenges. The technical capacity, as well as the level of experience with the World Bank varies across the implementing agencies. ADM is a specialized agency with demonstrated capacity in urban infrastructure investments and World Bank safeguards and fiduciary procedures. They will therefore be responsible for overall project coordination, including fiduciary management and reporting. Since the project will bring additional work-load to ADM's portfolio, their capacity will be reinforced with additional technical staff (Social and Environment Safeguards Specialist, Civil Engineer, M&E Specialist). The local and regional authorities have less technical and operational experience with Bank investments. Therefore, an implementation support consultant will be recruited to provide on-the-job support and capacity building to local stakeholders. Additionally, the safeguard specialists will be based at the local level to readily support project activities. As currently applied under the PROGEP, all the procurement processes will be led by ADM closely involving ARD and the municipality of Saint-Louis/ADC in each step of the process. ADM will maintain day to day coordination with ARD for the supervision of the project activities and frequent missions of the ADM team in Saint-Louis will be organized to reinforce the coordination efforts both with ARD and all the other stakeholders. Regular training, monitoring, review and evaluation will be carried out to identify the capacity gaps and take appropriate corrective measures.

80. **The fiduciary risk is substantial.** The overall financial management risk rating is Substantial given the complexity of the implementation arrangements and the requirement for expedited implementation of the meeting the immediate needs of the disaster affected population. However, the implementation entity, ADM, has relevant experience in the management of projects and programs financed by the World Bank, and their financial management arrangements do meet IDA's minimum requirements under the World Bank's Policy and



Directive for Investment Project Financing effective in 2017. While the financial management team in place would be sufficient to handle project activities, to mitigate any risk, the work load during implementation will be closely monitored in order to consider the necessity hiring a supplement accountant.

81. **The environment and social risk is rated as High.** The project has been rated category A for safeguards policies in view of its potential environmental and social impacts. Given the nature of the activities being financed under the project, four safeguard policies have been triggered, for which instruments need to be developed before works can begin. The social risk is rated as high, given that approximately 500 families will be relocated to a new site, and this will entail the challenges of rebuilding homes, communities, infrastructure, livelihoods, also taking into consideration culture, self-identity and social capital. Thus, the policy on Involuntary Resettlement (OP 4.12) has been triggered. Social tension due to ineffective communication, perceived or real bias or injustice, or other grievances could prevent interventions from achieving the objectives of inclusive, resilient socio-economic development. To mitigate this risk, the Project is supporting a detailed citizen engagement and social facilitation plan to ensure a participatory process with the beneficiary households, and a livelihoods support program to ensure that populations have access to income generating activities. There is also social risk relating to labor influx and gender based violence (GBV), given the civil works involved for the relocation program and potential presence of international and local firms of contractors who are not from the Saint Louis area. The resettlement civil works program which will be executed under the SERRP will include explicit contractual clauses prohibiting GBV, including the enforcement of a code of conduct by all workers. The project will also take steps to assess and manage project-related risk on gender-based violence, sexual exploitation and abuse by including public awareness activities, and setting up a monitoring system to report on all GBV incidents.

82. Regarding environmental factors, the project has four main activities – implement micro-projects, develop the relocation site, construct social housing, and reclaim newly vacated land – that have the potential to cause negative impacts. Developing the new relocation site, constructing social housing and reclaiming the newly vacated land includes large-scale earthworks and construction that could have substantial environmental impacts. Earthworks and construction at that scale could cause substantial impacts on the environment and neighboring populations for the duration of the project, and the permanent loss of flora and fauna at the new site. Traffic disruptions could be considerable, as well as noise, dust, construction waste, etc., during construction, and waste generation, water pollution, etc., during the life of the project. The Bank’s policy on environmental assessment (OP4.01) is triggered to respond to environmental, social health and safety impacts, and the policy on physical cultural heritage (OP4.11) is triggered if works disrupt culturally or historically sensitive buildings, zones or artifacts. Given the site to be chosen, the policy on Natural Habitats (OP 4.04) may or may not be triggered (To Be Determined). Promoting economic activity, small businesses, and micro-projects to create and continue socio-economic activities may have detrimental impacts during the life of the project, through waste, noise, pollution, etc. From an environmental perspective, there is also reputational risk associated with the technical studies the project is expected to produce, given the complex coastal dynamic environment in Saint Louis. To mitigate against this, the SERRP project will coordinate closely with the WACA counterparts to ensure technical studies and recommendations are environmentally sound.

83. **Stakeholders risk is High.** This risk is centered around two main types of stakeholders, who may have opposing or competing views that can have a negative impact on the project: (i) project beneficiaries; and (ii) neighboring municipalities. As planned relocation is a life-changing intervention, residents of the *Langue de Barbarie* may refuse to relocate and/or continue occupying the vacant space. To mitigate this risk, the project will engage and empower the affected communities to be seen as equal partners in the decision making as much





as possible so that they can maintain some control in their lives and drive their own development agenda. This will require moving beyond community consultations and grievance redressal mechanisms, to the higher levels of citizen engagement (collaboration and empowerment). The Government will exercise its rights of eminent domain (*Décret d'utilité publique*) and expropriate private property within the high-risk zone along the *Langue de Barbarie* targeted by the project resettlement program and declare this zone for public use. The project will ensure careful and full adherence to the World Bank's safeguards policies, most notably OP 4.12 - Involuntary Resettlement. It will be important to ensure that the resettlement process is fair, orderly and transparent. A full grievance redress mechanism (GRM) will be established as soon as possible to ensure that the services are available for the affected population.

84. Concerns of the host and neighboring communities may present a risk to the project. It is important to note the concerns of the neighboring municipality in Ndiebene Gandiol, who are also being adversely affected by coastal erosion, but are not included within the geographic scope of the project. Strategies and actions envisaged from the point of view of intercommunity, with local authorities undertaking between themselves, with the State or other institutions, co-operation and development actions with a view to tackling common problems within the limit of their areas of competence may help to improve the level social acceptability. To mitigate against the risk from the host and neighboring communities, a communication strategy will be developed and implemented to: (a) raise awareness on the impact of coastal erosion and initiate change in behavior; (b) ensure that the project is understood by the all stakeholders including host and neighboring community, and (c) ensure that project affected people (PAPs) are fully informed on how to submit any potential grievances.

85. **In addition to the above, the project has other risks, which together are rated as High.** These include: (i) likely new storm surges and associated coastal erosion that could increase the number of victims to be relocated in temporary accommodation under Component 1; (ii) potential financing gap for the second phase of the relocation program (Component 2); and (iii) impacts of the AFD-financed temporary infrastructure work on the willingness of populations to be relocated.

- i. The risk of new storm surge events resulting in additional affected families is high. The *Langue de Barbarie* site typically experiences 2-3 severe storm surges per year, and these are taking place with increasing frequency. The project was initially responding to a major erosion event that took place in August 2017 during which 199 families were displaced. During preparation, another damaging storm surge took place in February 2018 whereby an additional 59 families were displaced. It is expected that even more families will be affected and become displaced by future storm surges/coastal erosion throughout project implementation. To mitigate against this risk, the project has estimated that up to 500 families may become displaced during implementation, and included the related costs to provide them with permanent dwelling units under sub-component 2.3. If no further families are affected and displaced by future storm surges, the most vulnerable families that are interested to relocate and living within the 20-meter zone of high risk will be included in the resettlement.
- ii. The risk associated with the financing gap for the second phase of relocation is substantial. In line with the recommendations from the EGIS/WB study, the project aims for a progressive strategic retreat of populations residing in the hazard prone area along the coastline. This phased approach consists of: (i) relocation of the most vulnerable populations who have already been displaced by coastal erosion; and (ii) relocation of the remaining populations living in the 20-meter zone of extremely high risk, as delineated by the Municipality. Under the SERRP project the relocation site is being developed to accommodate the approximate 1,000 families living within the 20-meter zone;



however, the housing sub-component includes costing for only the first phase of families that have already been displaced (approximately 500 families). Thus, there is a risk that the second phase of relocation envisioned by the overall program may not be implemented if this financing gap is not addressed. To mitigate against this risk, the Bank will seek opportunities for additional financing, both internally and from development partners.

- iii. The risk that the AFD-financed temporary infrastructure work will impact the willingness of populations to be relocated is moderate. There are currently ongoing works to construct a temporary dyke made out of gabion baskets, and the AFD is proposing to reinforce these works through a temporary rip rap dyke. This may be perceived by the community as providing them with coastal protection and negate their willingness to move. However, a recent storm surge in the *Langue de Barbarie* has demonstrated the limits of the temporary dyke – the structure under construction acted to reduce the wave intensity, but did not prevent the houses closest to the shoreline from being flooded. Additionally, signs of scouring and early erosion at the base and the top of the structure was evident. To mitigate the risk of misperceptions among the coastal community, the Bank and AFD will coordinate closely on communication strategies developed and implemented for the beneficiary population. AFD has also integrated a social facilitation component into its project design to mitigate any risks of misperception from the population regarding the temporary nature of the funded dyke, as well as to coordinate the communication strategy with the Bank funded project.

86. **Climate change risks were also considered in the project design.** All activities under SERRP contribute to strengthening climate change adaptation and DRM in Senegal, and specifically in the city of Saint Louis. This project directly responds to a climatic event, the severe storm surges of August 2017 that resulted in significant erosion and inundation along the coast of the *Langue de Barbarie*. All activities and components under the project are specifically designed to provide effective solutions to recover from and manage future climate and disaster risks, therefore 100 percent of the project costs have climate change adaptation and DRM co-benefits. For example, the planned relocation will move households away from the high-risk zone, which is subject to worsening storm surge impacts due to sea level rise and changes in storm frequency and extremes. Additionally, activities under Component 3 are specifically designed to strengthen the city’s urban and coastal resilience through development of an urban resilience plan, early warning systems, and works to ensure that the liberated high-risk zone along the coast (20-meter zone) remains free of settlement. In order to ensure this, the newly liberated area will have to be declared by the Government as a “no-build” zone. The project will draw on data from the on-going Stormwater Management and Climate Change Adaptation Project (PROGEP), and work in collaboration with the West Africa Coastal Areas Management Program (WACA).

## VI. APPRAISAL SUMMARY

### A. Economic and Financial Analysis

87. The SERRP in Senegal is mainly funding public goods in terms of intangibles (early warning system) and tangible investments to relocate the population at risk, reduce erosion and flooding in addition to the project implementation units. Hence, there is no need to carry out a financial analysis since there are no private goods considered in the project. A three-pronged economic analysis was performed where: (i) project impacts were quantitatively valued through a cost/benefit analysis; (ii) the relevance of the public sector as a vehicle was discussed; and (iii) the World Bank added value was gauged. The detailed economic analysis by country and component is appended in Annex IV.



### Quantitative Analysis

88. The economic analysis was carried out and based on the only quantifiable benefits accruing under Components 1, 2 and 3 as well as the project (Components 1 to 5 combined). Other potential benefits accruing under the contingent allocation under Component 4 are not yet quantifiable while Component 5 is the Project Implementation Unit. Whereas Component 1 meets the immediate needs of the disaster affected and displaced population by the recurring recent flooding and storm surge, Components 2 and 3 are meant to increase the resilience of vulnerable coastal beneficiaries by improving their capacity to face catastrophic events, reduce coastal erosion, contain flooding, and reverse the degradation of key ecosystem services along the coast while improving their livelihood.

89. The economic analysis was performed by using a 6 percent social discount rate based on the opportunity cost of capital and country risk over the project period as it is an emergency project. A sensitivity analysis was performed under a pessimistic scenario (a 10 percent increase in economic costs over the base case, and an 8% discount rate) and an optimistic scenario (a 10 percent increase in benefits over the base case, and a 4 percent discount rate). In addition, project viability switch-off points for equal cost increment and benefit decrement, cost increment and benefit decrement were computed.

90. Table 2 summarizes the results of the economic analysis. Except for Component 1, Component 2, Component 3 and the project as a whole is viable under all three scenarios, with positive net present value (NPV) of US\$10.7 million as well as acceptable economic rate of returns (ERRs) of 18 percent and positive Present Value benefit-cost of 1.3 for the base case scenario. The project remains viable under the optimistic and the pessimistic scenarios. The project is more sensitive to a decrease in benefits than an increase in costs under all three scenarios. In all cases, the switch-off points require either significant increases in costs or significant decreases in benefits.

Table 2 SERRP Cost/Benefit, Sensitivity and Scenario Analysis Summary

Key economic Indicators	Component 1	Component 2	Component 3	Project		
	5 years discounted at:			5 years discounted at:		
Scenario	6% Base Case	6% Base Case	6% Base Case	4% Optimistic	6% Base Case	8% Pessimistic
<b>Cost/Benefit Analysis</b>						
NPV (US\$ million)	-3.0	6.6	8.7	11.8	<b>10.7</b>	9.7
ERR (%)	2%	20%	15%	18%	<b>18%</b>	18%
PV benefit/cost ratio	0.2	1.4	2.0	1.4	<b>1.3</b>	1.3
Viability	No	Yes	Yes	Yes	Yes	Yes
<b>Sensitivity Analysis</b>				<b>Benefit+10%</b>	<b>Cost+10%</b>	
NPV (US\$ million)				16.3	<b>10.7</b>	6.7
ERR (%)				19%	<b>18%</b>	16%
PV benefit/cost ratio				1.5	<b>1.3</b>	1.2
<b>Switch-off point</b>						
>cost = <benefit (±%)		± 15%	±34%	±19%	<b>±14%</b>	±9%
>cost (±%)		+35%	+103%	+48%	<b>+33%</b>	+20%
<benefit (±%)		-25%	-49%	-32%	<b>-25%</b>	-16%



### **Public Sector Relevance**

91. The relevance of a public-sector vehicle is instrumental to increase the opportunity and reduce the vulnerability of the people at risk in the coastal zone while increasing the opportunities and resilience of the stakeholders in Saint Louis. Improving the mobility of people and goods along the coast in terms of both time and space, while reducing the risks of coastal erosion through multi-prong interventions will increase coastal adaptation and resilience with significant benefits accruing to the poor, notably fishermen (low laying areas). Setting up an early warning system is a local public good that requires public investments and technical assistance. Hence, the purpose of the overall project is to develop the sustainable and resilient management of the Saint Louis coast.

### **World Bank Value Added**

92. The World Bank value added can be considered at two levels. First, the World Bank objectivity and legitimacy could play an important role that will help accomplish such an endeavor that falls under the overall framework of the West Africa Coastal Area (WACA) program. Second, the complexity and technicality of increasing the adaptability and resilience of the coast of Saint Louis gives the World Bank a unique edge in providing the necessary technical expertise, syndicating funds and achieving the desired outcome.

## **B. Technical**

93. The planned relocation of households living in the 20-meter zone along the *Langue de Barbarie*, delineated by the Municipality as area at highest risk, is part of a strategic retreat to move populations from areas exposed to storm surges and coastal erosion, which are worsening due to climate change impacts. Relocation of those located within the high-risk zone provides a “no regrets” solution for the population most immediately affected by coastal erosion and sea level rise, while allowing time to conduct a thorough investigation of the coastal dynamics in the area and design appropriate long-term coastal protection solutions for the *Langue de Barbarie*. On a global scale, the planned relocation adheres to the Conference of Parties of the United Nations Framework Convention on Climate Change agreed in the 2010 Cancun Adaptation Framework, which explicitly stated that more attention should be given to migration, displacement and planned relocations as climate change adaptation measures<sup>7</sup>.

94. The resettlement of the affected population will include the provision of dwelling units to beneficiaries. Dwellings will be planned and built as per relevant official technical housing reconstruction guidelines that will be developed for the project, in line with Senegalese and World Bank standards, for ensuring the multi-hazard resilience and taking into account local weather patterns, as well as site safety against floods. This will include improved infrastructure in the new site such as streets, water supply and sanitation, drainage, and others to fit the standards of sustainability.

95. Decision-making and consent mechanisms will be established to enable consultation with and participation of affected communities including host communities. Thus, resettlement will be assured through adequate attention to site selection, livelihoods, integration, and host communities, among other factors in both monetary and non-monetary terms.

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<sup>7</sup> <http://unfccc.int/adaptation/items/5852.php>



96. Concepts of urban and coastal resilience and “build back better” will be incorporated into the technical designs of the project. The concept of “build back better” advocates for disaster recovery to integrate disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment. Similarly, resilience refers to the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner. Risk informed decision making will guide the selection of the relocation site to ensure that it is not situated in an area of high hazard risk. Beyond ensuring adherence to Senegal’s national building code, dwelling units that are constructed will include good practices in terms of resilient housing construction. Long term sustainable solutions for coastal protection works will include consideration of various climate scenarios.

97. Demolition of vacant houses, infrastructures and debris removal works will be limited exclusively to areas where demolition program is planned. Debris will be removed from streets and open public spaces, as well as from private lots. For reasons of operational safety and environmental management, demolition of buildings will be carried out primarily by enterprises possessing both the necessary technical equipment and appropriately trained workers. A detailed work program for the liberated area has not been prepared yet since many elements of the program will only be identified progressively as the removal of debris takes place. Tentatively, activities are being considered, such as studying and implementing a regeneration planning for the liberated area of the *Langue de Barbarie*. Subsequently, this plan will be updated during implementation by the project management contractor in charge of the area, in close coordination and consultation with the municipalities, beneficiary communities, and other donors active in the area.

98. Resilience among the most vulnerable groups is built generally through awareness raising, inclusive planning and support to community organizations. Nonetheless, adaptation of cities must be tailored to local circumstances including the specifics of the informal sector and land regulation. The first step therefore is to assess the specific urban exposure before developing related responsive policies, more integrated urban development plans and adaptation investments that address vulnerabilities to climate change. Support will be provided to further augment the Saint- Louis’s city resilience by strengthening Urban and Coastal Resilience Planning (Component 3). This will include Technical Studies for the design of a sustainable solution for the protection of the *Langue de Barbarie* and Development of the Urban Resilience Plan for the city of Saint-Louis. Component 3 will also reinforce disaster preparedness and response capabilities in Capacity Building in Disaster Risk Management by providing support to design a local Early warning system and community emergency response measures.

99. In alignment with the WACA project (P162337, approved by the Board on April 9, 2018), which in select cases will also provide financing to relocate persons in high risk areas, the project distinguishes between planned relocation of communities that have made the decision to move and involuntary resettlement typically associated with infrastructure investments. As a preventative form of disaster risk mitigation and a form of climate change adaptation, planned relocation involves moving all or part of the community (housing, assets, public infrastructure) out of a high-risk area and ensuring the restoration of access to services and livelihoods. Implementation of “planned relocations” will be undertaken in accordance with national laws and regulations and World Bank safeguards policies, including in particular OP 4.12. A RAP will be prepared and implemented prior to execution of any planned relocation.



### C. Financial Management

100. The assessment entailed a review of the capacity of the ADM and its ability to record, control, and manage all the project resources and produce timely, understandable, relevant and reliable information for the key stakeholders including the Government and the World Bank.

101. The Financial Management (FM) assessment was carried out in accordance with the Financial Management Manual for World Bank-financed investment operations effective March 1, 2010.

102. ADM has relevant experience in the management of projects and programs financed by the World Bank. It is handling the ongoing (i) storm water management and climate change adaptation project (PROGEP) and (ii) Senegal Municipal and Agglomerations Support Program (PACASEN). ADM's financial management arrangements in place are adequate to handle the project's activities: (i) the overall performance of the PROGEP in financial management was Satisfactory at the last FM supervision undertaken in January 2018; (ii) unqualified opinions were issued on financial statements 2016 for ADM; (iii) the accounting system in place is operational and allows a separate accounting ledger for the new project's activities; (iv) ADM's existing financial management team that includes a Financial Director, a chief accountant and two (2) accountants that have qualification and required experience to manage the new project; in addition the ARD has a FM team comprised on one accounting officer and one accounting assistant that could handle FM operations associated with the technical monitoring by ARD at Saint Louis. However, hiring a supplemental accountant based in the ARD may be considered during the implementation; (v) the internal auditor has required qualifications to manage internal audit activities; and (vi) the existing administrative and financial manual of procedures is adequate; however, it will be updated to include an annex for specific project activities.

103. Conclusion of the FM overall assessment: The overall financial management risk rating is Substantial. However, the financial management arrangements of ADM do meet IDA's minimum requirements under the World Bank's Policy and Directive for Investment Project Financing effective in 2017.

104. A financial management action plan including proposed mitigation measures will be put in place focusing on setting up the annex to the existing manual of administrative and financial procedures; and recruiting an external auditor with skills and experience satisfactory to the World Bank.

105. The Project will support retroactive financing up to the overall amount of US\$12 million (40 percent) as governed by World Bank policy (Paragraph 12 of the IPF Policy), for Projects in Situations of Urgent Need of Assistance or Capacity Constraints. Usually, payments that the Borrower has made for a project out of its own resources before the date of the Legal Agreement are not eligible for financing under the loan. However, in some circumstances, to facilitate the prompt execution of Bank-financed projects, the World Bank allows retroactive financing; that is, the World Bank may reimburse the Borrower from the proceeds of the loan for payments that the Borrower has made before the date of the Legal Agreement for eligible expenditures.

### D. Procurement

106. **Procurement activities under the Project shall be carried out in accordance with the World Bank's framework**, including "Procurement Regulations for IPF Borrowers: Procurement in Investment Project Financing, Goods, Works, Non-Consulting, and Consulting Services", dated July 1, 2016, revised in November 2017 under the New Procurement Framework and the "Guidelines on Preventing and Combating Fraud and





Corruption in Projects Financed by the International Bank for Reconstruction and development (IBRD) Loans and the International Development Association (IDA) Credits and Grants”, revised as of July 1, 2016; and the provisions stipulated in the Financing Agreements. The procuring entity as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with Section I and Section II of the Procurement Regulations.

107. **The ADM will have the fiduciary responsibility and will carry out procurement activities of the project.** Since 2006, ADM has implemented projects financed by the World Bank. The first was the Local Authorities Development Project (PRECOL) in 2006 and the second, the Storm Water Management and Climate Change Adaptation Project became operational in 2012 and benefits from an additional financing in 2016. ADM is very familiar with the old procurement guidelines of the World Bank and the procurement specialist has been trained in the New Procurement Framework. The procuring entity as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex IV (Fraud and Corruption) of the Procurement Regulations.

108. **As part of the preparation of the project, the Borrower (with assistance from the WB) prepared the Project Procurement Strategy for Development (PPSD).** The PPSD describes how procurement activities will support project operations for the achievement of project development objectives and deliver Value for Money (VfM). The procurement strategy will be linked to the project implementation strategy at sub-regional, country, and the state levels ensuring proper sequencing of the activities. It will consider institutional arrangements for procurement; roles and responsibilities; thresholds, procurement methods, and prior review, and the requirements for carrying out procurement. It also will include a detailed assessment and description of state government capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues taken into account will include the behaviors, trends and capabilities of the market (i.e. Market Analysis) to respond to the procurement plan.

109. A detailed procurement description and institutional arrangements can be found in Annex II: Implementation Arrangements.

## **E. Social (including Safeguards)**

110. **Enhancing Environmental and Social Performance:** The project intends to address the immediate needs of the disaster affected population and improve their living conditions by providing temporary accommodation with essential services, and to permanently relocate populations living in environmentally hazardous zones along the *Langue de Barbarie* and provide the necessary social support to restore/create livelihoods. This will have a range of positive social and environmental impacts, which can be maximized by effectively integrating key social principles into the design of the project. In particular, it will be critical to ensure that the project is designed using participatory processes and that the beneficiaries are not only consulted with, but that they become part of the decision-making process.

111. **Social Impacts of the Project:** The project proposes to provide temporary accommodation to the households that have been displaced by the coastal erosion disaster and are currently living in the *Khar Yalla* relief camp, which lies in a flood prone area and has no or limited access to water, sanitation and electricity. The project will also relocate vulnerable households living in the zone of extremely high risk along the *Langue de*



*Barbarie* shoreline in an area approximately 3.5 km long and 20 m wide, which has been identified by municipal authorities as a zone to be evacuated due to impacts of coastal erosion and inundation. The area is densely populated, with a high number of children per household. Living conditions are extremely precarious, both on health and economic fronts. The planned relocation will aim to improve the living conditions of the affected households by building new dwelling units in a safe zone, providing related services and creating/restoring adequate livelihood systems. The project relocation site will be developed with necessary public service infrastructure (water, power, sanitation, transportation, communications), social service institutions (education and health) and community facilities (markets, etc.) prior to the relocation of the affected populations. The municipal authorities have identified several potential relocation sites and are currently undertaking a multi-criteria analysis, based on technical, financial, environmental and social aspects, to select the optimum site to accommodate the households to be moved. This process includes social facilitation activities to ensure that the beneficiaries are included in the decision-making. While the project has the positive impact of moving families away from an extremely hazardous area, there is potential for livelihood activities to be negatively affected. To mitigate against this, the project is supporting an exhaustive livelihood support program, which will be implemented in conjunction with WACA. As with any relocation project there is also a risk of the breakdown of social networks within the community. Social facilitation activities, participatory processes, and livelihood creation/restoration activities will all mitigate against this potential risk.

**112. Social Context:** The social fabric of the beneficiary communities (fishing communities) is extremely complex, and the planned relocation therefore requires in depth understanding of the households socio-economic characteristics in order to avoid creating social conflict, rivalry, and/or inequalities. Preliminary census data indicate that 927 households (441 *concessions*, 9,158 people including the already 258 displaced families) are located within the 20-meter high risk zone. A *concession* is a French term used in Africa to describe a courtyard with a set of houses most often corresponding to the habitat of an extended family. Thus, the ongoing socio-economic studies are currently being undertaken to provide further details regarding the family size, number of families living in each *concession*, tenure status (renter, owner, informal settler) and other critical information. This will help to design the modalities associated with the housing allocation. For example, to maintain social cohesion, best practice would indicate that all households within one *concession* should be moved together to one *concession* (as opposed to one house per family). Similarly, depending on the tenure status, eligibility benefits may vary.

**113. Social Safeguard Policies Triggered and Safeguard Instruments:** Providing temporary accommodation to the disaster displaced households (Component 1) and the planned relocation of the communities affected by coastal erosion (Component 2) will involve temporary and permanent displacement of populations. Therefore OP 4.12 (Involuntary Resettlement) has been triggered. A Resettlement Action Plan (RAP) will be elaborated, consulted and validated for both the temporary relocation of the displaced population and the permanent relocation of households affected by coastal erosion. However, given the emergency context of the operation, it has been requested to defer safeguards to the implementation phase. A safeguard action plan is provided in Annex V with a detailed timeline of activities.

**114. Preparatory Activities Underway:** While safeguards deferral is requested, several preparatory studies have been launched and the RAP has been initiated. The objectives of the studies are to better understand (i) the socio-economic characteristics of the affected population through household surveys, (ii) identify potential temporary relocation options that are both feasible and socially acceptable, (iii) identify potential relocation sites for the permanent resettlement, including technical, social, environmental, and economic selection criteria. Social facilitation activities to lead the participatory process with disaster affected families for input into both





temporary and permanent relocation has also been initiated. During the three preparation missions conducted to date, initial consultation with members of the municipality and the affected communities indicated that households are willing to relocate if they are provided with adequate housing and related services as well as livelihood restoration support. A consultant has already been recruited and has started activities for the RAP. Results for the temporary relocation are expected by September 2018, while the results for the permanent relocation are expected by November 2018.

115. **Implementing agencies and Key stakeholders:** The implementing agency is the Municipal Development Agency (ADM) and the main stakeholders are the Commune of Saint-Louis, ARD, households affected by the catastrophe (beneficiaries), the host community in the relocation site (to be determined), populations that are just outside of the delineated 20-meter high hazard zone that will continue to live along the *Langue de Barbarie*. In order to strengthen institutional capacity to support the project, two social safeguards specialists will be hired and based in Saint-Louis to ensure adequate implementation and monitoring of the Resettlement Action Plan. Additionally, the project will incorporate a flexible, adaptive management approach to monitor the volume and intensity of work for the safeguard specialists, and provide additional resources as required.

116. **Citizen Engagement and Social Facilitation Activities:** The project explicitly seeks to support continued engagement and consultation with the beneficiary households living in the extremely hazard prone coastal zone of the *Langue de Barbarie*. Through consultative processes, engagement in local level planning and feedback mechanisms, the approach to coastal resilience and planned relocation will be elaborated and adjusted. Feedback mechanisms will be developed to ensure transparency, accountability and learning as well as a continuous dialogue with target beneficiaries and other stakeholders. Particular attention will be given during implementation to improve the capacity of the local and national structures to close the feedback loop and report on action taken to address concerns and issues.

117. **Gender Dimensions:** Women, girls, boys and men belonging to different age and socio-economic strata have distinct vulnerabilities, which shapes the way they experience disasters and their ability to recover. Preliminary investigations from ongoing socio-economic studies of the disaster affected population living in the *Khar Yalla* relief camp indicate that the storm surge and coastal erosion in the *Langue de Barbarie* have had gender-differentiated impacts, which will be fully integrated into the project design to ensure that recovery solutions are gender sensitive. For example, twenty percent of students have had to drop out of school since moving to the relief camp, of which 60 percent are girls. Additionally, livelihoods have been affected differently since 85 percent of men are involved in fishing activities as their main livelihood activity, while women are principally (68 percent) involved in small commerce activities. Thus, livelihood restoration/creation activities will need to meet the differing needs of these populations. The RAP and embedded socio-economic surveys will provide more detailed information on the gender differentiated impacts of the disaster, as well as the recovery needs and solutions. Addressing the differential vulnerabilities of men and women will be done by ensuring that women are actively engaged and/or lead community-level risk assessments and community-driven resilience activities.

118. **Gender Based Violence (GBV) and Labor Influx:** Given the civil works involved for the relocation program and potential presence of international and local firms of contractors who are not from the Saint Louis area, there is potential for labor influx that could be significant. Having established that the social risks of the project are substantial as there are many households made up of young girls and women living in the relief camp and in the high-risk zone targeted for relocation, the project area is deemed to be vulnerable to a large influx of workers due to the infrastructure programs.



119. Consequently, the occurrence of GBV incidents may therefore be possible even if that risk is less than in rural areas due to the stronger sensitization and awareness programs on the radios, TVs, etc. The resettlement civil works program which will be executed under the SERRP will include explicit contractual clauses prohibiting GBV, including the enforcement of a code of conduct by all workers. The project will take steps to assess and manage project-related risk on gender-based violence, sexual exploitation and abuse.

120. The project will also finance public awareness activities on AIDS and HIV prevention. There will be a specific clause in the contract related to workers' behaviors. The code of conduct will be translated in all local languages and will be displayed in the contractor's main facilities in such a way that local populations are also informed. The selected firm and supervision engineers will be monitored by the PIU, and report all GBV incidents. A monitoring system will be set up by the ADM safeguards specialists who will be trained and their capacity enhanced.

121. **Grievances:** A Grievance Redress Mechanism (GRM) is a system whereby queries or clarifications about the project are responded to, problems with implementation are resolved, and complaints and grievances are addressed efficiently and effectively. To improve project outcomes, it will be important to set up a timely and results-oriented response system to communities' concerns. The resettlement process is complex, and it is rare for the entire population to agree with the criteria for accessing the solutions offered, with the quality of the solutions, or with the established requirements. The GRM operated by the ADM will be in place to allow all project-affected beneficiaries to submit complaints and receive timely feedback and resolution of issues. In order to create trust between ADM, local Government and affected communities, and acceptance of planned relocation, a public awareness program through the Citizen Engagement component will be developed. It will inform about the project activities and provide practical suggestions/feedback that allows for a more transparent implementation, better responsiveness to beneficiaries, increasing involvement of stakeholders' and most importantly, capturing implementation issues before they become more serious and/or widespread. A social safeguards consultant and a social facilitation firm will be recruited for the SERRP project and they will be key actors for the implementation of the GRM during both the temporary and permanent relocation. The firm will help to conduct awareness programs through community radio and direct information to beneficiaries.

122. A harmonious relationship among individuals who will participate in the relocation program and the entities involved means that any problem arising must be resolved in a timely manner rather than become a dispute. Therefore, from the launch of the planned relocation program, it is essential to have a system in place for timely handling of complaints and claims. A complaint arises when an individual seeks to have a problem resolved; and a claim arises either when an individual fails to receive an expected service or benefit, or has concerns about the quality of what was received. ADM will set up a system that allows all project-affected beneficiaries to be able to submit complaints and receive timely feedback and resolution of issues. A grievance registration form will be prepared by them and widely publicized in project sites (*Langue de Barbarie, Khar Yalla, Djougop*, etc.). A mediation committee (called monitoring committee) constituted by concerned stakeholders (ADM, ARD, Commune representative, ACP representatives, civil society organizations, women association, social facilitation firm, etc.) will be put in place in the affected municipalities (Saint Louis and Gandon). The committee will meet twice a month or when needed.

123. The monitoring committee chaired by ADM will assess all the complaints and prepare the technical elements for its timely resolution, including but not limited to the proposed resolution or compensation, the list of interviews, the exact reason of the complaints. All complaints will be addressed within a seven day period. The



GRM provides two additional uptake points: (i) through community monitoring which will look at the grievances collected by ADM in proposed sites, through what channels they are received (letters, emails, phone messages, website, etc.), and how they are sorted, prioritized, categorized and processed; and (ii) At the national level through the national courts, if the complaints cannot be resolved by monitoring committee. The ADM representative who will assume the secretary of the committee will document the grievances and maintain a database to monitor the type of complaints and their timely resolution, in order to track and record all received Grievances. A report will be prepared annually.

## F. Environment (including Safeguards)

124. **The project is rated environmental assessment Category A** because it involves significant resettlement (approximately 10,000 people) with major social impacts

125. **Environmental Impacts of the Project:** The project will have small- and large-scale, positive and negative environmental impacts. The promotion of microprojects to create and promote socioeconomic activity for relocated populations will have positive impacts (income, reduced reliance on outside support) but may also have negative impacts, which are expected to be limited (production of waste, noise, pollution, etc.). Relocating the population will have positive impacts (increased safety, resilience and improved living conditions of relocated population), and the new resettlement offers opportunities for integrating sustainable public space for recreation, green spaces, sustainable water and waste management, etc. However substantial negative impacts could also result from the project during the construction and operational phases: impacts on biodiversity, loss of flora and fauna, traffic, construction waste, noise, dust, disruption to neighboring communities, etc.

126. **Environment Safeguard Policies Triggered and Safeguard Instruments:** The environmental safeguards policies triggered are OP 4.01 (Environmental Assessment), OP 4.04 (natural habitats – TBD), and OP 4.11 (Physical Cultural Resources). As the exact nature and scale of the microprojects is not known under sub-component 2.4, an Environmental and Social Management Framework (ESMF) will be prepared. The ESMF will be used to screen every micro project proposed for financing, and will be a condition for financing of micro projects. Technical assistance in the implementation of the ESMF will be included in the project. An Environmental and Social Impact Assessment (ESIA) will be prepared by the government to identify all project activities and impacts; define the affected environment and population; and propose mitigation measures for each impact. The firm/consultant preparing the ESIA will also assist the project authorities in selecting the relocation site. Once the site is chosen, a full ESIA will be conducted on it, including impacts on geology, hydrology, morphology, fauna, flora, and social impacts. The project will meaningfully consult all affected stakeholders for the preparation and implementation of the ESIA and will publish both the ESMF and the ESIA prior to the start of any works.

127. **Safeguards Deferral and Safeguard Action Plan:** As the project is being prepared under Paragraph 12, of the IPF Policy, safeguards instruments are deferred to the implementation stage rather than prior to Appraisal. A Safeguards Action Plan (SAP) (see Annex V) has been prepared to provide detailed guidelines for safeguards planning and execution of the project. **The SAP specifies that no works will be undertaken until a) all safeguards documents have been approved by the World Bank, consulted with PAP and disclosed; and b) the GRM is in place.** It is critical for the project team to work with all due diligence to safeguard the already vulnerable population against the risks associated with the project and explore opportunities to enhance its social and environmental performance. The relevant safeguard instruments will set out details of measures to manage potential environmental and social risks and avoid, minimize, mitigate and/or compensate any adverse



environmental and social impacts associated with the implementation of Project activities.

#### **G. Other Safeguard Policies**

128. No other safeguard policies are triggered for the Project.

#### **H. World Bank Grievance Redress**

129. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

130. More details on the Grievance Redress Mechanism are provided in the Safeguard Action Plan in Annex V.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

Project Development Objective(s)

The Project Development Objective (PDO) is to reduce the vulnerability of populations to coastal hazards along the Langue de Barbarie and strengthen urban and coastal resilience planning of the city of Saint-Louis.

PDO Indicators by Objectives / Outcomes	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets					End Target
					1	2	3	4	5	
<b>Reduce the vulnerability of populations to coastal hazards</b>										
People provided with improved urban living conditions		Yes	Number	0.00	0.00	0.00	0.00	1,500.00	4,000.00	4,000.00
People provided with improved urban living conditions - Female (RMS requirement)		Yes	Number	0.00	0.00	0.00	750.00	2,000.00		2,000.00
<b>Strengthen urban and coastal resilience planning of the city of Saint-Louis</b>										
Urban Coastal Resilience Plan of Saint-Louis developed and adopted			Yes/No	N	N	N	N	N	Y	Y

Intermediate Results Indicators by Components	DLI	CRI	Unit of Measure	Baseline	Intermediate Targets				End Target
					1	2	3	4	
<b>Component 1: Meeting Immediate Needs of the Disaster Affected Population</b>									



Percentage of Displaced Households (living in relief camp) with improved living conditions		Percentage	0.00	0.00	80.00	100.00	100.00	100.00
<b>Comp 2:Planned Relocation of Populations Living in the Highest Risk Zones in the Langue de Barbarie</b>								
Number of people reached by the citizen engagement and social support strategy		Number	0.00	2,000.00	5,000.00	5,000.00	5,000.00	5,000.00
percent of which are female		Percentage	0.00	50.00	50.00	50.00	50.00	50.00
Relocation site developed with adequate housing and social infrastructure and ready for occupation		Yes/No	N	N	N	N	Y	Y
Percentage of displaced working beneficiaries that have benefited from livelihood restoration activities		Percentage	0.00	0.00	0.00	0.00	40.00	80.00
Percentage of which are female		Percentage	0.00	0.00	0.00	0.00	20.00	40.00
Percentage of beneficiaries satisfied with reduced vulnerability to coastal hazards		Percentage	0.00	0.00	0.00	0.00	0.00	70.00
Percentage of which female beneficiaries are satisfied with reduced vulnerability to coastal hazards		Percentage	0.00					70.00
Grievances registered related to delivery of project benefits addressed (%)		Percentage	0.00	95.00	95.00	95.00	95.00	95.00
Grievances related to delivery of project benefits that are addressed-(number)		Number	0.00					0.00
<b>Component 3: Strengthening Urban and Coastal Resilience Planning</b>								
Percentage of project coastline in the high risk zone of the Langue de Barbarie reclaimed and protected against future informal settlement		Percentage	0.00	0.00	0.00	0.00	0.00	100.00
Technical studies and coastal risk management solution completed and validated for the long term coastal protection of the Langue de Barbarie		Yes/No	N	N	N	N	Y	Y



Urban Coastal Resilience Plan of Saint-Louis developed and adopted		Yes/No	N		N	N	N	N	Y
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**Monitoring & Evaluation Plan: PDO Indicators**

<b>Indicator Name</b>	People provided with improved urban living conditions
<b>Definition/Description</b>	
<b>Frequency</b>	Annual
<b>Data Source</b>	Number of people successfully relocated, under Phase 1, from high risk areas to safe housing, or satisfactorily compensated. Data source will be Progress Reports, Survey
<b>Methodology for Data Collection</b>	
<b>Responsibility for Data Collection</b>	Municipality/ ADM/ ARD
<b>Indicator Name</b>	People provided with improved urban living conditions - Female (RMS requirement)
<b>Definition/Description</b>	
<b>Frequency</b>	Annual
<b>Data Source</b>	Progress Reports, Survey
<b>Methodology for Data Collection</b>	
<b>Responsibility for Data Collection</b>	Municipality/ ADM/ ARD





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<b>Indicator Name</b>	Urban Coastal Resilience Plan of Saint-Louis developed and adopted
<b>Definition/Description</b>	Developing and adopting a resilience plan of Saint-Louis, in within an integrated strategy for sustainable development. The resilience plan will be a prioritized and phased list of actions and investments to enhance the resilience of Saint Louis, which can guide further engagements of the Bank and other development partners.
<b>Frequency</b>	Annual
<b>Data Source</b>	Progress Report
<b>Methodology for Data Collection</b>	
<b>Responsibility for Data Collection</b>	ADM



**Monitoring & Evaluation Plan: Intermediate Results Indicators**

<b>Indicator Name</b>	Percentage of Displaced Households (living in relief camp) with improved living conditions
<b>Definition/Description</b>	Improved living conditions of the displaced population currently living in relief camp with (i) temporary accommodation in a safe (non flood prone) area, and with (ii) basic social services (water supply, electricity, sanitation).
<b>Frequency</b>	annual
<b>Data Source</b>	Visual inspection, Beneficiaries
<b>Methodology for Data Collection</b>	Onsite inspection, Survey Progress Report
<b>Responsibility for Data Collection</b>	ADM
<b>Indicator Name</b>	Number of people reached by the citizen engagement and social support strategy
<b>Definition/Description</b>	Number of people reached in the communication, information and citizen engagement campaigns for community participation in the different stages of the project including in decision making.
<b>Frequency</b>	Annual
<b>Data Source</b>	Beneficiaries, Consultant
<b>Methodology for Data Collection</b>	Survey, Progress Reports
<b>Responsibility for Data Collection</b>	ADM, NGO, ADC



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<b>Indicator Name</b>	percent of which are female
<b>Definition/Description</b>	Number of people reached in the communication, information and citizen engagement campaigns for community participation in the different stages of the project including in decision making (percent of which are female).
<b>Frequency</b>	Annual
<b>Data Source</b>	Beneficiaries, consultant
<b>Methodology for Data Collection</b>	Survey, Progress Reports
<b>Responsibility for Data Collection</b>	ADM, NGO, ADC



<b>Indicator Name</b>	Relocation site developed with adequate housing and social infrastructure and ready for occupation
<b>Definition/Description</b>	New resettlement site with adequate shelters and social infrastructure and services developed for a potential of 400 displaced households.
<b>Frequency</b>	Annual
<b>Data Source</b>	Visual Inspection, Consultant, Beneficiaries
<b>Methodology for Data Collection</b>	Onsite Inspection, Progress Reports
<b>Responsibility for Data Collection</b>	ADM
<b>Indicator Name</b>	Percentage of displaced working beneficiaries that have benefited from livelihood restoration activities
<b>Definition/Description</b>	Percentage of displaced household who succeed to create or resume their economic activities.
<b>Frequency</b>	annual
<b>Data Source</b>	Beneficiaries
<b>Methodology for Data Collection</b>	Survey led by social facilitation firm
<b>Responsibility for Data Collection</b>	ADM



<b>Indicator Name</b>	Percentage of which are female
<b>Definition/Description</b>	Percentage of displaced household who succeed to create or resume their economic activities (Percentage of which are female).
<b>Frequency</b>	annual
<b>Data Source</b>	Beneficiaries
<b>Methodology for Data Collection</b>	Survey led by social facilitation firm
<b>Responsibility for Data Collection</b>	ADM
<b>Indicator Name</b>	Percentage of beneficiaries satisfied with reduced vulnerability to coastal hazards
<b>Definition/Description</b>	This indicator will measure the percentage of beneficiaries that are satisfied with the reduced vulnerability to coastal hazards, including satisfaction with the relocation site housing and livelihood opportunities. Measured through beneficiary feedback surveys, starting one year after completion of relocation, including gender disaggregation.
<b>Frequency</b>	Annual - starting one year after completion of relocation.
<b>Data Source</b>	Beneficiaries
<b>Methodology for Data Collection</b>	Beneficiary Survey, Progress Reports
<b>Responsibility for Data Collection</b>	ADM, ADC



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<b>Indicator Name</b>	Percentage of which female beneficiaries are satisfied with reduced vulnerability to coastal hazards
<b>Definition/Description</b>	
<b>Frequency</b>	
<b>Data Source</b>	
<b>Methodology for Data Collection</b>	
<b>Responsibility for Data Collection</b>	
<b>Indicator Name</b>	Grievances registered related to delivery of project benefits addressed (%)
<b>Definition/Description</b>	This indicator measures the transparency and accountability mechanisms established by the project so the target beneficiaries have trust in the process and are willing to participate, and feel that their grievances are attended to promptly.
<b>Frequency</b>	Semi-annual
<b>Data Source</b>	ADM and GRM
<b>Methodology for Data Collection</b>	Project's progress report, and GRM
<b>Responsibility for Data Collection</b>	ADM



<b>Indicator Name</b>	Grievances related to delivery of project benefits that are addressed-(number)
<b>Definition/Description</b>	This indicator measures the transparency and accountability mechanisms established by the project so the target beneficiaries have trust in the process and are willing to participate, and feel that their grievances are attended to promptly.
<b>Frequency</b>	annual
<b>Data Source</b>	Progress reports and GRM
<b>Methodology for Data Collection</b>	
<b>Responsibility for Data Collection</b>	ADM
<b>Indicator Name</b>	Percentage of project coastline in the high risk zone of the Langue de Barbarie reclaimed and protected against future informal settlement
<b>Definition/Description</b>	Indicator will inform if settlements in high risk zone are demolished and cleared of debris and a mechanism put in place to prevent people from resettling.
<b>Frequency</b>	Annual
<b>Data Source</b>	ADM, Municipality
<b>Methodology for Data Collection</b>	Visual Inspection
<b>Responsibility for Data Collection</b>	Onsite inspection, Progress Reports





<b>Indicator Name</b>	Technical studies and coastal risk management solution completed and validated for the long term coastal protection of the Langue de Barbarie
<b>Definition/Description</b>	Technical studies and design for sustainable solutions for the Langue de Barbarie completed and validated.
<b>Frequency</b>	Annual
<b>Data Source</b>	Progress Report
<b>Methodology for Data Collection</b>	Progress Report
<b>Responsibility for Data Collection</b>	ADM
<b>Indicator Name</b>	Urban Coastal Resilience Plan of Saint-Louis developed and adopted
<b>Definition/Description</b>	Developing and adopting a resilience plan of Saint-Louis, within an integrated strategy for sustainable development. The resilience plan will be a prioritized and phased list of actions and investments to enhance the resilience of Saint Louis, which can guide further engagements of the Bank and other development partners.
<b>Frequency</b>	Annual
<b>Data Source</b>	Progress Report
<b>Methodology for Data Collection</b>	Progress Report
<b>Responsibility for Data Collection</b>	ADM



**The World Bank**

Senegal - Saint-Louis Emergency Recovery and Resilience Project (P166538)

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## ANNEX I: DETAILED PROJECT DESCRIPTION

COUNTRY : Senegal

Senegal - Saint-Louis Emergency Recovery and Resilience Project

1. **The project components have been designed to respond to immediate, medium and longer term needs to reduce the vulnerability of coastal populations and increase urban resilience planning in Saint Louis.** **Component 1** supports meeting the immediate (and temporary) needs of the displaced population living in the extremely challenging conditions of the flood prone *Khar Yalla* relief camp. **Component 2** responds to the medium term need to relocate the affected families to permanent housing. Specifically, it will support transformational change through planned relocation of the most vulnerable populations living in the high risk coastal zone; including the design and works for development of a new relocation site, provision of permanent housing, and support for livelihoods and citizen engagement/social facilitation activities throughout the relocation process. **Component 3** responds to the longer-term needs of Saint Louis to begin planning and implementing activities on its way to becoming a more resilient coastal city. Within the context of an emergency project, this is particularly important to begin the longer-term processes necessary to address underlying root causes of vulnerability and minimize the impacts of future hazardous events.

2. **Phased Approach for Relocation and Financing Gap:** Based on the severity of coastal erosion taking place along the *Langue de Barbarie*, the medium-term need of the Municipality is to relocate all populations living within the 20-meter zone along the coast that has been delineated as extremely high risk (927 households). Under the SERRP project, the relocation site will be developed to accommodate this number of households, however due to an existing financing gap, permanent housing will be allocated on a phased basis. The first phase will consist of families that have already had their homes destroyed (as of March 2018, this consists of 258 households), and future victims who may lose their homes in future storm surges during project implementation, up to 500 families. A financing gap of US\$15 million currently exists to complete the second phase of relocation, and move the remaining 427 households out of the 20-meter extremely high-risk area. A phased approach to planned relocation is in line with the 2013 EGIS/WB study, which indicates that beach erosion is taking place at a rate of five to six meters per year and recommends progressive strategic retreat of populations.

### **Component 1: Meeting Immediate Needs of the Disaster Affected Population – (IDA: US\$3.7 million equivalent)**

3. **The objective of this component is to support the GoS to provide temporary accommodation and related services for the families currently displaced by the disaster, and urgently improve their living conditions in line with global standard practices.** This will include moving families from the flood prone *Khar Yalla* emergency relief camp to a safe location situated outside of the flood zone, and ensuring the provision of basic social services (electricity, water supply, sanitation). The temporary shelter solution will accommodate disaster victims during the transitory phase until a permanent housing solution is available, for an estimated period of two to three years.

4. **Temporary accommodation will be provided to the displaced population.** The component will finance (i) the provision of rental subsidies; and (ii) good, services and civil works required to erect temporary dwellings and provide related essential services on the permanent relocation site, to be situated in an area not prone to flooding. The *concessions* will have the choice to select their preferred option of rental subsidies or moving to the temporary accommodation. A feasibility study and consultation process (financed under PROGEP) is currently



ongoing, which will help guide the development of the temporary accommodation program. Both the technical viability and the level of social acceptance of the proposed options, along with their potential socio-economic impacts are being investigated under the feasibility study. This includes an extensive consultation process with the disaster affected families, as well as accompanying social support for both beneficiaries and host communities. Preliminary results indicate that over 80 percent of the population prefer to relocate to the temporary accommodation.

5. **Given the urgent need to improve the living conditions of disaster victims in the relief camp, some preparatory work has already been initiated using financing from the PROGEP (P122841, P152150) project.** This includes: (i) a Feasibility Study of various options for temporary shelter and design of a support program; (ii) the recruitment of a consultant for Social Facilitation Activities to lead the participatory process with disaster affected families for input into the feasibility study and design of the temporary relocation program; and (iii) preparation of relevant Safeguard Documents, including a RAP for the temporary relocation of the affected population. While the studies have been initiated with financing from PROGEP, the SERRP will support any additional inputs and the required investment for implementation of the selected option (acquisition of materials, goods and services, works or rental subsidies, etc.).

6. **This would be a fast-disbursing component,** as much of the technical design, feasibility studies and safeguard instruments have already been initiated using financing from PROGEP. Given their comparative advantage in emergency response for providing quick and temporary housing solutions and their ability to mobilize quickly, UNOPS will be contracted to implement parts of this component.

## **Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the *Langue de Barbarie* (IDA: US\$14.35 million equivalent + US\$4.5 million counterpart financing)**

7. **This Component will finance the planned relocation of households affected by coastal erosion, and living in the extremely high-risk zone along the *Langue de Barbarie*.** Planned relocation is a preventative form of disaster risk mitigation and climate change adaptation, in which persons or groups of persons are assisted to move away from their homes or places of temporary residence in a high-risk zone, are settled in a new safe location, and provided with the conditions for rebuilding their lives. It involves not only access to safe and secure housing, but also ensuring access to services and livelihoods restoration.

8. **The municipality of Saint Louis has identified a 20-meter band (consisting of the first two rows of housing) adjacent to the coastline as being a high-risk zone, extremely vulnerable to coastal erosion.** Consistent with the 2013 EGIS/WB study<sup>8</sup>, which recommended progressive strategic retreat of the population at risk in the *Langue de Barbarie*, the Project will relocate households from this 20-meter band using community participatory planning. Relocation of those located within the high-risk zone provides a “no regrets” solution for the population most immediately affected by coastal erosion and sea level rise, while allowing time to conduct a thorough investigation of the coastal dynamics in the area and design appropriate long-term coastal protection solutions for the *Langue de Barbarie*.

9. **Under the SERRP project, the relocation site will be developed to accommodate the estimated 927 households living in the 20-meter high risk zone, however, permanent dwellings will be allocated to the first phase of affected families (up to 500 families).** The project will initially focus on the estimated 258 families already displaced by the August 2017 and February 2018 storm surges. Since severe storm surges occur two to

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<sup>8</sup> 2013 EGIS/WB study



three times per year, it is expected that additional families will become displaced over the project implementation period, and are to be included up to the 500 threshold. However, if more families do not become displaced, then the project will target the most vulnerable households within the 20-meter zone for relocation. The project will continue to work with development partners to try and source additional financing required to implement the second phase of relocation, providing permanent housing to the remaining families (estimated at 427). However, in keeping with the overall strategic approach to relocate all families living within the 20-meter high risk zone, and for reasons of “economies of scale”, the project will finance the design and works to develop the relocation site in its entirety.

10. **Several preparatory studies are being conducted (financed under PROGEP), both to ensure early participation of the project beneficiaries in the relocation process and to avoid delays in developing solutions to the emergency situation.** These include: (i) surveys of the households affected by the coastal erosion to obtain their socio-economic profile and ideas and opinions regarding the relocation, as well as surveys of the host community for the selected area; (ii) a study to identify and analyze potential relocation sites, including design of site development works and preparation of bidding documents for the selected option; (iii) an environmental and social impact assessment (ESIA) to assess potential social and environmental impacts of this component, and propose measures to mitigate against negative impacts and strategies to increase the positive impacts; and (iv) a Resettlement Action Plan (RAP) for the population to be permanently relocated.

11. **Sub-component 2.1: Design and Implementation of the Citizen Engagement and Social Support Strategy (US\$0.55 million):** The sub-component will finance the recruitment of a consultant, NGO or firm to facilitate and implement the citizen engagement activities. Meaningful engagement of affected populations throughout the process of planned relocation is essential to the success of the endeavor. To ensure that target beneficiaries are sufficiently involved, this sub-component will support continued citizen engagement and participatory processes for relocation planning and decision-making. Feedback mechanisms will be developed to ensure transparency, accountability and learning as well as a continuous dialogue with target beneficiaries and other stakeholders. Strategies will be identified to ensure diversity among the community representation, including women, children, the elderly, persons with disabilities and ethnic and religious minorities. Activities will not only target persons to be relocated, but also the host population. Such engagement will help to ensure that project beneficiaries have a sense of ownership over the process and will help to anticipate and address problems. The sub-component will also finance the monitoring and implementation of the RAP.

12. The sub-component will be implemented in complementarity with the intervention of WACA focused on supporting social dialogue and support to vulnerable populations.

13. **Sub-component 2.2: Development of the Relocation Site (US\$7.5 million):** This sub-component will finance the recruitment of a company to carry out the construction works required to develop the relocation site. This will include, but not be limited to the provision of power, water, sanitation, drainage systems, road networks and communication services. The relocation site will be designed to accommodate at least 1,000 households in line with technical and social specifications ensuring good living conditions for both displaced and host populations.

14. Land for the relocation site will be provided by the Government and no acquisition of land will take place under the Project. Preparatory activities, including: (i) a feasibility study to assess options and select the relocation site; and (ii) the spatial planning design and preparation of bidding documents is already being conducted under PROGEP. The feasibility study includes a multi-criteria analysis including key criteria such as



level of social and environmental impacts, social acceptance and vulnerability to risks (flooding, coastal erosion, etc.) to ensure the relocation site is not situated in an area at risk.

15. **Sub-component 2.3: Permanent Dwellings for the Population Affected by Coastal Erosion (US\$5.0 million):** This sub-component will finance: (i) a study and design of the permanent dwellings to be constructed on the relocation site; (ii) the construction of the permanent dwellings for concessions to be relocated; (iii) supervision of the construction; and (iv) development of a strategy for the modalities of housing relocation to support preparation of the RAP. Up to 500 households will be provided with permanent dwellings, targeting first the population that has already been displaced by coastal erosion. Based on preliminary census data, this will leave an estimated 427 remaining households living within the 20-meter band along the coastline to be relocated under a second phase, with additional financing that remains to be sourced. Should they choose not to move to the relocation site, cash compensation will be provided strictly for the purpose of finding accommodation, subject to terms to be outlined in the Project Implementation Manual. Cash compensation will be provided with counterpart funding.

16. The project will aim for collective relocation, whereby all families who desire will be moved to the relocation site. This alternative is advisable for populations with strong socioeconomic networks and a high level of social cohesion, and when there is a limited supply of property on the market to accommodate the needs of the population. Preliminary investigations indicate that both criteria are met for the context of the fishing communities along the *Langue de Barbarie*, and the broader real estate market within the city of Saint Louis.

17. The design and construction of dwellings on the relocation site will be financed under this sub-component, with the objective of providing a basic unit that can be incrementally expanded. Dwellings on the relocation site will be constructed by engaging the services of a contracting company. A study will be undertaken to design the dwelling units in consultation with the displaced population. It will be necessary to identify, based on the census results, which families have a family member with a disability, as well as the type of disability and considerations that need to be taken into account in designing housing for those families.

18. **Sub-component 2.4: Livelihood Restoration for the Displaced Populations (US\$1.3 million):** The ultimate objective of the planned relocation is to support people in rebuilding their livelihoods, which include not only housing but also their sources of income, economic activities, and access to public services. This sub-component will consist of financing micro-projects for the creation and restoration of socio-economic activities for displaced populations. To the extent practicable, relocated persons will be supported to maintain their traditional or previous livelihoods (mostly fishing) where desired and be provided with opportunities to acquire new skills and livelihoods that are suitable to, and feasible in the settlement site, recognizing that the planned relocations may offer relocated persons the opportunity to pursue new livelihoods.

19. The sub-component will be implemented in complementarity with the US\$500,000 intervention of WACA focused on supporting micro-projects to help families affected by coastal erosion to improve their livelihoods.

### **Component 3: Strengthening Urban and Coastal Resilience Planning (IDA: US\$8.85 million equivalent)**

20. **Sub-component 3.1: Reclamation/Restoration of the Liberated Area Along the *Langue de Barbarie* (US\$1.9 million):** An integral element of any planned relocation program is to reclaim the at-risk land and ensure that no new settlements are constructed in the area. Land rights will be transferred to the Government so that they can exercise effective control of new occupation, and reclaim and maintain the at-risk area. The sub-



component will consist of (i) the recruitment of a consultant to conceptualize and design a site development plan for the liberated area, including participatory input from the local community; and (ii) site development works to reclaim the area. It will include the demolition of all existing housing and structures, fencing as a temporary measure to ensure no further encroachment of the vacated land, and reclamation of the vacated area for public use such as parks and recreation area, incorporating nature based coastal resilience solutions such as replanting forest/species.

21. Success in ensuring that population does not again settle in the at-risk area is ensured by assigning it a community use that benefits the neighboring population, and fostering the community's active participation in the management and use of the reclaimed areas. Therefore, activities must be designed for the organization of and participation by the community in the appropriate use of these areas.

22. **Sub-component 3.2: Design of Coastal Risk Management Sustainable Solution to Protect the *Lingue de Barbarie* shoreline (US\$3.6 million):** Under the PROGEP, a technical assistance is currently being conducted by an internationally recruited coastal engineering firm to complete a hydrodynamic and sediment transport study for the Saint Louis delta. Building upon these modelling results, this sub-component will finance the technical design of a sustainable, long-term coastal risk management solution (including a combination of hard and soft measures) to protect the *Lingue de Barbarie* area. Output will include the detail design drawings and bidding documents. Opportunities for nature based solutions will be explored and integrated into the sustainable solution design. The WACA project aims to contribute to financing the coastal risk management sustainable solution developed under this sub-component to protect the *Lingue de Barbarie* shoreline in the long-term.

23. **Sub-component 3.3: Development of a Local Early Warning System and Community Response Plan (US\$0.6 million):** The sub-component will consist of developing and operationalizing an early warning system at the local level (city of Saint Louis), including a mechanism for monitoring hazards and areas at risk, collecting and processing data and disseminating warning messages to targets populations. The development of the local early warning system will be complemented by the national level early warning system activities to be financed under the WACA project. Activities will include recruitment of a firm to design and conceptualize the local early warning system and community response mechanism, and acquisition of goods, equipment and services (purchase and installation of rain gauges, equipment for organizations involved in the operation of the early warning system, etc.) for implementation.

24. **Sub-component 3.4: Development of an Urban Resilience Plan for the City of Saint Louis (US\$2.0 million):** This sub-component will finance the recruitment of a firm to undertake (i) an urban resilience study and (ii) the development of a disaster risk financing framework to guide housing reconstruction and/or relocation for households affected by disaster. It will build upon the technical assistance studies under preparation with PROGEP (hydrodynamic and sediment transport modelling of the Saint-Louis delta, a drainage master plan, and an urban development plan) to develop an overall urban resilience plan for the agglomeration of Saint-Louis. It will finance the recruitment of a firm to undertake the study. The urban resilience plan will provide an integrated strategy for sustainable development of the city, bringing together a cohesive approach to the various development challenges for the city and taking into account the spectrum of risks facing the greater Saint Louis area across multiple sectors. The assessment process will be inclusive, ensuring the involvement of government counterparts and a broad set of stakeholders, including government's development partners and beneficiary communities. The key outcome for the urban resilience study will be a prioritized and phased list of actions and investments to enhance the resilience of Saint Louis, which can guide further engagements of the Bank and other development partners. The activity will also propose the governance mechanism for the implementation and





monitoring of the resilience plan. An internationally firm will be recruited to support ADM in preparing the urban resilience plan.

25. **Sub-component 3.5: Institutional and Technical Capacity Building (US\$0.75 million):** This sub-component will support capacity building for the main project stakeholders to ensure sustainability of project achievements. It will entail the design of a capacity building plan, implementation of the plan, and the acquisition of any materials, goods and services to implement the plan.

**Component 4: Contingent Emergency Response Component (CERC, US\$0 million)**

26. Following an eligible crisis or emergency, the Borrower may request the Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted credit resources under the project from other project components to cover emergency response].

**Component 5: Project Management, Monitoring and Evaluation (IDA: US\$3.1 million equivalent + US\$3.5 million counterpart financing)**

27. This component will support project management and coordination and monitoring and evaluation for the project. It will finance the administrative management of the Project by the Project Coordinating Unit (ADM) and implementing partners, including: (i) recruitment of specialists in financial management, procurement, and monitoring and evaluation; (ii) carrying out the fiduciary aspects of the Project including audits; (iii) technical and safeguard audits, including beneficiary surveys; (iv) design and operationalization of the Grievance Redress Mechanism (GRM); (v) the provision of training and workshops; (vi) communication; (vii) the financing of the necessary goods, equipment, and operating costs; and (viii) costs associated with convening and reporting to the Project Technical committee (PTC) and Project Steering Committee (PSC). It will also support the design and implementation of a detailed monitoring and evaluation plan.



## ANNEX II: IMPLEMENTATION ARRANGEMENTS

### COUNTRY : Senegal

#### Senegal - Saint-Louis Emergency Recovery and Resilience Project

#### Project Institutional and Implementation Arrangements

- 1. The SERRP intervention areas and activities involve a range of multi-sectoral urban stakeholders.** It involves several municipalities and inter-communal bodies (Saint-Louis, Gandon, Gandiol), central governance representatives (Governance of the Saint Louis Region, ministries in charge of urban planning, environment, interior, hydraulic and urban sanitation, decentralization, housing, energy, fishery etc.), and development agencies and academic institutions (ARD, ADM, UGB etc.).
- 2. The following institutional arrangements have been agreed upon, taking account of the priority nature and strategic importance of the project and the still limited capacity of the municipalities and other key stakeholders for fiduciary, technical and monitoring aspects.** These arrangements are expected to ensure that funds disburse quickly, multi-sector objectives are reached, and transparency is maintained. The figure below presents the proposed institutional set up, clearly distinguishing responsibilities for project oversight, coordination and monitoring; and implementation and management.
- 3.** The implementation of the SERRP will be built on the experiences and lessons learned from the PROGEP sustainable cities sub-component in Saint-Louis. A schematic of the implementation arrangements is shown below. The recovery and resilience program will require close coordination with stakeholders at the various administrative levels, from national to regional to local. The Municipal Development Agency (ADM) will act as the Project Implementation Entity (PIE), and manage the implementation of each component, in close coordination with the relevant implementing partners. All financing will be managed by the ADM, which will carry out all procurement, financial management and internal auditing for the project. Overall strategic and policy oversight will be provided by a Project Steering Committee (PSC), while the Project Technical Committee (PTC) will be established to provide technical guidance at both strategic and operational levels. The PTC will be supported by an Technical Operational Group (GTO – *Groupe Technique Opérationnel*) for reviewing and pre-validating the technical outcomes of the project before submission to the PTC.
- 4. The project will be implemented over a period of five years.** Project completion is expected in June 2023, and a midterm review (MTR) will be carried out by January 2021, or 30 months after project effectiveness. Given the multi-institutional nature of the project, high-level oversight will be required to ensure consistency of interventions, removal of occasional government bureaucracy blockages, and continued resonance of project objectives with client's development objectives. This implies (a) establishing and operationalizing a fully functioning high-level Project Steering Committee (PSC) with agreed terms of reference, which would, among others, provide strategic advice and oversee project progress; (b) reinforcing the capacity and ensuring the required support to assure that ADM will act as a functioning PIE; (c) ensuring proper management of the relocation program and long term solutions technical studies preparation; (d) providing clearance of the annual work program by the PSC; and (e) ensuring legal and proper structures are in place to assure that all the World Bank Group safeguards rules are strictly adhered to.

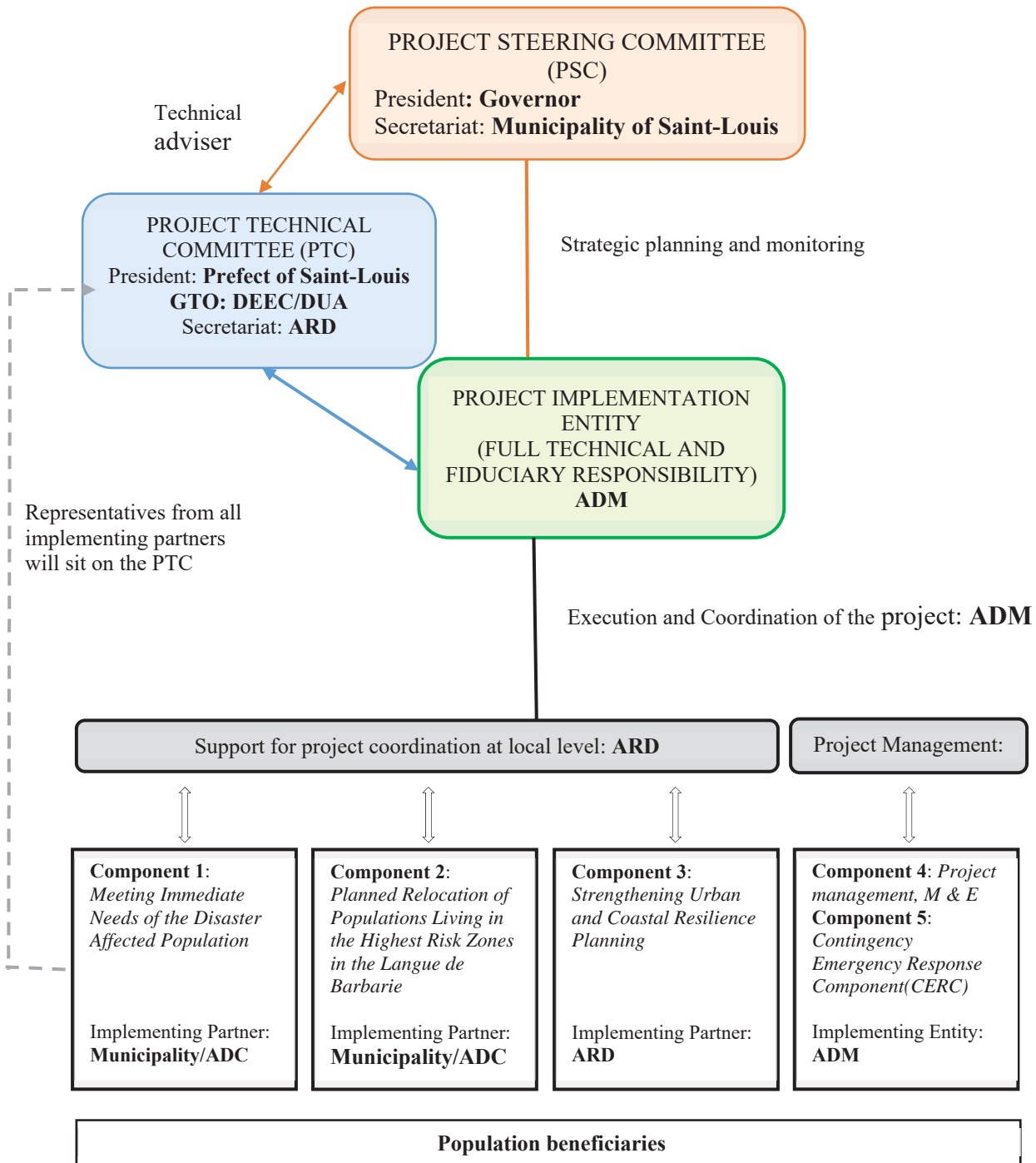


Figure 1: Project Implementation Arrangements

5. **Project Steering Committee.** The PSC will provide overall strategic oversight and ensure policy coordination. It will facilitate project execution by providing in-time policy and strategic guidance, and also ensure elimination of blockages as a result of official bureaucracy that could negatively affect project



implementation as well as integration with other urban development programs. The PSC will be chaired by the governor of Saint-Louis to ensure the highest level of coordination and political support, and will include representatives of all the involved technical regional departments and representatives of the central government, the prefect of Saint-Louis and the Sub-Prefect of Rao, beneficiary municipalities, the president of the Regional Council of Saint-Louis. The Municipality of Saint-Louis/ADC will serve as secretariat of the PSC and will be in charge of (a) organizing the PSC meetings, (b) providing all necessary information on project performance and monitoring to the PSC. The PSC will meet twice a year and on an ad hoc basis when required. As the project implementing entity, ADM will provide support to the functioning of the PSC as needed.

6. **The Project Technical Committee.** The PTC will be responsible for ensuring efficient and effective technical decision making and for helping to resolve technical issues and implementation challenges. Chaired by the Prefect of Saint-Louis, the PTC will comprise representatives from implementing partners and key state actors with the requisite qualifications and experience to contribute to technical reviews. The PTC will be supported by a Technical Operational Group (GTO) to review and pre-validate project technical outputs. The GTO is co-chaired by the DEEC/DREEC and the DUA/DRUH. In regard to the activities of the GTO, the Representatives of the Directorate of Environment and the Directorate of Urban Department will serve as chairpersons for the respective Environment and Urban aspects. ARD will serve as the Secretariat to the PTC and will be in charge of (a) organizing the PTC meetings, (b) providing all necessary information on project performance and monitoring to the PTC and the World Bank Group when needed.

7. **Project Implementation Entity (PIE).** The PIE will be the Municipal Development Agency (ADM), which will have the overall coordination responsibilities for the project including financial management and reporting activities. ADM has a strong technical and fiduciary experience in carrying out disaster risk reduction and urban development projects with large infrastructures and resettlement activities. As the implementing agency of the ongoing Stormwater management and CCA project/PROGEP, the PACASEN and the former Local Authority Development Project (PRECOL), it is familiar and experienced with World Bank policies and procedures related to environment and social safeguards, financial management and procurement of goods and services, and has shown satisfactory performance to date. ADM will play a central technical role in project management and design, while working closely with implementing partners at the regional and local level. ADM will be responsible for the following functions, including, but not limited to: (i) contract management activities, (drafting terms of references, bidding documents, evaluating proposals), (ii) environmental and social safeguard studies, (iii) monitoring and evaluation (M&E), (iv) donor coordination, (v) communication and community engagement for the project, and (vi) ensuring the maintenance of a high ethical standard and transparency. ADM, however, will work in close coordination with the beneficiary municipalities and the other relevant ministries and agencies involved in urban and coastal management. ADM will monitor and evaluate the overall project implementation, and with input from its implementing partners, provide biannual progress reports and an annual progress report for submission to the World Bank and the PSC (and if needed to the PTC). It will ensure steady progress in accordance with an implementation schedule reviewed and approved by the World Bank. ADM will benefit from various technical assistance including on coastal engineering and additional capacity strengthening and training activities financed by the project.

8. **Implementing partners will be responsible for technical inputs into their respective components.** As most of the activities are focused on Saint-Louis, it was agreed that ADM will rely on the Regional Development Agency (ARD) and the Municipality of Saint Louis and its technical support department (ADC) to support implementation at the local level. Components 1 (Meeting Immediate Needs of the Disaster Affected Population) and 2 (Planned Relocation of Populations Living in the Highest Risk Zones in the *Langue de Barbarie*) will be



implemented by ADM with the support of the Municipality of Saint-Louis and the ADC. Component 3 (Strengthening Urban and Coastal Resilience) will be implemented with ARD. Due to their strategic regional perspective, the ARD will also support ADM to facilitate the coordination of inter-communal activities. ARD has been acting in the same role under the ongoing PROGEP project, with satisfactory results. The role of the implementing partners (Municipality/ADC and ARD) will include, but not be limited to: (i) taking part in the PSC and PTC meetings; (ii) providing technical input to the implementation of their respective project components; (iii) providing regular activity reports to the ADM, and as needed on an ad-hoc basis; and (iv) actively participating in supervision missions and organized field visits. ADM will provide regular technical assistance to the implementing partners, regularly share documents produced under the SERRP, and involve them in any necessary trainings or capacity building. Similar to the PROGEP project, a Memorandum of Understanding (MoU) will be signed between the ADM and all of its implementing partners, as well as individual MoUs between ADM and the Municipality/ADC and between ADM and the ARD to clearly define the framework for collaboration.

#### 9. Methodology for Implementation of the Relocation Program (Components 1 and 2).

- (a) Component 1 Meeting Immediate Needs of the Disaster Affected Population: Two technical studies were launched in February 2018 using financing from PROGEP to help define the most technically feasible and socially acceptable approach for improving the immediate needs of the displaced population, currently living in very difficult conditions in the flood prone *Khar Yalla* relief camp. ADM has hired a consultant to undertake a feasibility study, which includes a socio-economic assessment of displaced households. Additionally, ADM has hired a second consultant to work in close coordination with the feasibility study to engage in consultation with the affected population and carry out social facilitation activities. Together, the results of this work will lay out the detailed plan for improving the living conditions of the displaced families. This will take into account the family preferences for either receiving a rental subsidy, or moving to temporary accommodation, and under what conditions the population will agree to move to the relocation site (for example, ensuring access to services such as water, sanitation, electricity, and transport to ensure the continuation of livelihood activities). Preliminary results of the studies and consultation indicate that approximately 80 percent of displaced families prefer to move to temporary housing on the relocation site. The SERRP Project will be used to finance implementation of the selected emergency (temporary) relocation options, including goods, services, civil works, etc.
- (b) Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the Langue de Barbarie: Preparatory work has already been initiated using financing from PROGEP to assist with the design of the planned relocation.
  - i. First, in January 2018, a consultant was recruited by ADM to identify and assess the technical feasibility and social acceptability of several potential relocation sites. Once a relocation site is finalized, this study will also include detailed design for development of the site and associated services.
  - ii. Second, in February 2018, ADM recruited a consultant to undertake detailed socio-economic surveys of the affected population to be relocated within the 20-meter zone of the *Langue de Barbarie*, and to prepare the Resettlement Action Plan (RAP). It is critically important to have a comprehensive understanding of the complex social fabric associated with the beneficiary fishing communities to implement the planned relocation in a manner that does not create social conflict, rivalry or inequalities. Preliminary census data from the Municipality indicates that 927 households (441 *concessions*, 9,158 people including the already 258 displaced families) are located within the 20-meter high risk zone. However, a deeper understanding of the makeup of these households and *concessions* is required. Thus,



the study will provide further details regarding the extended family size, number of households living in each *concession*, tenure status (renter, owner, informal settler) and other critical information. The socio-economic survey will provide detailed data to further understand the complex social fabric, support preparation of the RAP, and help to design the modalities associated with the housing allocation. For example, to maintain social cohesion, best practice would indicate that all households within one *concession* should be moved together to one *concession*.

- iii. Finally, in February 2018, ADM recruited a consultant to prepare the environmental and social impact assessment (ESIA) and the environmental and social management plan (ESMP). These safeguard documents will be prepared to analyze all environmental and social impacts of the planned relocation and to propose measures to mitigate, minimize, restore or compensate for any negative impacts.

10. Under the SERRP, financing for this component will be used to: (i) design and implement a social facilitation and citizen engagement strategy (ADM will recruit a consultant, NGO, or combination); (ii) site development civil works for the relocation area; (iii) study and design of the permanent housing typology, modalities for housing allocation, and the housing construction and supervision of works; and (iv) livelihood restoration activities for populations that have been displaced to the relocation site.

11. **PIE capacity enhancement.** To meet the project objectives, ADM will strengthen its capacity to oversee the implementation of the components, with particular emphasis on the additional technical and fiduciary skills required for the SERRP. This will include the recruitment of: (i) a social and environmental safeguards specialist; (ii) one social safeguards specialist; (iii) one civil engineer (ideally with coastal engineering expertise); (iv) one urban resilience expert, (v) an assistant in Monitoring and Evaluation; (vi) a procurement specialist; and (vii) an accountant. Additionally, ADM will recruit a local coordinator to support the day to day monitoring and coordination of the project activities in Saint-Louis. The project social safeguards specialist, environmental and social safeguards specialist, civil engineer, accountant, and the project local coordinator will be based in Saint-Louis in the ARD headquarter.

12. **A Project Implementation Manual (PIM) will be drafted by the ADM, with input from all implementing partners and in consultation with the World Bank Group.** This manual will provide: (i) detailed descriptions of the roles and responsibilities of the project implementation entity and all implementing partners, the PSC and the PTC; (ii) the institutional and operational guidelines for each component/subcomponent; and (iii) a detailed project performance framework.

### Financial Management and Disbursements

13. The following are the financial management arrangements for the project:

Internal Control and Internal Auditing arrangements

- a. Internal Control arrangements: The Administrative and Accounting Procedures Manual in place is adequate provide a clear description of the approval and authorization procedures in respect of the rule of segregation of duties. This manual will be reinforced by an annex for the new project specificities.
- b. Internal auditing arrangements: The ADM's internal auditor will be required to include the new project's activities in audit plan.





14. Accounting arrangements: The current West African Economic and Monetary Union's (WAEMU's) West African/OHADA Accounting System, SYSCOHADA in use for ongoing World Bank-financed projects will be applicable. Annual financial statements will be prepared by the implementing entity in compliance with SYSCOHADA standards. ADM accounting software which includes a multi-project feature will be used to maintain segregated accounting records and to generate financial reports for the new project. The ADM and ARD FM team in place would be sufficient to handle activities. However, during implementation ARD FM work load will be closely monitored in order to consider the necessity hiring a supplement accountant based in the ARD.

15. Budgeting arrangements: The project will prepare an annual budget based on an agreed annual work program and annual procurement plan. The budget will be adopted by the Program Steering Committee before the beginning of the year and its execution will be monitored on a quarterly basis. The budgeting calendar, process and monitoring will be clearly defined in the Administrative and Accounting Manual of Procedures. Annual draft budgets will be submitted to the World Bank for no-objection before adoption and implementation no later than December 5 every year. Periodic reports of budget monitoring and variance analysis will be prepared by the ADM FM team.

16. Financial Reporting arrangements: The ADM will prepare each quarter an Interim Financial Report (IFR) for the project in form and content satisfactory to the World Bank. These IFRs will be submitted to the World Bank within 45 days after the end of the quarter to which they relate. ADM will prepare and agree with the World Bank on the format of the IFRs prior to project signing. ADM will prepare Project' Financial Statements in compliance with SYSCOHADA and World Bank requirements.

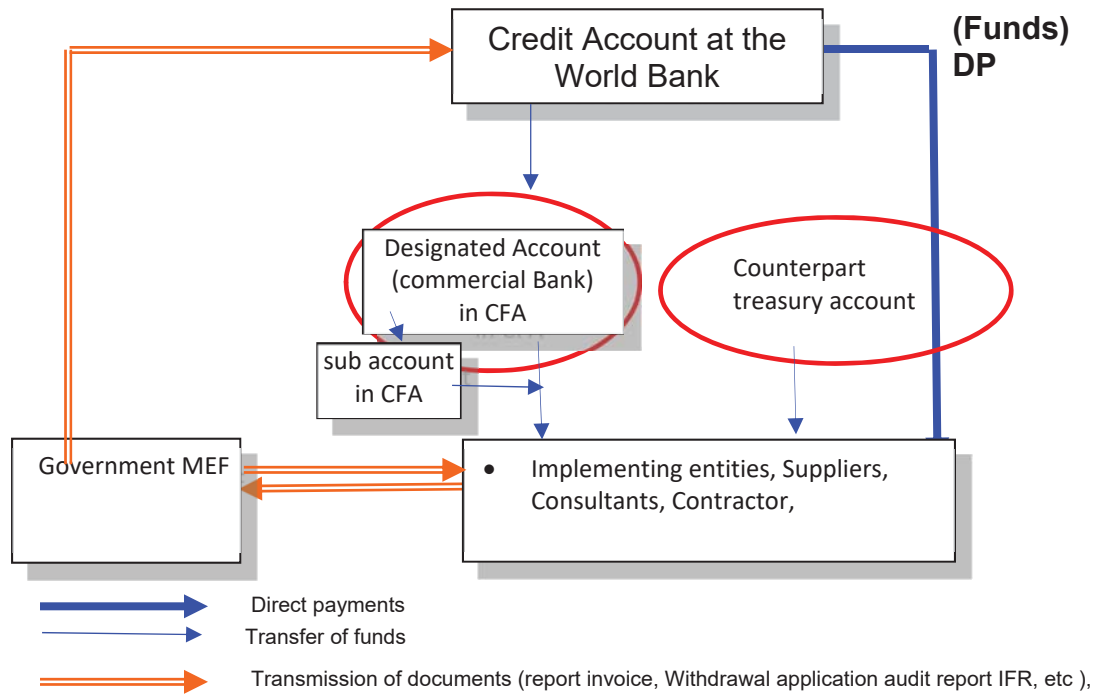
17. External Auditing arrangements: The Disbursement and Financial Information letter will require the submission of Audited Financial Statements for the project to IDA within six months after the end of each fiscal year end. The audit report should reflect all the activities of the project. An external auditor with qualifications satisfactory to the World Bank will be appointed to conduct annual audits of the project financial statements in accordance with audit terms of reference agreed with the IDA. Audit reports are due within 6 months following the end of the year.

18. Flow of funds and disbursement and Banking arrangements

c. Disbursement arrangements: The following disbursement methods may be used under the project: reimbursement, advance, direct payment and special commitment as specified in the Disbursement and Financial Information Letter (DFIL) and in accordance with the Disbursement Guidelines for Investment Project Financing, dated February 2017. Disbursements would be IFR's-based. Documentation will be retained at ADM for review by World Bank staff and auditors. The DFIL will provide details of the disbursement methods, required documentation, DA ceiling and minimum application size.

d. Banking Arrangements: A designated account (DA) for the project will be opened in a commercial Bank and managed by the external cooperation directorate (DCFE) the entity assigned with the overall responsibility of payments. Arrangements for the management of the DA will be described in the manual and disbursement letter. Given that the Designated Account is managed from Dakar, a sub account receiving regular advances based on planned activities for small operations will be opened in Saint Louis.

e. Flow of Funds Arrangements: Flow of funds arrangements for the project is as follows:



**Figure 2: Funds Flow Chart**

19. Financial Management Action Plan: The following actions need to be taken in order to enhance the financial management arrangements for the Project:

	Action	Date due by	Responsible
1	Prepare and agree with the Bank on the format of the IFRs.	Prior to Project Signing	ADM
2	Develop the annex to project manual	No later than four months after effectiveness	ADM
3	Draft the ToRs for financial audits of the Project, Selection of the auditor	Prior to Project Signing Not later than six months after effectiveness	ADM ADM
4	Open and maintain a counterpart funds account	End January 2019	MEFP
5	Letter to the Public Treasury to request blockage of funds earmarked for the payment of counterpart funds	Each year after the <i>Loi des Finances</i> has been voted	MEFP

20. Implementation Support Plan: Based on the outcome of the FM risk assessment, the following implementation support plan is proposed. The objective of the implementation support plan is to ensure ADM maintains a satisfactory financial management system throughout the project's life.





FM Activity	Frequency
<b>Desk reviews</b>	
Interim financial reports review	quarterly
Audit report review of the program	Annually
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
<b>On site visits</b>	
Review of overall operation of the FM system	Every semester for Implementation Support Mission and Annual when the risk become Moderate
Monitoring of actions taken on issues highlighted in audit reports, auditors’ management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
<b>Capacity building support</b>	
FM training sessions	During implementation and as and when needed.

**Procurement**

21. Procurement for works; goods, non-consulting, and consulting services to be financed by the Credit will follow the procedures specified in the World Bank “Procurement in Investment Project Financing: Goods, Works, Non-Consulting, and Consulting Services”, dated July, 2016 and revised in November 2017; and the “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants”, revised as of July 1, 2016; and the provisions stipulated in the Financing Agreement.

(a) The procuring entity as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex IV of the Procurement Regulations.

(b) The Borrower shall prepare and submit to the Bank a General Procurement Notice (GPN) and the Bank will arrange for publication of GPN in United Nations Development Business (UNDB) online and on the Bank’s external website. The Borrower may also publish it in at least one national newspaper.

(c) The Borrower shall publish the Specific Procurement Notices (SPN) for all goods, works, non-consulting services, and the Requests for Expressions of Interest (REOIs) on their free-access websites, if available, and in at least one newspaper of national circulation in the Borrower’s country, and in the official gazette. For open international procurement selection of consultants using an international shortlist, the Borrower shall also publish the SPN in UNDB online and, if possible, in an international newspaper of wide circulation; and the Bank arranges for the simultaneous publication of the SPN on its external website.

22. The ADM will be responsible to carry out procurement implementation for the project. A procurement capacity assessment of ADM was carried out, as part of the preparation of the proposed operation. The



assessment found that ADM has more than 10 years of experience implementing World Bank-financed projects and other Financial and Technical Partners such as the “Fonds Nordique de Development (FND)” and “Fonds pour l’Environnement Mondial (FEM)”. The last supervision of the ongoing PROGEP project found that improvements have been made in procurement planning, preparation of bidding documents and Request for Proposals, evaluation of bids/proposals, award and publication of contracts, contract management, and procurement record keeping, among other things. ADM procurement staff has strong experience with World Bank guidelines and has been trained on the World Bank’s New Procurement Framework. However, with regards to changes in the composition of the procurement system, the World Bank will have to re-assess the system. Other issues/risks identified during the assessment and in the PPSD are related to the context of the emergency combined with several implementing agencies. The project’s implementation will involve various stakeholders including the Municipality, the ARD Saint-Louis, and other regional departments. The weak capacity of these actors can negatively impact on the procurement activities and be source of delays.

23. The project procurement risk prior to the mitigation measures is “Substantial”. The risk can be reduced to a residual rating of “Moderate” upon consideration of successful implementation of the following mitigation measures: (i) manage the workload, and if needed appoint an additional procurement specialist; (ii) provide training to the new members of the procurement committee and new appointed technical expert; and (iii) provide technical assistance on the elaboration of technical documents.

24. Filing and record keeping: The Procurement Procedures Manual will set out the detailed procedures for maintaining and providing readily available access to project procurement records, in compliance with the Legal Agreement. The Implementing Agencies will assign one person responsible for maintaining the records. The logbook of the contracts with a unique numbering system shall be maintained.

25. The signed contracts as in the logbook shall be reflected in the commitment control system of the Borrower’s accounting system or books of accounts as commitments whose payments should be updated with reference made to the payment voucher. This will put in place a complete record system whereby the contracts and related payments can be corroborated.

26. The recruitment of civil servants as individual consultants or as part of the team of consulting firms will abide by the provisions of paragraph 3.23 (d) of the Procurement Regulations.

**Summary of the Project Procurement Strategy for Development:**

27. As part of the preparation of the project, the Borrower (with support from the World Bank) prepared its Project Procurement Strategies for Development (PPSD) which described how fit-for-purpose procurement activities will support project operations for the achievement of project development objectives and deliver Value for Money (VfM). The procurement strategy is linked to the project implementation strategy at the regional, ensuring proper sequencing of the activities. It considered institutional arrangements for procurement; roles and responsibilities; thresholds, procurement methods, and prior review, and the requirements for carrying out procurement. It also included a detailed assessment and description of state government capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues taken into account included the behaviors, trends and capabilities of the market (i.e. Market Analysis) to inform the procurement plan. The activities also require strong technical capability to prepare proper technical specifications in order to avert lack of, or inadequate, market response. This capability – or a plan to enhance is considered in the strategies. Also, special arrangements like direct



contracting, use of SOEs, UN Agencies, local NGO for civil servants needs, results based arrangements, need for prequalification, if any, is considered and addressed.

28. Procurement Plan: As it is an emergency project, the Borrower has prepared an 18-month procurement plan which has been reviewed and agreed by the Government and the Bank during negotiations. The Procurement Plan will be updated in agreement with the Bank Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

29. The scope of procurement activities are the following: The PPSD has identified three critical activities that will be procured using Direct contracting: (i) the Procurement of materials and equipment (mobile units, etc.) for improvement of living conditions for the displaced population with UNOPS; (ii) works on the temporary relocation site with a local firm; and (iii) the selection of a qualified coastal engineering firm for Technical Studies to develop a long term coastal risk management design for the *Langue de Barbarie*. The other main activities for works are related to the construction of permanent housing that will be a limited national market approach and the works for land reclamation on the liberated area of the *Langue de Barbarie* (including the demolition of existing buildings) using open national approach. For goods, the main Procurement activities include: equipment (rain, gauges, beacons, etc.) for the Early Warning System; and material goods and services through micro-projects for the creation/continuity of socio-economic activities for the displaced populations.

30. Operational Costs: Operational costs financed by the Project would be incremental expenses, including office supplies, vehicles operation and maintenance costs, maintenance of equipment, communication costs, rental expenses, utilities expenses, consumables, transport and accommodation, per diem, supervision costs, and salaries of locally contracted support staff. Such service needs will be procured using the procurement procedures specified in the Project Implementation Manual (PIM) accepted and approved by the World Bank.

31. Procurement Manual: Procurement arrangements, roles and responsibilities, methods and requirements for carrying out procurement shall be elaborated in detail in the Procurement Manual which may be a section of the Project Implementation Manual (PIM). The PIM shall be prepared by the Borrower and agreed with the Bank not later than two months from the Project effectiveness.

32. Procurement methods: The Borrower will use the procurement methods and market approach in accordance with the Procurement Regulations.

33. Open National Market Approach is a competitive bidding procedure normally used for public procurement in the country of the Borrower and may be used to procure goods, works, or non-consultant services provided it meets the requirements of paragraphs 5.3 to 5.6 of the Procurement Regulations.

34. The thresholds for particular market approaches and procurement methods are indicated in the below table. The thresholds for the World Bank's prior review requirements are also provided in the table below:



Category	Procurement Methods Thresholds (US\$ millions)					
	Prior Review Threshold (US\$ millions)	Open International	Open National	RFQ	Short List of National Consultants Consulting Services	Engineering and Construction Supervision
Works	≥10	≥15	<15	≤0.2	n.a.	n.a.
Goods, IT, and non-consulting services	≥2	≥1.0	<1.0	≤0.1	n.a.	n.a.
Consultants (Firms)	≥1	n.a.	n.a.	n.a.	≤0.3	≤0.5
Individual Consultants	≥0.3	n.a.	n.a.	n.a.	n.a.	n.a.

35. Summary of the PPSD:

Title of Contract	Estimated Total Cost USD and level risk	Review	Market Approach	Selection Methods	Evaluation Methods
Works on the temporary relocation site	350,000	Post	Limited/ National	Limited request for bid	Qualifying criteria/lowest evaluated cost
Works for the development of the final relocation site	6,200,000	Post	Limited/ National	Limited request for bid	Qualifying criteria/lowest evaluated cost
Construction of permanent housing	4,830,000	Post	Limited/ National	Limited request for bid	Qualifying criteria/lowest evaluated cost
Reclamation work on the liberated area of the <i>Langue de Barbarie</i> , including the demolition of existing buildings	1,600,000	Post	Open/ National	Request for bid	Qualifying criteria/lowest evaluated cost
Procurement of materials and equipment (mobile units, etc.) for temporary relocation	3,700,000	Post	Direct selection	Direct selection	Direct selection with UNOPS
Procurement of equipment (rain, gauges, beacons, etc.) for the Early Warning System	300,000	Post	Open/ National	Request for bid	Qualifying criteria/lowest evaluated cost



Procurement of materials, goods and services as part of institutional and the technical capacity building program	250,000	Post	Limited/ National	Request for quotation	Qualifying criteria/lowest evaluated cost
Selection of a Consulting Firm for the supervision of the civil works for the development of the relocation site, construction of housing and community facilities	850,000	Post	Open	SQC	Technical scores and negotiations with first ranked
Selection of a Consulting Firm for the environmental and social technical studies (firm phase: preliminary technical studies; conditional phase: detailed technical studies and bidding documents) of a coastal protection solution for the <i>Langue de Barbarie</i> and the Drainage Master Plan	3,600,000	Prior	Direct selection	Direct selection	Direct selection
Selection of a firm for the conceptualization and operationalization of the Local Early Warning System	300,000	Post	Open	CQS	Quality cost based selection
Selection of a Consulting Firm for the preparation of the Resilience Plan of the agglomeration of Saint-Louis	400,000	Post	Open	QCBS	Technical and financial scores combined
Selection of an international firm for technical assistance to the project	1,360,000	Prior	Direct selection	Direct selection	Direct selection
Selection of a firm for the technical audit of the project	150,000	Post	Open	Quality cost based selection	Technical and financial scores combined
Selection of a financial audit firm for the project	100,000	Post	Open	Quality cost based selection	Technical and financial scores combined
Selection of a Consulting Firm for the Social Facilitation of the final relocation program for displaced families of the <i>Langue de Barbarie</i>	550,000	Post	Open	Quality cost based selection	Technical and financial scores combined



Selection of a Consulting Firm for the development and implementation of the capacity building plan for the project's stakeholders	450,000	Post	Open	Quality cost based selection	Technical and financial scores combined
Development of a Disaster Risk Financing Framework for the Housing Reconstruction and/or Resettlement of households affected by the catastrophe	10,000	Post	Open	Quality cost based selection	Technical and financial scores combined
Selection of an individual consultant for the study and architectural monitoring of the housing and social facilities construction	95,000	Post	Limited	Selection of Individuals consultants	3 CVs at least compared
Selection of an individual consultant for the study of reinforced concrete plan of housing and social facilities	50,000	Post	Limited	Selection of Individuals consultants	3 CVs at least compared
Selection of an individual consultant for the study of the technical lots of housing and social facilities	25,000	Post	Limited	Selection of Individuals consultants	3 CVs at least compared
Selection of a social expert to assist the Saint Louis project team	240,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of an environmental and social safeguards specialist to support the Saint-Louis project team	240,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of a Civil Engineer with expertise in coastal engineering to support ADM	240,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of a monitoring and evaluation assistant to support ADM	73,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of an Assistant to project coordination (on demand from ARD)	100,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant



Selection of an accountant based in Saint-Louis	150,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of an urban resilience specialist	250,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Selection of an expert for the preparation of a strategy on modalities for housing allocation in addition to the RAP	100,000	Post	Open (EOI)	Selection of Individual Consultant	Qualification and experience of Individual Consultant
Note: Micro-project type/priority community investment projects (including procurement of goods and services) are planned within an estimated budget of US\$130,000 to be launched under the national competitive bidding process, quotation request or request for proposal as needed.					

**Environmental and Social (including safeguards)**

36. A detailed safeguards action plan is presented in Annex 5.

**Monitoring and Evaluation**

37. **The Project will put in place a multi-tier quality oversight and control, and results monitoring mechanism** entailing: (a) physical quality control and supervision; (b) resulting M&E system; (c) social accountability and grievance redress systems; and (d) third performance verification and audits by independent parties as needed.

38. **The results framework is designed to collect data related to two PDO-level indicators and several project component intermediate indicators.** Targets have been identified based on the census data provided by the municipality which specified that around 199 families have already been displaced by the disaster and that a total of 927 households live within the high-risk coastal zone. Detailed household surveys are currently being undertaken to confirm these data and provide more information on the socio-economic profile of affected households. This will include the number of female headed households that have been affected in the project area, so that gender disaggregated baselines and targets can be included and monitored throughout project implementation.

39. **Outcome Monitoring and Evaluation:** ADM in collaboration with all implementing agencies will be responsible for operationalizing the Results Frameworks and Results Monitoring System. ADM will provide biannual results project implementation to all concerned project constituent agencies.

40. **Social and Environmental Monitoring:** This will include: (i) monitoring compliance with the environmental regulation; social and environmental safeguards and environmental and social assessment provision; and (ii) overall monitoring and oversight of social and environmental issues at project level.



41. **Regular Quality Supervision and Certification:** This will be carried out by each implementing partner in close collaboration with the ADM. Detailed quality guidelines will be developed by the ADM and adopted by all implementing partners during project implementation.

42. **Physical Progress Monitoring and Audits:** Physical progress monitoring will be carried out by each implementing partner in conjunction with ADM on a monthly basis, and consolidated by ADM which in turn will share the reports on a quarterly basis with the World Bank and MEFP. Financial progress will be reported through the quarterly IFRs.

43. **Implementation support will entail both routine and ad-hoc quality checks at various stages of implementation.** Periodic monitoring will include process reviews, reporting of outputs and maintaining updated records. This will include the following: (i) Social and Environmental Monitoring; (ii) Physical Progress and Process Monitoring; (iii) Third Party Monitoring as needed; and (iv) Results M&E.

#### **Role of Partners**

44. The World Bank is collaborating closely with the French Development Agency (AFD) in preparing complementary emergency and long-term solutions. The World Bank is also collaborating with the Red Cross, which is supporting the provision of immediate humanitarian needs for the displaced population in the relief camp.





## ANNEX III: IMPLEMENTATION SUPPORT PLAN

### COUNTRY : Senegal

#### Senegal - Saint-Louis Emergency Recovery and Resilience Project

1. The Implementation Support Plan (ISP) is designed to consider risks identified in the Systematic Operations Risk-rating Tool and to mitigate them. Hence, it is built on the following key considerations:
  - (a) Project implementation is to be decentralized institutionally to several participating institutions at local level (Municipality of Saint-Louis, ARD, DREEC, DRUH) while ADM will coordinate and monitor at central level with ministries including the MEFP.
  - (b) Not all ministries and agencies have a proven track record of implementing donor-funded projects, and in particular World Bank-funded projects.
  - (c) Such a project that includes in its first and second components large resettlement of population activities can present risks of social safeguards. The scheme will be put under appropriate and regular social safeguards monitoring.
2. Given these issues, some resources beyond the statutory World Bank allocation will be required to support project implementation.
3. As a result, the proposed ISP is based on the following:
  - (a) **Project implementation support:** The project will be overseen by a core field-based team including the TTL (Dakar office) who will coordinate with the local country office and decentralized fiduciary staff as necessary. The project will be supported by a co-TTL coastal engineering specialist HQ based staff who will support the project supervision including periodic fields mission. In addition to the usual practice, safeguards, and fiduciary staff, the team will also include a number of high-level international staff/consultants who have been involved in project preparation and will continue to assist the Borrower. During the first 24 months of the project life, three to four field implementation support missions will be carried out each year to support the institutions involved in the project.
  - (b) Under the Bank funded ongoing “PROGEP” Project, ADM has been supported with dedicated technical trainings. Under this project, additional trainings including on safeguards and urban coastal resilience support will be offered to recruited ADM full-time consultants and staffs as well as to the project local implementation agencies’ staffs working on this project.
  - (c) **Financial Management:** FM implementation support missions will be consistent with a risk-based approach and will involve a collaborative approach with the task team (including procurement). The objective of the ISP is to ensure that the project maintains a satisfactory FM system throughout the project’s life.
  - (d) **Procurement:** The World Bank will conduct at least two implementation support missions per year and annual PPRs. The World Bank may also conduct an Interim Procurement Review at any time until after two years of the closing date of the project. The client has prepared a PPSD which has been reviewed by the Bank and adjusted to mitigate the identified risks. Throughout implementation, appropriate support and capacity-strengthening measures will be offered to the project’s procurement staff as necessary.
  - (e) **Technical inputs:** High-level international expertise including coastal engineering technical assistance will be provided through the PROGEP, the SERRP and on the Bank side for the project implementation support and supervision.
  - (f) **Safeguards:** The project task team members will be reinforced both on the client and the World



Bank side by High-level expertise and consultants on social safeguards. At local level, a social safeguards specialist and a social facilitation firm will be recruited to ensure a daily monitoring of the implementation of the resettlement activities. These social consultants will be closely supported by the ADM team through regular missions in Saint-Louis. The World Bank staff responsible for environmental and social safeguards will participate in formal implementation support missions to assess the status of safeguard implementation.

- (g) **Monitoring and Evaluation (M&E):** Under the PACASEN, ADM has undertaken to put in place a M&E unit for an appropriate monitoring and assessment of the project implementation progress and results. The PROGEP/SERRP will recruit a monitoring and evaluation assistant to reinforce the ADM M&E unit.
- (h) **Government coordination:** The setting up of an Inter-Institutional Steering Committee to ensure coordination between ministerial departments, municipalities and agencies will assist in improving coordination between key stakeholders. Continued high-level dialogue between the Government and World Bank and other development partners will also be maintained and play a critical role in ensuring ownership and continued support.

4. Finally, the ISP will be revised on a regular basis during implementation on the basis of project progress and continuous risk assessment.

Table 3. Borrower Support - Team National and international Skills Mix Required

Time Horizon	Focus	Skills needed	Resource Estimate (US\$)	Source of funding (shared costs between active projects)
0-48 months	Support to the resettlement program	<ul style="list-style-type: none"> <li>• Social safeguard expert</li> <li>• Social and environmental safeguards expert</li> <li>• Social facilitation firm</li> <li>• Operational group for the implementation of the RAP</li> </ul>	880,000	PROGEP and SERRP
	Support to the urban and coastal resilience planning activities	<ul style="list-style-type: none"> <li>• International TA firm for the coastal modeling and engineering activities</li> <li>• International TA on urban resilience planning and management</li> <li>• Urban management expert</li> <li>• Hydraulic Engineer</li> <li>• Civil Engineers</li> </ul>	1,800,000	PROGEP, SERRP, ADM
	Procurement review of bidding documents; procurement supervision, and training	Procurement specialists	260,000	PROGEP, SERRP, ADM
	FM supervision	FM and accounting specialists	260,000	PROGEP, SERRP, ADM
	Monitoring and Evaluation	M&E Experts	200,000	PROGEP, SERRP,
			<b>3,400,000</b>	



Table 4. World Bank Support - Team National and international Skills Mix Required

<b>Annual Estimate - Year 1 and 2</b>				
<b>Time Horizon</b>	<b>Skills Needed</b>	<b>Staff Weeks</b>	<b>Trips</b>	<b>Comments</b>
0-24 months	Team leadership, coordination, dialogue with authorities	12	4	Dakar and HQ based
	Procurement review of bidding documents Procurement supervision and training	6	0	Dakar office based
	FM supervision	6	0	Dakar office based
	Environmental and social safeguards	12	4	Dakar and HQ based
	Coastal Engineering and civil engineer consultants	3	4	local and International consultant based
	Urban resilience consultant	2	2	International consultant based
<b>Annual Estimate - Year 3 and 4</b>				
<b>Time Horizon</b>	<b>Skills Needed</b>	<b>Staff Weeks</b>	<b>Trips</b>	<b>Comments</b>
25-48 months	Team leadership, coordination, dialogue with authorities	12	4	Dakar and HQ based
	Procurement review of bidding documents Procurement supervision and training	6	0	Dakar office based
	FM supervision	6	0	Dakar office based
	Environmental and social safeguards	12	4	Dakar and HQ based
	Coastal Engineering and civil engineer consultants	3	4	local and International consultant based
	Urban resilience consultant	2	2	International consultant based



## ANNEX IV: ECONOMIC AND FINANCIAL ANALYSIS

### COUNTRY : Senegal

#### Senegal - Saint-Louis Emergency Recovery and Resilience Project

#### Background

1. Financial analysis (i.e., commercial profitability analysis) and economic analysis (i.e., national profitability analysis) differ in several ways. The objective of commercial profitability analysis is to assess the net financial results of a project from the investor point of view, while the national profitability analysis aims to identify and measure the net economic benefits of the project from the society point of view. Moreover, commercial profitability analysis is based on prevailing market prices, while national profitability analysis is determined with the help of adjusted prices (i.e., shadow prices) that are deemed to approximate true economic prices (reflecting the social opportunity cost, e.g., price distortions, subsidies, taxes, etc.). Similarly, for commercial profitability analysis, the time value of money is described by application of the private discount rate based on the prevailing interest rate of the capital market, while in the case of national profitability analysis, the social discount rate is applied, i.e., the rate at which the country can borrow money taking into consideration the country risk.
2. Three main indicators are usually considered in the financial and economic analysis to determine the viability of the project:
  - (a) The Net Present Value (NPV) which is the difference between the discounted total benefits and cost;
  - (b) The Internal Rate of Return (IRR), which is the discount rate that zeroes out the NPV or, the interest rate that makes the NPV of all cash flows equal to zero. In other words, the IRR estimates the actual return on the project, expressed as a percentage or interest rate; and
  - (c) The Benefit-Cost Ratio, which is the ratio of the present value (PV) of benefits over the PV of costs over the lifetime of the project. Sometimes the Benefit-Cost Ratio is based on undiscounted benefits to costs, but this is a less useful measure.

#### Economic Analysis Process

3. The major difference between the financial and economic analysis is that economic analysis is to account for the social costs in terms of eliminating all the distortions of prices on the inputs used for delivery of services. There is therefore a need to identify and quantify price distortions that affect the operating expenditures as well as the investments. The evaluation of these distortions makes it possible to rectify the financial prices and to obtain the economic prices. From the corrected structure of the economic prices, the revaluation coefficients were estimated.
4. The objective of this calculation is to determine the opportunity costs of inputs and outputs. Regarding the exchange rate, the FCFA is pegged to the Euro and the European Union is a privileged trading partner of Senegal, thus reducing the distortions of the exchange rate. Regarding the tax system, taxes, VAT, excise and duties constitute internal flows in the national economy, they are not subtracted or adjusted in the calculation of economic costs because they are reinjected into the economy. In this case, and to facilitate calculations, taxes paid under this project are assumed not to contribute to the payment of debt service. By looking at the social profitability of a project, "shadow prices" or "opportunity costs" are used in an economic analysis instead of market prices (real) that will help determine the social profitability of an investment. Shadow prices are adjusted in the following way:



- (a) Workshops, training and services. The distortions are almost zero.
- (b) Equipment and consumer goods. All equipment and consumer goods are considered imported. Thus, a conversion factor will take into account insurance and transportation of equipment and consumer goods that are assumed to be borne by foreign shipping and insurance companies with almost no impact on the local economy. Thus, the CIF/FOB ratio achieved for all products combined at a global level of 6.32%. However, the ratio of manufactured goods can reach up to 10% or even 15%. Thus, a conversion factor will take into account insurance and transport of equipment and consumer goods, and the above-mentioned CIF/FOB ratio of manufactured goods at the global level will be considered, an average of 10%.
- (c) Works. Taxes of international companies hired under the project will be paid locally. However, energy (notably gasoline and diesel), which is an imported input representing on average 20% of the economic prices of the works, is mostly refined in Senegal and technically not subsidized (price at the pump is above the US\$1.5 mark which makes Senegal among the top ten African countries in terms of non-subsidized energy. Moreover, the national electricity company, SENELEC, received no subsidies in 2016 and 2017 while more than 50% of the electricity is generated through Independent Power Producers, Hence, energy prices are automatically adjusted according to the international prices. Thus, the adjustment factor is considered neutral.
- (d) Gross wages. The wage applied for the non-qualified is the minimum wage without the social contribution. For skilled jobs, gross pay is taken into account while social contributions are not taken into account. In addition, for the project in general, the project management unit and other activities, workers are expected to be hired locally. In addition, a large number of informal workers could be hired during the execution of the works.
- (e) Sub-Projects. It is difficult to know in advance the categories (e.g., works, workshop, equipment, etc.) of the sub-projects and a neutral factor of 1 is thus considered.
- (f) Operating costs. Unless supported by the institution or the parent agency, companies hired as part of the transaction costs will have to pay taxes that will be paid locally. The transaction costs fall under the VAT and profit tax rules.

The conversion factors used are summarized in Table AV.1.

*Table AV.1: Conversion Factors for the Economic Analysis*

Category	Fiscal Adjustment	Senegal	
		Rate	Factor
Workshops, Services	VAT	18%	1
Equipment, Goods	Customs	22%	0.9
Work	VAT/Excise	18%/NA	1
Gross Salaries without social security	Taxes	35%	1
Sub-projects	Several	NA	1
PMU Operation Costs	VAT/Excise	18%/NA	1

Source: IMF, Senegal Article IV (2016); UEMOA website: <<http://www.izf.net/pages/les-droits-et-taxes-douanes-en-uemoa>>.

5. Given the relatively low level of distortions, the financial cost will be considered the actual economic cost in the analysis where the disbursement by component is illustrated in Table AV.2.



Table AV.2: Actual Economic Cost Disbursement from 2018-19 to 2022-23, US\$ million

Component and Sub-component		FY1	FY2	FY3	FY4	FY5	Total
<b>Component 1 Meeting Immediate Needs of the Disaster Affected Population</b>		<b>3.0</b>	<b>0.7</b>				<b>3.7</b>
<b>Component 2 Planned Relocation of Populations Living in the Highest Risk Zones in the Langue de Barbarie</b>		<b>0.1</b>	<b>1.1</b>	<b>7.2</b>	<b>10.2</b>	<b>3.7</b>	<b>22.4</b>
C2.1	<i>Design and Implementation of the Citizen Engagement and Social Support Strategy</i>	0.1	0.3	0.1			0.6
C2.2	<i>Design and Works for the Development of the Relocation Site</i>		0.5	2.0	4.0	1.0	7.5
C2.3	Permanent Dwellings for the Population Affected by Coastal Erosion			4.7	5.9	2.4	13.0
C2.4	<i>Livelihood Restoration for the Displaced Populations</i>		0.3	0.3	0.3	0.3	1.3
<b>Component 3 Strengthening Urban and Coastal Resilience Planning</b>		<b>1.7</b>	<b>2.4</b>	<b>1.1</b>	<b>1.6</b>	<b>2.3</b>	<b>8.9</b>
C3.1	<i>Reclamation of the Liberated Area Along the Langue de Barbarie</i>				0.3	1.6	1.9
C3.2	<i>Design of Coastal Risk Management Sustainable Solution to Protect the Langue de Barbarie shoreline</i>	1.5	2.1				3.6
C3.3	<i>Development of a Local EWS and Community Response Plan</i>		0.1	0.4	0.1		0.6
C3.4	<i>Development of an Urban Resilience Plan for Saint Louis</i>			0.5	1.0	0.5	2.0
C3.5	<i>Institutional and technical Capacity Building</i>	0.2	0.2	0.2	0.2	0.2	0.8
<b>Component 4 Contingent Emergency Response Component</b>		<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Component 5 Project Management, Monitoring and Evaluation</b>		<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>3.1</b>
<b>Total Project</b>		<b>5.4</b>	<b>4.8</b>	<b>8.9</b>	<b>12.4</b>	<b>6.6</b>	<b>38.0</b>

Note: years reflect the World Bank fiscal years.

6. A number of additional key assumptions were also considered for the economic analysis:
  - (a) The economic analysis assesses SERRP on its own merits and will only consider the benefits until the end of the project by 2023. The project could build coastal resilience beyond 2023 and these will necessitate additional analysis to see if the coastal preservation benefits will still accrue by 2030, 2040 and 2050.
  - (b) An actual discount rate of 6% per annum recommended by the World Bank is used for the economic analysis. A sensitivity analysis and scenario analysis are conducted with: a pessimistic scenario with a 10% increase in economic costs coupled with an 8% discount rate is compared to the baseline scenario; and an optimistic scenario with an increase benefits coupled with a 4% discount rate is compared to the baseline scenario.
  - (c) The economic analysis was conducted over five years for all components.
  - (d) The right-of-way including the price of land and any structures upon it is not accounted for in the analysis.
  - (e) Benefits are assumed to accumulate during and after project implementation
  - (f) The operation and maintenance costs of components 1, 2 and 3 were assumed to be 3.0% after project implementation. Minor investments in mechanical and electronic equipment would be covered by operating expenses during the life of the investments.
  - (g) The benefits would appear as indicated in the target indicators of the project results framework.



(h) Conservative GDP growth of 6% per year is below the Bank's forecast up to 2020.

### **Benefit Valuation Methods**

7. Component 1 – The methodology is based on health functions. The benefits accruing on the displaced 1,915 in 2017 (2,205 in 2023 if they are not relocated and based on an annual population growth rate of 2.86%) people that will be relocated to improved living conditions. The incremental income generated when the displaced people will be relocated will be developed under Component 2 below. The benefits quantified under this component are in terms of the forgone income associated with the cost of ill health and premature death. Hence, when they will be moved to improved housing, the following diseases whose prevalence will decrease are considered: diarrhea, lower respiratory infection, malaria and malnutrition. Risk reduction of these diseases associated with improved housing with higher sanitary conditions has been considered based on Bassi et al., 2011 and the World Health Organization (WHO) in terms of improved water, sanitation and hygiene, reduction of indoor pollution (better stove and ventilation), provision of insecticide treated bed nets and improved nutrition. The prevalence of these diseases are reported in terms of Year Lost for Disability per 100,000 (Burden of Disease) and the number of deaths per 100,000 as reported in the Institute for Health Metric and Evaluation ([www.healthdata.org](http://www.healthdata.org)) for Senegal.

8. The Burden of Disease is used for morbidity. The Disability-adjusted life years (DALY), which is a metric that measures the decrement or increment in health state or the burden of disease, has been used to determine the health burden of diarrhea, lower respiratory infection, malaria and malnutrition. Hence, the mortality and morbidity are denominated in DALY lost to quantify the health effects associated with the reduction or increase of the level of pollutants.

9. The DALY is a non-utilitarian metric that measures the burden of disease and expresses years life lost to premature death and years lived with a disability of specified and normalized severity (0 to 1) and duration (1 to 365 days). The DALY is one lost year of healthy life. The DALY life expectancy is set at 80 years for males and 82.5 years for females and the DALY [3,1] is discounted at 3% and includes the age weights whereby a year of healthy life lived at younger and older ages was weighted lower than the other ages.

10. DALY combines in one measure the time lived with disability and the time lost due to premature mortality:  
 $DALY = YLL + YLD$

Where:

YLL = years of life lost due to premature mortality

YLD = years of life lost due to disability

11. In this particular case, only YLD is considered as the GDP per capita is associated with every YLD gained with the relocation. Hence, US\$953 will be associated with each YLD gained.

12. The value of statistical life (VSL) is used for mortality. VSL is, thus, not life itself that is valued, but a reduction in the probability of avoiding a given risk. Values for these terms are derived by dividing an estimate of the value for avoiding a given change in the risk of death by the risk change.

13. A benefit transfer of the VSL from Europe to Senegal is performed where the transfer of the unit is adjusted for differences in income value as described in Navrud (2009).





14. The transfer of the unit to adjust for differences in income value is as follows:

$$W_{pp} = W_p \times (Y_p / Y_s)^\beta$$

$W_{pp}$  = willingness to pay by individual in policy country

$W_p$  = willingness to pay by individual in study country

$Y_p$  = income in the country policy denominated in purchasing power parity dollar (PPP\$)

$Y_s$  = income in the country of study denominated in purchasing power parity dollar (PPP\$)

$\beta$  = income elasticity for different environmental goods and services, which are considered normal goods, are typically greater than 0 (perfectly inelastic which would have meant that the  $W_{pp} = W_p$  only adjusted by income where  $\beta = 0$ ) and smaller than 1 (inelastic), often range between 0.7 and 0.4 in developed countries and is higher than 1 for developing countries. In this particular case, an elasticity of 1.2 is considered.

15. Hence, the VSL in Senegal used in the Benefit Cost Analysis (BCA) amounts to US\$57,836 per averted premature death. The averted losses used in terms of health benefits in the BCA amount to US\$178,551 per year over 4 years.

Table AV.3: Health Benefits Associated with Relocation

Category of Risk Factors	Burden of Disease	Case/100,000	Burden of Disease in Camp	Burden of Disease Risk Reduction	Burden of Disease Risk Reduction	Averted Burden of Disease Monetization	Health Benefits associated with relocation
		YLD / Death	YLD / Death	%	YLD / Death	US\$/unit	US\$/year
WASH	YLD	159.4	3.3	-65%	2.1	953	2,030.85
	Death	48.52	1.0	-65%	1	57,836	37,525.12
IAP	YLD	47.41	1.0	-50%	0.5	953	464.64
	Death	48.52	1.0	-50%	0	57,836	28,865.48
Malaria	YLD	82.01	1.7	-65%	1.1	953	1,044.86
	Death	21.14	0.4	-65%	0	57,836	16,349.57
Malnutrition	YLD	1,229	25.3	-65%	16.4	953	15,658.17
	Death	99.06	2.0	-65%	1	57,836	76,612.50
Total	YLD		31.2		20.2		19,198.5
	Death		4.5		2.8		159,352.7
<b>Grand total</b>							<b>178,551.2</b>

Source: Bassi et al. (2011); WHO website: [www.who.int](http://www.who.int); and IHME website: [www.healthdata.org](http://www.healthdata.org).

16. Component 2 Erosion – The methodology builds on the one developed under WACA for Benin, Cote d’Ivoire, Ghana and Togo<sup>9</sup>. An erosion dose-response function was developed where the damaged assets, the relocation cost and loss of value in relocated areas were associated with the risk of erosion per ha, e.g., various levels of urban, transport, rural, wetlands, etc. Hence, the built-up asset per ha and the GDP/ha for 31 areas in Senegal are assumed to be similar to the West African coast and based on a grid cell.

17. Tangible damages to the economy are assessed as follows. If a grid cell is eroded, the total value of the assets is lost, as well as its capacity to deliver production or service functions. These functions will be relocated

<sup>9</sup> IMDC-Tractebel-UNESCO/IHE-Vito (2017).



towards a non-specified place. These relocation costs (assets + relocation) are also considered in the dose-response function and the level of production and services is assumed to be lower in the new location. Furthermore, the original production and service values of the new location will be lost although in the case of Saint Louis, SERRP is going to relocate the people at risk but is going to try to maintain the area as a buffer. In other words, this area could be eventually saved.

18. Intangible damages to people include migration (number of people relocated) but does not include the burden of disease associated with the relocation as it is covered under Component 1.

19. The impact on ecosystems was derived from data from literature on the value of the ecosystem goods and services delivered by wetlands and mangroves and will be used as a (rough) indicator for the economic value of these lost systems.

20. The impact of sea level rise on permanent inundation of wetlands focuses on a specific impact on wetlands. Sea level rise may – in addition to (and to a larger extent than) impacts by erosion and floods – affect wetlands due to permanent inundation and salinization. As both impacts of inundation and salinization are difficult to assess and value, it will be limited to an assessment of ha of ecosystems potentially affected, (and only at the pilot site level).

21. As within the context of SERRP and due to time constraints, it is not possible to model these impacts and potential migration. In situ adaptation and preservation of mangrove forests can only be expected if the amounts of sediments transported from upstream allow for the bottom level in the lagoons to rise at the same rate as the sea level. This can only occur if the sea level rise is very gradual and if at the same time enough sediment transport can be guaranteed. The latter especially is not the case as the upstream Manantali dam (1988) and the downstream Diama Dam (1986) were built on the Senegal River.

22. The methodology foresees assessing in detail (ha grid cells) GDP/ha, as an indicator of the value of the assets and economy at risk. The method does not account for additional indicators, such as areas related to poverty, to assess ability to finance restoration or recovery from the impacts. Although indicators related to the share of poorer people are often used in assessment of vulnerability of impacts of flooding, it is not straightforward to include this in the methodology. Methods to assess damage reflect that damages are likely to be lower (*ceteris paribus*) in areas with fewer or less valuable assets and the latter may also reflect the presence of more poor and vulnerable households.

23. The methodology does not include morbidity and premature death from erosion as people usually avoid being caught in this phenomenon unlike flooding and storm surges which take a toll on victims.

24. The following Table synthesizes the dose-response function by area and only the lower figure used for Saint Louis is a mid-point between Sub-urban 2 and Urban 3 as it is the most representative of an urban coastal zone with low income: US\$130,524 per ha over 32 ha including the 6 ha for the already displaced 200 families.



Table AV.4: Damage functions for Erosion in Saint Louis

Land use Descript.	Direct	Indirect 1			Indirect 2	Total
	Relocation	GDP/ha	Factor	Ind. Cost 1	Ind. Cost 2	
	(1)	(2)	(3)	(4)	(5)	(6)
	\$/ha	\$/ha/year	%	\$/ha	\$/ha/year	\$/ha
Damage functions for Erosion considered for Saint Louis						
Sub Urban 2	46,813	32,911	84%	28,372	6,120	81,305
Urban 3	108,104	76,001	84%	65,518	6,120	179,743
<b>Mid-point</b>						<b>130,524</b>
Damage functions for Erosion considered for coastal areas						
Rural 1	383	269	84%	232	6,120	6,736
Rural 2	1,534	1,079	84%	930	6,120	8,584
Rural 3	3,068	2,157	84%	1,860	6,120	11,048
Rural 4	1,654	269	84%	232	6,120	8,007
Rural 5	2,805	1,079	84%	930	6,120	9,855
Rural 6	4,338	2,157	84%	1,860	6,120	12,319
Rural 7	28,093	269	84%	232	6,120	34,446
Rural 8	29,243	1,079	84%	930	6,120	36,294
Rural 9	30,777	2,157	84%	1,860	6,120	38,757
Sub Urban 1	18,725	13,165	84%	11,349	6,120	36,194
Sub Urban 2	46,813	32,911	84%	28,372	6,120	81,305
Urban 3	108,104	76,001	84%	65,518	6,120	179,743
Urban 4	172,967	121,601	84%	104,829	6,120	283,916
Urban 5	259,451	182,402	84%	157,243	6,120	422,814
Peri Urban 6	60,289	13,165	84%	11,349	6,120	77,758
Peri Urban 7	88,377	32,911	84%	28,372	6,120	122,869
Urban 8	163,523	76,001	84%	65,518	6,120	235,162
Urban 9	228,386	121,601	84%	104,829	6,120	339,335
Urban 10	314,869	182,402	84%	157,243	6,120	478,232
Quarry	10,411	42,720	84%	36,828	6,120	53,359
Port	104,106	126,802	84%	109,312	259,560	472,979
Transport	104,106	126,802	84%	109,312	6,120	219,539
Services	114,827	139,860	84%	120,569	6,120	241,517
Industry	104,106	126,802	84%	109,312	6,120	219,539
Other natural area	-	-		-	-	-
Urban Park	-	-		-	-	-
Wetlands	-	2,980		2,569	-	2,569
Wetlands	581	-	84%	-	3,060	3,642
Mangroves	-	11,465		9,883	6,120	16,004
Water						
Military						

Note:

(1) Direct costs of relocation = Total value of the assets per ha

(2) GDP/ha/year

(3) Indirect losses (productivity losses) as % of GDP/year /ha



- (4) Indirect costs 1 = (2) x (3).
- (5) Indirect costs 2 = loss of values in relocated area
- (6) Total damages due to erosion

25. Component 3 Flooding – The methodology builds on the one developed under WACA for Benin, Cote d’Ivoire, Ghana and Togo.

26. For direct tangible damages to assets (e.g., buildings, infrastructure), damages reflect restoration costs, and are mainly dependent on flood depth. In addition, indirect tangible damages include losses of stocks, and losses due to interruption of production of goods or services (e.g., transport).

27. Both direct and indirect tangible damages can be expressed in monetary terms and depend on the values at risk and their vulnerability. Damage functions specify the percentage loss of the total value of an asset at risk, in function of flood characteristics (the flood depth, the duration, the water speed). These characteristics are part of the hazard assessment and a conservative stance was adopted by using 24%. Damage functions for direct damages are more certain compared to those for indirect losses, as the latter also depend on the duration of a flood event which was set at once per year.

28. The generic method used builds on the results of the more detailed models and uses average damage functions that are applied to values at risk, expressed as \$/ha, sometimes different for the different land use categories (residential, industry, services, agriculture, etc.).

29. Tangible assets are identified by using the GDP per ha, which is both an indicator for the assets at risk (buildings) and the impact on economic activities. GDP/ha can be estimated based on data for local GDP/capita and population density. The value of the total assets at risk can be estimated using a generic indicator for the ratio assets/GDP from literature (Hallegatte et al., 2013 and Hinkel et al., 2014). These methods are used in more generic studies, e.g. at the level of a continent or worldwide.

30. Intangible damages include risks to people (casualties, health impacts, and migration) and risks for ecosystems or cultural goods. As it is not possible or much more difficult to value these damages in monetary terms, the exposure assessment focusses on estimating the quantities at risk (number of people or ha at risk).

31. People at risk. There are some damage functions available for fatal risks, but they are more uncertain compared to those for tangible damages. There are no damage functions available for other casualties or health impacts, although evidence suggests that these may be important. The impact on fatal victims can be expressed in monetary terms using indicators for the value of a statistical life, but these are more uncertain and controversial compared to these for tangible goods.

32. Ecosystems. Compared to buildings, there is little information on damage functions for impacts of floods on ecosystems.

33. For freshwater wetlands, some information on damage functions is available, that can be used to estimate the impact on ecosystems goods and services. However, compared to impacts on the economy, this estimate is much more uncertain. Freshwater ecosystems are in any case not very likely to be affected by coastal flooding or erosion. In the coastal zone, freshwater and marine influences meet, resulting in a gradient from saline to brackish conditions. Purely freshwater conditions can occur only during periods of strong river floods, and even in that case only in the upper reaches of the coastal zone.



34. Table A5.5 synthesizes the flood dose-response function for the area used for Saint Louis which is Urban 3 at 24% flooding time as it is the most representative of an urban coastal zone with low income: US\$39,311 per ha over 161 ha.

Table AV.5: Damage functions for Floods, long duration for Saint Louis (e.g. several days)

Area	Total Asset Value/ha	Water depth in meter									
	\$/ha	0	0.5	1	1.5	2	3	4	5	6	
<b>Damage functions for Flooding considered for Saint Louis</b>											
<b>Urban 3</b>	<b>39,311</b>	<b>at 24%</b>									
<b>Damage functions for Flooding considered for coastal areas</b>											
Rural 1	581	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 2	2,324	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 3	4,648	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 4	2,506	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 5	4,249	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 6	6,573	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 7	42,564	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 8	44,308	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Rural 9	46,632	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Sub Urban 1	28,372	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Sub Urban 2	70,929	0%	24%	42%	58%	70%	90%	99%	100%	100%	
<b>Urban 3</b>	<b>163,794</b>	0%	<b>24%</b>	42%	58%	70%	90%	99%	100%	100%	
Urban 4	262,071	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Urban 5	393,107	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Peri Urban 6	91,347	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Peri Urban 7	133,904	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Urban 8	247,762	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Urban 9	346,039	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Urban 10	477,075	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Quarry	26,026	0%	5%	19%	30%	37%	50%	50%	50%	50%	
Port	260,266	0%	9%	38%	60%	74%	100%	100%	100%	100%	
Transport	260,266	0%	54%	86%	100%	100%	100%	100%	100%	100%	
Services	287,068	0%	57%	81%	99%	100%	100%	100%	100%	100%	
Industry	260,266	0%	9%	38%	60%	74%	100%	100%	100%	100%	
Other nature											
Urban Park											
Wetlands	109	5%	5%	5%	5%	5%	5%	5%	5%	5%	
Wetlands	581	0%	24%	42%	58%	70%	90%	99%	100%	100%	
Mangroves	2,792	5%	5%	5%	5%	5%	5%	5%	5%	5%	
Water	-										
Military	-										

35. Component 3 Early Warning System – Prevention of early warning systems in terms of loss of life, injuries, public infrastructure and damage to private construction and loss of opportunities. Data on Senegal exist for



floods and storms in the database of the Catholic University of Louvain but are incomplete. The World Bank has developed substantial expertise and leadership in the field of modernization of national meteorological and hydrological services. The World Bank's experience shows that there is a high degree of complexity in assessing the economic benefits of increased early warning, preparedness and response capacity. The main challenge is the lack of systematic recording of the damage / loss (physical and value) incurred by the economy, as well as the sectors and population of disaster-affected countries. Despite this, it is clear that the economic benefits of activities similar to those proposed in Component 2 are very high. Typically, the economic benefits of early warning vary from 1: 4 to 1:36 per US \$ and are broken down as follows: (i) avoid loss of assets due to natural disasters; (ii) save lives, reduce injuries and drownings as well as communicable diseases (cholera, vector, etc.) post disasters and; (iii) reduce the impact on the growth of economic activity in the short-long term. Alternatively, and still according to Hallegatte, 2012, based on available data and detailed surveys in each country, the estimated benefits of hydro-meteorological services would be between 0.09% and 0.35% of GDP. But in this case, the very conservative earnings-to-cost ratio considers doubling the initial capital investment costs in terms of profits where a ratio of 1: 2.1 from 2022 considered.

36. The Table below synthesizes the methods used to calculate SERRP benefits.

Table AV.6: Component and Sub-Component Benefits

Component and Sub-Component	Targeted People	Targeted Area	Methods to Calculate Benefit
Component 1 Urgent Relocation	1,915	6 ha	Change in Health in terms of YLD for morbidity with GDP/capita per YLD lost and the VSL for premature death
Component 2 Coastal Erosion/Relocation	1,915+9,158 = 11,073	32 ha	Erosion Dose-response in terms of GDP/ha based on: direct relocation cost in terms of value of assets per ha; indirect losses in terms of productivity losses as % of GDP/ha/year; and indirect cost in terms of loss of values in relocated area
Component 3 Coastal Flooding/ Resilience	55,000	161 ha	Flood Dose-response in terms of GDP/ha based on: direct tangible damages to assets, restoration cost and forgone income depending on water level (0.5 meter or a factor of water penetration of 24%) GDP/ha
Component 3 EWS	55,000		0.35% of GDP of the affected population
Involuntary resettlement			To be calculated during implementation
Income Generating activities			To be calculated during implementation: a 30% IRR is generally observed

**Results of the Benefit-Cost Analysis**

37. The economic analysis was based on the only quantifiable benefits accruing under Components 1, 2 and 3 as well as the project (Components 1 to 5 combined). Other potential benefits accruing under the contingent allocation under Component 4 are not yet quantifiable while Component 5 is the Project Implementation Unit. Whereas Component 1 meets the immediate needs of the disaster affected and displaced population by the recurring recent flooding and storm surge, Components 2 and 3 are meant to increase the resilience of vulnerable coastal beneficiaries by improving their capacity to face catastrophic events, reduce coastal erosion, contain flooding, and reverse the degradation of key ecosystem services along the coast while improving their livelihood.

38. The economic analysis was performed by using a 6% social discount rate based on the opportunity cost of capital and country risk over the project period as it is an emergency project. A sensitivity analysis was performed



under a pessimistic scenario (a 10% increase in economic costs over the base case, and an 8% discount rate) and an optimistic scenario (a 10% increase in benefits over the base case, and a 4% discount rate). In addition, project viability switch-off points for equal cost increment and benefit decrement, cost increment and benefit decrement were computed.

39. Table AV.7 summarizes the results of the economic analysis. Except for Component 1, Component 2, Component 3 and the project as a whole is viable under all three scenarios, with positive net present value (NPV) of US\$10.7 million as well as acceptable economic rate of returns (ERRs) of 18% and positive Present Value benefit-cost of 1.3 for the base case scenario. The project remains viable under the optimistic and the pessimistic scenarios. The project is more sensitive to a decrease in benefits than an increase in costs under all three scenarios. In all cases, the switch-off points require either significant increases in costs or significant decreases in benefits.

Table AV.7: SERRP Cost/Benefit, Sensitivity and Scenario Analysis Summary

Key economic Indicators	Component 1	Component 2	Component 3	Project		
	5 years discounted at:			5 years discounted at:		
Scenario	6% Base Case	6% Base Case	6% Base Case	4% Optimistic	6% Base Case	8% Pessimistic
<b>Cost/Benefit Analysis</b>						
NPV (US\$ million)	-3.0	6.6	8.7	11.8	<b>10.7</b>	9.7
ERR (%)	2%	20%	15%	18%	<b>18%</b>	18%
PV benefit/cost ratio	0.2	1.4	2.0	1.4	<b>1.3</b>	1.3
Viability	No	Yes	Yes	Yes	Yes	Yes
<b>Sensitivity Analysis</b>						
				<b>Benefit+10%</b>	<b>Cost+10%</b>	
NPV (US\$ million)				16.3	<b>10.7</b>	6.7
ERR (%)				19%	<b>18%</b>	16%
PV benefit/cost ratio				1.5	<b>1.3</b>	1.2
<b>Switch-off point</b>						
>cost = <benefit (±%)		± 15%	±34%	±19%	<b>±14%</b>	±9%
>cost (±%)		+35%	+103%	+48%	<b>+33%</b>	+20%
<benefit (±%)		-25%	-49%	-32%	<b>-25%</b>	-16%





## Reference

Banque mondiale. 2017. *Coût de la Dégradation et de la Restauration de l'Environnement Côtier, Marin et Maritime en Mauritanie : 2014*. Programme WACA. Washington, D.C.

Bassi, S. (IEEP), P. ten Brink (IEEP), A. Farmer (IEEP), G. Tucker (IEEP), S. Gardner (IEEP), L. Mazza (IEEP), W. Van Breusegem (Arcadis), A. Hunt (Metroeconomica), M. Lago (Ecologic), J. Spurgeon (ERM), M. Van Acoleyen (Arcadis), B. Larsen and, F. Doumani. 2011. *Benefit Assessment Manual for Policy Makers: Assessment of Social and Economic Benefits of Enhanced Environmental Protection in the ENPI countries. A guiding document for the project 'Analysis for European Neighbourhood Policy (ENP) Countries and the Russian Federation on social and economic benefits of enhanced environmental protection*. Brussels.

EM-Dat: The Emergency Events Database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir <[www.emdat.be](http://www.emdat.be)>, Brussels, Belgium.

Hallegatte, Stephane. 2012. *A Cost-Effective Solution to Reduce Disaster Losses in Developing Countries: Hydro-Meteorological Services, Early Warning, and Evacuation*. Policy Research Working Paper # 6058. The World Bank. Washington, D.C.

Hinkel, J., Lincke, D., Perrette, M., Nicholls, R.J., Tol, S., Mazeion, B., Fettweis, X., Ionescu, C., Levermann, A., 2014. Coastal flood damage and adaptation costs under 21st century sea-level rise, Proc. Natl. Acad. Sci. USA, 111(9), 3292–3297, doi:10.1073/pnas.1222469111.

Huizinga, J., Moel, H., Szewczyk, W., 2017. *Global flood depth-damage functions*. Methodology and the database with guidelines, additional information provided in excel worksheet.

IMDC-Tractebel-UNESCO/IHE-Vito. 2017. *Coût de la dégradation environnementale, évaluation du risque multi-aléas et analyse coût-bénéfice des solutions pour la zone côtière: D4b : Analyse du COCED pour le Togo*. Document préparé pour le Programme WACA et financé par le Banque mondiale, et le Nordic Development Fund. Washington, D.C.

International Monetary Fund. 2017. *Senegal Article IV*. Washington, D.C.

Lindhjem and Navrud. 2010. *Meta-analysis of stated preference VSL studies: Further model sensitivity and benefit transfer issues*. Prepared by Henrik Lindhjem, Vista Analyse, Norway, and Ståle Navrud, Department of Economics and Resource Management, Norwegian University of Life Sciences, Working Party on National Environmental Policies, OECD.

Rogers, David P., and Vladimir V. Tsirkunov. 2013. *Weather and Climate Resilience: Effective Preparedness through National Meteorological and Hydrological Services*. Directions in Development. World Bank, Washington, D.C.

World Bank. 2015. *Rapid Cost of Environmental Degradation. Togo*. Background Document for the Systematic Country Diagnostic. Washington, D.C.

World Bank. 2017. *World Development Indicators*. Washington, D.C.



## ANNEX V: Safeguard Action Plan

### COUNTRY : Senegal

#### Senegal - Saint-Louis Emergency Recovery and Resilience Project

1. The purpose of the Safeguards Action Plan (SAP) is to describe the safeguards-related actions to be carried out during implementation, per Paragraph 12 of the IPF Policy. It describes the sequencing and preparation time for safeguards instrument (World Bank review, clearance, and approval and disclosure steps) as well as implementation and supervision arrangements.
2. The proposed Saint-Louis SERRP is being prepared as an emergency operation triggered by a natural disaster which resulted in the loss of housing in parts of Saint-Louis, Senegal. The components under the Project that would trigger environmental and social safeguard polices are Component 1: Meeting Immediate Needs of the Disaster Affected Population, Component 2: Planned Relocation of Populations Living in the Highest Risk Zones in the *Langue de Barbarie*, and Component 3: Strengthening Urban and Coastal Resilience.
3. The proposed environmental assessment Category is “A” because the project involves significant resettlement (approximately 10,000 people) with major social impacts.
4. The project triggers four safeguard policies, including: OP 4.01 on Environmental Assessment, OP 4.04 on Natural Habitats (TBD), OP 4.11 on Physical Cultural resources in case of chance find and impacts on social, cultural, religious or historical assets; and OP 4.12 on Involuntary Resettlement. The proposed safeguards instruments to be developed and used under the project are (i) a Resettlement Action Plan for the temporary relocation of the displaced population (258 families); (ii) a Resettlement Action Plan for the permanent relocation of affected households (approximately 1000 families); (iii) an ESMF for microprojects to be financed by the project; and (iv) an ESIA (including ESMPs) for the permanent relocation of the affected families. The RAP and ESIA processes will provide an analysis of alternatives to the approach of the required interventions to minimize Environment and Social impacts, and guide the project team in the relocation site selection. The RAP for permanent relocation and the ESIA will only be able to be completed once the permanent relocation site has been finalized.
5. Phased Approach to the RAP: To ensure that all activities of the SERRP Project will be undertaken in accordance with World Bank social safeguards policies, ongoing social studies will cover both the temporary relocation of the displaced population and the permanent relocation of households affected by coastal erosion. The ongoing RAP will be delivered on a phased basis. Within this phased approach to the RAP, two deliverables will be prepared, approved and disclosed:
  - i. A RAP for temporary relocation to be completed by September 2018: several studies related to the temporary relocation have been initiated with financing from the PROGEP project. These include: (i) a Feasibility Study of various options for temporary relocation and design of a support program for the 258 displaced families; (ii) social facilitation activities to lead the participatory process with disaster affected families for input into the feasibility study and design of the temporary relocation program for the 258 families; (iii) surveys of the households (928) affected by the coastal erosion to obtain their socio-economic profile and ideas and opinions regarding the relocation. These studies which already included social issues will all feed into the preparation of the RAP for temporary



relocation. As the temporary relocation will be a transitory solution until a permanent housing solution is available, for an estimated period of two to three years, it will be necessary to ensure that during this period, they will be relocated in better conditions of living and will be also supported to maintain their livelihoods.

- ii. RAP for permanent relocation to be completed by November 2018: the socio-economic surveys of the PAPs mentioned above will be a first and inclusive step of the RAP for permanent relocation. These surveys will be a comprehensive evaluation of the affected persons including their social conditions (family type, size and composition), living modalities (*concession* concept versus households; owners, renters or squatters), livelihoods systems (type of activities, sources of revenues), assets (houses, rooms, etc.), the estimated losses, geographical relocation choices, nature of compensation (cash or nature if relevant) as well the choices of community structures. The surveys will seek to confirm the social acceptability of the host and resettled communities as well as the way to re-establish social networks which are an important aspect of this community. The results of this evaluation will be the base of preparing the RAP and implementing a sustainable resettlement process which will ensure livelihoods restoration through activities to be undertaken both under the SERRP project, and in coordination with the WACA project.

6. The ESIA will set out details of mitigation measures to manage potential environmental and social impacts and avoid, minimize, mitigate and/or compensate any adverse environmental and social impacts associated with the implementation of Project activities, including measures designed to prevent gender-based violence and sexual exploitation and abuse.

7. The ESMF will serve as a screening mechanism for future microprojects, ensuring that each microproject is screened, and mitigation measures included before the microproject receives funding.

8. As the project is being prepared under emergency procedures, the preparation of safeguard instruments has been deferred to project implementation. However, several preparatory activities have been initiated with financing from the PROGEP project. These include: (i) a Feasibility Study of various options for temporary relocation and design of a support program for the 258 displaced families; (ii) social facilitation activities to lead the participatory process with disaster affected families for input into the feasibility study and design of the temporary relocation program for the 258 families; (iii) surveys of the households (928) affected by the coastal erosion to obtain their socio-economic profile and ideas and opinions regarding the relocation; (iv) a study to identify and analyze potential permanent relocation sites, including design of development works and preparation of bidding documents for the selected option. These studies will all feed into the preparation of the safeguard instruments (RAP-temporary relocation, RAP-permanent relocation, ESIA, ESMF), which have also been initiated with financing from PROGEP.

9. Citizen Engagement and Social Facilitation Activities: The project explicitly seeks to support continued engagement and consultation with the beneficiary households living in the extremely hazard prone coastal zone of the *Langue de Barbarie*. Through consultative processes, engagement in local level planning and feedback mechanisms, the approach to coastal resilience and planned relocation will be elaborated and adjusted. Feedback mechanisms will be developed to ensure transparency, accountability and learning as well as a continuous dialogue with target beneficiaries and other stakeholders. Particular attention will be given during implementation to improve the capacity of the local and national structures to close the feedback loop and report on action taken to address concerns and issues.



10. Grievance Redress Mechanism (GRM): A GRM is a system whereby queries or clarifications about the project are responded to, problems with implementation are resolved, and complaints and grievances are addressed efficiently and effectively. To improve project outcomes, it will be important to set up a timely and results-oriented response system to communities' concerns. The resettlement process is complex, and it is rare for the entire population to agree with the criteria for accessing the solutions offered, with the quality of the solutions, or with the established requirements. The GRM operated by the ADM will be in place to allow all project-affected beneficiaries to submit complaints and receive timely feedback and resolution of issues. In order to create trust between ADM, local Government and affected communities, and acceptance of planned relocation, a public awareness program through the Citizen Engagement component will be developed. It will inform about the project activities and provide practical suggestions/feedback that allows for a more transparent implementation, better responsiveness to beneficiaries, increasing involvement of stakeholders' and most importantly, capturing implementation issues before they become more serious and/or widespread. A social safeguards consultant and a social facilitation firm will be recruited for the SERRP project and they will be key actors for the implementation of the GRM during both the temporary and permanent relocation. The firm will help to conduct awareness programs through community radio and direct information to beneficiaries.

11. A harmonious relationship among individuals who will participate in the relocation program and the entities involved means that any problem arising must be resolved in a timely manner rather than become a dispute. Therefore, from the launch of the planned relocation program, it is essential to have a system in place for timely handling of complaints and claims. A complaint arises when an individual seeks to have a problem resolved; and a claim arises either when an individual fails to receive an expected service or benefit, or has concerns about the quality of what was received. ADM will set up a system that allows all project-affected beneficiaries to be able to submit complaints and receive timely feedback and resolution of issues. A grievance registration form will be prepared by them and widely publicized in project sites (*Langue de Barbarie, Khar Yalla, Djougop*, etc.). A mediation committee (called monitoring committee) constituted by concerned stakeholders (ADM, ARD, Commune representative, ACP representatives, CSO, women association, social facilitation firm, etc.) will be put in place in the affected municipalities (Saint Louis and Gandon). The committee will meet twice a month or when needed.

12. The monitoring committee chaired by ADM will assess all the complaints and prepare the technical elements for its timely resolution, including but not limited to the proposed resolution or compensation, the list of interviews, the exact reason of the complaints. All complaints will be addressed within a seven-day period. The GRM provides two additional uptake points: (i) through community monitoring which will look at the grievances collected by ADM in proposed sites, through what channels they are received (letters, emails, phone messages, website, etc.), and how they are sorted, prioritized, categorized and processed; and (ii) At the national level through the national courts, if the complaints cannot be resolved by monitoring committee. The ADM representative who will assume the secretary of the committee will document the grievances and maintain a database to monitor the type of complaints and their timely resolution, in order to track and record all received Grievances. A report will be prepared annually. The Results Framework will also monitor percentages of addressed grievances.

13. Multiple Government agencies including ADM and municipal authorities (Municipality of Saint-Louis/ADC and ARD) will be involved in the implementation of the project with different capacities in World Bank safeguards policies. Given this institutional arrangement, the ADM will take the lead in implementing safeguards. In addition, ADM will recruit the services of full time environmental and safeguards specialists to help to support the team during implementation. Training will also be provided for ADM during implementation. During project



preparation, ADM will have dedicated safeguards personnel and consultants to help in the preparation of the TORs and reviews of the safeguards studies. The ADM safeguards specialists will co-ordinate the activities of each implementing partner to ensure that the relevant studies are carried out and implemented in accordance with both the World Bank and GoS environmental guidelines and policies.

14. No works will be undertaken until a) all safeguards documents have been approved by the World Bank, consulted with PAP and disclosed; and b) the GRM is in place. The table below summarizes the work plan for addressing safeguard requirements of the project.

*Table V-1: Safeguards Action Plan*

<b>Instrument/Action</b>	<b>Explanation/Procedures</b>	<b>Deliver/Not later than</b>
Launch recruitment process for the two safeguards specialists	ADM to hire two safeguard specialists to be based in Saint Louis increase their capacity.	Prior to Project Effectiveness
Draft TORs for ESMF, ESIA, and RAPs	- Client drafts, Bank reviews and provides clearance; Client uses TOR to initiate Expression of Interest (EoI) and contracting of consultants	ESMF: June 2018 ESIA: Done RAPs: Done
ESMF	- Prepare, adopt and disclose the ESMF	November 2018
ESIA including ESMP	- Prepare, adopt and disclose the ESIA including ESMP	November 2018
RAP for temporary relocation	- Prepare, adopt and disclose the RAP for temporary relocation	September 2018
RAP for permanent relocation	- Prepare, adopt and disclose the RAP for permanent relocation	November 2018
Client to adopt and implement the ESIA/ESMPs and RAPs prior to any works to monitor the social and environmental aspects of the ESMF		Before construction activities commence
Grievance Redress Mechanism	Establish and operationalize a grievance redress mechanism, specifically for relocation and resettlement activities.	To be established before Project Effectiveness
Safeguards capacity building	Safeguards trainings and support to all implementing partners.	To be done before and during implementation stages



**ANNEX VI: Summary of Studies to Respond to the Saint Louis Coastal Erosion/Urban Resilience Challenges**

**COUNTRY : Senegal**

Senegal - Saint-Louis Emergency Recovery and Resilience Project

1. The table below details the list of ongoing and forthcoming studies to be completed by WB financed projects and development partners in response to the coastal erosion and urban resilience challenges in Saint Louis.

Table VI-1 Funded studies for Saint-Louis (SERRP, PROGEP, WACA, AFD)

Component	Study	Source of funding	Start	Duration
<b>Component 1</b> Meeting the Immediate Needs of the Disaster Affected Population	Feasibility study for the design of the temporary relocation of the displaced families	PROGEP	February 2018	4 months
	Social facilitation for the design of the temporary relocation program for displaced families	PROGEP	February 2018	4 months
<b>Component 2</b> Planned relocation of Populations living in the highest risk zones in the Langue de Barbarie	Study for the Identification, analysis and design of potential resettlement sites	PROGEP	January 2018	5 months
	Design and implementation of the citizen engagement and social support strategy	SERRP and WACA	May 2018	5 years
	Design for the development of the relocation site	PROGEP	May 2018	6 months
	Design of the permanent housing for the population affected by coastal erosion	SERRP	June 2018	4 months
	Development of a strategy for modalities of housing allocation to complement the RAP	SERRP	April 2018	4 months
	Development of the Environmental and Social Impact Assessment study (ESIA)	PROGEP	February 2018	11 months
	Development of the Resettlement Action Plan (RAP)	PROGEP	February 2018	11 months
	Development of an Environmental and Social safeguards framework (ESMF)	PROGEP	February 2018	11 months
<b>Component 3</b> Strengthening Urban and Coastal Resilience	Technical Design of a “temporary/emergency” dyke along the Langue de Barbarie Environmental and Social Impact Assessment study Social facilitation	AFD (parallel financing)	March 2018	8 months
	Design of the Reclamation of the liberated area along the Langue de Barbarie	SERRP	2019	6 months
	Design of coastal risk management sustainable solution to protect the Langue de Barbarie shoreline (Egis and Deltares firms)	SERRP	June 2018	18 months





	Development of the Drainage Master plan for Saint-Louis (Egis and Deltares firms)	SERRP	2019	1 year
	Development of a Local Early warning system and community response Plan	SERRP	2018	1 year
	Sustainable cities Diagnostic study for Saint-Louis city	PROGEP	2018	1 year
	Development of the Urban Master plan for Saint-Louis	PROGEP	2018	1 year
	Development of two detailed Urban Master Plans on the Langue de Barbarie	PROGEP	2018	18 months
	Development of a Hydrodynamic and sedimentary transfer modeling for the Saint-Louis delta (EGIS and Deltares firms)	PROGEP	2018	18 months
	Promotion of an intercommunal cooperation for sustainable cities including climate resilience aspects	PROGEP	2016	4 years
	Development of an integrated territorial GIS for Saint-Louis	PROGEP	2019	1 year
	Development of the institutional and technical capacity building plan	SERRP	2019	1 year
	Development of an Urban Resilience Plan for the city of Saint-Louis	SERRP	April 2020	7 months
	Development of a Disaster Risk Financing framework to guide housing reconstruction and/or relocation for households affected by disaster	SERRP	2019	1 year



