

## PROJECT INFORMATION DOCUMENT (PID) ADDITIONAL FINANCING

Report No.: PIDA23006

<b>Project Name</b>	Additional Financing - Stormwater Management and Climate Change Adaptation Project (P152150)
<b>Parent Project Name</b>	Stormwater Mgt. and Climate Change Adaptation Project (P122841)
<b>Region</b>	AFRICA
<b>Country</b>	Senegal
<b>Sector(s)</b>	Flood protection (60%), General water, sanitation and flood protection sector (40%)
<b>Theme(s)</b>	Climate change (30%), Natural disaster management (30%), Other urban development (20%), Other environment and natural resources management (20%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P152150
<b>Parent Project ID</b>	P122841
<b>Borrower(s)</b>	REPUBLIC OF SENEGAL
<b>Implementing Agency</b>	Municipal Development Agency
<b>Environmental Category</b>	A-Full Assessment
<b>Date PID Prepared/Updated</b>	12-Mar-2015
<b>Date PID Approved/Disclosed</b>	20-Mar-2015
<b>Estimated Date of Appraisal Completion</b>	03-Mar-2015
<b>Estimated Date of Board Approval</b>	28-May-2015
<b>Appraisal Review Decision (from Decision Note)</b>	The review did authorize the team to appraise and negotiate

### I. Project Context

#### Country Context

Senegal covers a land area of 197,000 km<sup>2</sup> and has a very unevenly distributed population of about 12.7 million. The climate is tropical with two seasons: the dry season (October to May) and the rainy season (June to September). Dakar, its capital city, is located at the westernmost tip of the country on the Cap-Vert peninsula.

The country is increasingly urbanized with more than 42% of the population living in cities and notably in the Dakar Metropolitan Area. The region of Dakar covers only 0.3 % of the national territory but hosts about 2.7 million (24 %) of the national population and concentrate 80 % of economic activities. The annual urban population growth rate is estimated at 3%. The city's

infrastructure, built to accommodate 300,000 people, is over-stretched. Over 90% of the population in peri-urban Dakar (Pikine and Guédiawaye) lives in areas classified as slums or spontaneous settlements.

Natural disasters such as floods, droughts and storm surges have been increasingly noted and climate change is expected to increase the extremes of weather patterns and natural hazards in the country (e.g. sea-level rise, coastal erosion, etc.). They are exposing both the urban and rural poor to stress and poverty. The vulnerability of Senegal to natural disasters and climate change related changes is largely linked to its 700 km coastline largely open to the Atlantic Ocean, its latitudinal position which is in a transition zone between the Sahelian climate and the Guinean climate which causes significant rainfall variations within the country, and the existence of two major river systems which results in potentially high groundwater levels during the rainy season. The country ranks 9th in the world for with the largest share of its urban population living in low elevation coastal zones (Dakar, Saint Louis, Thies, Matam, Kaolack, Diourbel, Kolda, Kaffrine and Tambacounda). This physical vulnerability is exacerbated by a low economic development with GDP per capita of US\$1,900 in 2010, limited capacity to create permanent and more sustainable jobs, low agriculture production, inadequate resource allocation for urban and social services, and a general land-use planning failure.

### **Sectoral and institutional Context**

Recurrent stormwater flooding is the most serious natural hazard Senegal has been facing over the last three decades. From 1980 to 2008, floods have affected an estimated 400,000 to 600,000 people a year and caused significant damage on infrastructure, public equipment and private property along with economic losses. In 2009, heavy rainfall once again caused serious flooding in Senegal, particularly in Dakar but also in the rest of the country. According to Government figures about 360,000 people were directly affected. A Post Disaster Need Assessment (PDNA) assessed the cost of the 2009 flooding in Senegal at USD 104 million, including almost 56 million for damages and 48 million for losses. The peri-urban areas of Dakar were the most affected, with the cost of flooding estimated at 82 million USD.

Urban floods are recurrent in Dakar, and are caused not only by heavy rains but by unplanned urbanization, the lack and/or obstruction of drainage systems and rising groundwater according to the PDNA. In 2009, the rainfalls that caused the floods were above average, but not exceptional. Most of the flood prone areas were urbanized during the drought period and a recent study financed by GFDRR (Preparing to Manage Natural Hazards and Climate Change Risks in Dakar, Senegal) highlighted that almost 40% of new population in the peri-urban Dakar has settled in areas with significant hazard potential especially inland flooding. Because of the absence of the drainage system or lack of maintenance, and the obstruction of natural drains by urbanization, the water can no longer be evacuated. The level of groundwater rises because it can no longer be used for water supply, aggravating the vulnerability

Many stakeholders are involved in stormwater management but without clear roles and responsibilities and no lead agency responsible for overall consistency. The principal sectoral ministries and actors that are involved in stormwater management are the ministries in charge of urban planning, interior, decentralization, housing, water, urban sanitation, environment as well as the municipalities and inter-communal bodies. A national committee for flood protection was established in 2010 aiming to guide and coordinate flood related activities.

With regards to the issue of urban planning, there are many planning documents and technical and regulatory instruments (“Code de l’urbanisme”, Strategic Urban Plan, Urban Master Plans, Local Detailed Urban Plans and Construction Plans) but none of them has succeeded in improving the planning and management of the rapidly increasing urban centers. For instance, the Urban Master Plan of Greater Dakar (PDU, 2006) is hardly implemented for proper spatial evolution in the region. The Master Plan for Urban Planning and Preservation of the Niayes and the Green Zones of Dakar (PDAS, 2004) has not played its role yet, in terms of overall urban planning and preservation of urban wetlands. With respect to the issue of the building code, Senegal has a Code of Urban Planning (Loi N° 88-05 du 20-06-1998) which regulates the construction standards and has to be reviewed in an effort to integrate hazard aspects in building construction.

The key sector challenges relate to (i) the disconnect and lack of integration with other sub-sectoral issues (e.g. wastewater and sanitation, solid waste, urban roads, disaster risk management, etc.); (ii) unclear and non-functional institutional mandates regarding infrastructure ownership and responsibility for operation and maintenance at national and local level; (iii) inadequate or inexistent funds and budget for control and enforcement of regulations as well as infrastructure developments and operation and maintenance of urban services; and (iv) municipalities and inter-communal entities with insufficient capacity.

In peri-urban Dakar, flooding has become a recurrent reality since the devastating floods in 2005. There, flooding is a result of a combination of increasing rains, lack of an efficient stormwater drainage system, rising groundwater, uncontrolled urban sprawl and the occupation of depressions and wetlands areas. Paradoxically, the drought in recent decades is partly responsible for the flooding, because most of the flood prone areas were urbanized during this period. Although the rains that caused the floods during the last decade were not exceptionally heavy, climate change and variability may probably make flood risks worse through more frequent and severe extreme-weather events, sea level rise and stronger storm surges.

The PDNA, concluded that it was critical to address the underlying causes of the recurrent floods and outlined a medium and long-term strategy for flood risk reduction, based on a combination of structural and non-structural measures. The priority actions identified in the PDNA include: (i) preparing a master plan for stormwater drainage as planning tool for spatial and temporal interventions; (ii) establishing a primary drainage system for stormwater in priority areas of the periphery of Dakar; and (iii) supporting prevention and mitigation through appropriate urban planning and flood risk mapping, strengthening of flood disaster risk management mechanism and improved awareness and education efforts of affected communities. The proposed project is supporting the implementation of the PDNA priority actions.

## **II. Proposed Development Objectives**

### **A. Current Project Development Objectives – Parent**

The proposed project will improve stormwater drainage and flood prevention in peri-urban Dakar for the benefit of local residents.

### **B. Proposed Project Development Objectives – Additional Financing (AF)**

To improve flood prevention management in peri-urban areas of Dakar and to promote city sustainability management practices, including climate resilience, in two selected urban areas

### **III. Project Description**

#### **Component Name**

Component A. Integration of climate risks in urban planning and management

#### **Comments (optional)**

will comprise three sub-components: (i) Urban planning and management aiming to integrate stormwater flood risks into local and national urban planning and management tools to ensure short- and medium-term flood prevention and decreased vulnerability; (ii) Institutional strengthening of national government departments and municipalities of greater Dakar, Diamniadio and Saint Louis through development and implementation of a module-based training program to address flood risk management and urban climate change adaptation; (iii) Piloting sustainable cities through climate resilience measures.

#### **Component Name**

Component B. Drainage investments and management

#### **Comments (optional)**

(i) Drainage infrastructure investments, and (ii) Operation and maintenance of drainage systems. The component aims to establish a primary (and in some areas secondary) drainage system in the districts of Pikine and Guédiawaye; to be done in two investments phases and to ensure its effective operation and maintenance through clear institutional responsibilities and adequate financial, technical and human capacity. The first priority investment tranche compliant with the Drainage Master Plan under preparation, will cover 3 sites (Dalifort, Wakhinane Nimzat and Niety Mbar, Bagdad and Keur Massar Village).

#### **Component Name**

Component C. Community engagement in urban flood-risk reduction and adaptation to climate change

#### **Comments (optional)**

Component C will comprise two sub-components: (i) Flood resilience awareness, communication and community capacity-building, and (ii) Flood risk-reduction sub-projects. The component aims to increase local and national awareness of flood prevention and adaptation measures and to engage municipalities, local residents, associations and support groups within Pikine and Guédiawaye in the project supported preventive measures and responses to reduce the risk of recurrent floods. The component will develop an information, education and communication (IEC) strategy and media support tools targeting national as well as local stakeholders focusing on storm water management and flood prevention, preparedness and response and awareness raising promoting stronger resilience.

#### **Component Name**

Project coordination, management, monitoring and evaluation

#### **Comments (optional)**

will comprise two sub-components: (i) Project coordination and management, and (ii) Monitoring and evaluation. It aims to provide efficient and effective management support for project implementation and monitoring and evaluation. The project has been shortlisted as candidate for a Bank-internal impact evaluation process and adequate resources will be made available. This will be achieved by supporting the MDA with adequate technical and fiduciary staffing, operational support and equipment and guided by a detailed project implementation manual and M&E plan.

### **IV. Financing (*in USD Million*)**

Total Project Cost:	38.00	Total Bank Financing:	35.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
BORROWER/RECIPIENT			3.00
International Development Association (IDA)			35.00
Total			38.00

## V. Implementation

### Institutional Context

The main governmental executing institutions are the Ministry of Urbanism, Habitat, Water and Sanitation (through its Directorate of Urban Sanitation, DAU and National Sanitation Office, ONAS), and the Ministry of Decentralization and Local Governments (through its MDA, CADAK-CAR and municipalities) and the Ministry of Interior through the Civil Protection Directorate and the National Unit of Firefighters. The municipalities are closely involved in the urban flooding issue and stormwater management but lack resources and capacity, despite the transfer of responsibilities in the areas of stormwater, health and environmental management (as stated by the sectoral policy letter on sanitation). The recently approved institutional and financial sustainability study on the stormwater and sanitation sector recognized the leading role of the National Office for Sanitation.

Other relevant stakeholders to be coordinated include the Road Works Agency (AGEROUTE), the JAXAAY plan, the National Agency for the Promotion of Investment in Major Works (APIX) and NGOs such as ENDA Tiers Monde, the International Federation of Red Cross (IFCR). UN agencies contribute also to mitigate the impact of floods when they occur. Other local stakeholders on the ground include local associations, local flood committees, traditional leaders and entrepreneurial groups.

Addressing issues such as institutional clarity of the stormwater sector development, its financial sustainability as well as structuring and strengthening capacities of the main actors and stakeholders is critical for the success of the project. Hence, an institutional and financial sustainability study is being carried out and should lead, following consultations with key stakeholders and decision makers during the first two years of implementation, to important sectoral recommendations and reforms by the Mid Term Review of the project to be implemented over the rest of the project implementation period.

### Project Implementation and Management Structure

The following institutional arrangements have been agreed upon, taking account of the priority nature and strategic importance of the project, the institutional context and issues as outline above, and the still limited capacity of the municipalities 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.

**Project oversight.** The management committees' composition will be updated to included new key actors, but the Project's institutional arrangements will remain mostly unchanged. The Steering Committee (SC) will remain with the responsibility of overseeing the implementation, ensuring policy support and providing orientation taking into account national relevant strategies and programs, and related ongoing projects; it will be chaired by the Minister of sanitation. The

Technical Committee (TC) will continue providing technical support to the implementing entities through reviewing of studies, participation in regular monitoring of the activities and information sharing. The Municipal Development Agency (MDA) will also remain the project coordinating entity holding the overall fiduciary responsibility, except for procurement of sub-component B.2, and the mandate to execute civil works under component B on the basis of agreements entered with the beneficiary communes. The institutional arrangements will be formalized through cooperation agreements specifying the responsibilities of the project stakeholders with regard to the annual work plan and budget and expected outcomes. Donors will be permanent observers of the SC. Other observers such as local authorities, donors, and experts may be invited to attend the SC meetings as required. The SC will meet twice a year and on an ad hoc basis when required. To facilitate the work of the SC, the MDA will function as the secretariat.

The SC is assisted by a large Technical Committee (TC) to provide review of key project studies, monitoring of implementation activities and to ensure multi-sectoral participation in the project's activities. The TC will meet on an ad hoc basis when required and MDA will function as the secretariat. During appraisal, the modalities (members and tasks) of the SC and TC will be reassessed.

Project coordination and monitoring. MDA will be responsible for the overall coordination of the project. In particular, MDA will ensure donor coordination, which will be a key element of a sustainable multi-year programmatic approach. It will also work in coordination with the two beneficiary municipalities and the other relevant ministries and agencies involved in the storm water and drainage sector. MDA will: (i) monitor and evaluate the overall project implementation and provide regular consolidated reports on progress to the SC (and if needed to the TC) and the World Bank; (ii) assure steady progress in accordance with an implementation schedule reviewed and approved by the World Bank; (iii) monitor the contract obligations of the ISC and ensure adequate and smooth transfer of skills to national staff (MDA and municipalities); monitor the contract obligation of the NGO/consultant firms for implementation of the participatory pilot projects under sub-component C.2.; and (iv) ensure the maintenance of a high ethical standard and transparency. As mentioned above, MDA will also serve as the secretariat of the SC and the TC.

Project management and implementation. Based on lessons learned from the implementation of the project, MDA will remain the principal implementing and coordinating agency with the fiduciary (procurement and financial) and safeguard responsibilities except for sub-component B.2. However, as revealed by the project funded institutional and financial sector assessment and agreed by the stakeholders, the National Office for Sanitation (ONAS) is the national entity in charge of the Operation and Maintenance (O&M) of stormwater drainage and public sanitation infrastructures; it will therefore take the lead of the sub-component B2, including procurement responsibilities, for sustainability matters. The Directorate of Urbanism and Architecture (DUA) will be in charge of capacity building and national studies (codes, standards) activities under component A and C in collaboration with municipalities, including the promotion of sustainable cities program. DGPU for Diamniadio and the City of Saint-Louis will be entrusted with the execution of work plans under the new sub-component A3. Further, all the participating local governments will also carry out activities that are not complex (ensuring communities engagement, sensitization, etc.) and lead/organize institutional discussions on the tools (planning and designing of services, waste management, etc.) the project will support to their own benefit.

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	<b>x</b>	
Natural Habitats OP/BP 4.04		<b>x</b>
Forests OP/BP 4.36		<b>x</b>
Pest Management OP 4.09		<b>x</b>
Physical Cultural Resources OP/BP 4.11	<b>x</b>	
Indigenous Peoples OP/BP 4.10		<b>x</b>
Involuntary Resettlement OP/BP 4.12	<b>x</b>	
Safety of Dams OP/BP 4.37		<b>x</b>
Projects on International Waterways OP/BP 7.50		<b>x</b>
Projects in Disputed Areas OP/BP 7.60		<b>x</b>

**Comments (optional)**

## VII. Contact point

### **World Bank**

Contact: Maman-Sani Issa

Title: Senior Environmental Specialis

Tel: 5352+4117

Email: missa1@worldbank.org

Contact: Isabelle Celine Kane

Title: Disaster Risk Management Speci

Tel: 5352+4115

Email: ikane@worldbank.org

### **Borrower/Client/Recipient**

Name: REPUBLIC OF SENEGAL

Contact: Ministry of Economy and Finance

Title: Minister of Economy and Finance

Tel: 221338221267

Email:

### **Implementing Agencies**

Name: Municipal Development Agency

Contact: Mouhamedou Kabir Sow

Title: Director General

Tel: 221338492710

Email: dg.adm@orange.sn

**VIII. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>