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Report No: PAD2491

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF EUR 111.4 MILLION  
(US\$125.0 MILLION EQUIVALENT)

(INCLUDING US\$112.84 MILLION EQUIVALENT FROM THE SCALE-UP FACILITY)

TO THE

REPUBLIC OF SENEGAL

FOR A

SENEGAL MUNICIPAL SOLID WASTE MANAGEMENT PROJECT

February 12, 2020

Urban, Disaster Risk Management, Resilience and Land Global Practice  
Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2019)

Currency Unit = CFA Franc (CFAF)

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CFAF 584 = US\$1

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EUR 0.89 = US\$1  
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FISCAL YEAR

January 1 – December 31

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**ABBREVIATIONS AND ACRONYMS**

AECID	Spanish Agency for International Cooperation and Development ( <i>Agence Espagnole de Coopération Internationale et de Développement</i> )
AFD	French Development Agency ( <i>Agence Française de Développement</i> )
CIVD	Waste Treatment and Disposal Facility ( <i>Centre Intégré de Valorisation des Déchets</i> )
CM	Procurement Commission ( <i>Commission des Marchés</i> )
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
CRC	Recycling Center ( <i>Centre de Regroupement et de Commercialisation</i> )
CRP	City Resilience Program
CTT	Waste Sorting and Transfer Facility ( <i>Centre de Tri et de Transfert</i> )
DBFO	Design-Build-Finance-Operate
DEEC	Department of Environment and Classified Establishments ( <i>Direction de l'Environnement et des Etablissements Classés</i> )
DFIL	Disbursement and Financial Information Letter
DLI	Disbursement-Linked Indicator
DLR	Disbursement -Linked Result
E&S	Environmental and Social
EEP	Eligible Expenditure Program
EIB	European Investment Bank
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EU	European Union
FM	Financial Management
GBV	Gender-based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
ICT	Information and Communication Technology
IFC	International Finance Corporation
IFR	Interim Financial Report
IPF	Investment Project Financing
IRR	Internal Rate of Return
IsDB	Islamic Development Bank
LRP	Livelihood Restoration Plan
M&E	Monitoring and Evaluation
MULHP	Ministry of Urbanism, Housing and Public Sanitation ( <i>Ministère de l'Urbanisme, du Logement et de l'Hygiène Publique</i> )



NGO	Nongovernmental Organization
NPF	New Procurement Framework
NPV	Net Present Value
O&M	Operation and Maintenance
PAP	Project-affected Person
PDO	Project Development Objective
PGDSU	Sustainable Urban Solid Waste Management Project ( <i>Projet de Gestion Durable des Déchets Solides Urbains</i> )
PMU	Project Management Unit
POM	Project Operations Manual
POP	Persistent Organic Pollutant
PP	Procurement Plan
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PRN	Standardized Waste Collection Center ( <i>Point de Regroupement Normalisé</i> )
PSE	National Development Plan ( <i>Plan Sénégal Emergent</i> )
RAP	Resettlement Action Plan
RBF	Result-based Financing
RPF	Resettlement Policy Framework
SC	Steering Committee
SCD	Systematic Country Diagnostic
SPN	Specific Procurement Notice
STEP	Systematic Tracking of Exchanges in Procurement
SW	Solid Waste
SWM	Solid Waste Management
SYSCOHADA	West African Accounting System ( <i>Système Comptable Ouest Africain-Organisation pour l'Harmonisation en Afrique du Droit des Affaires</i> )
TA	Technical Assistance
TC	Technical Committee
TEOM	Solid Waste Management Tax ( <i>Taxe d'Enlèvement des Ordures Ménagères</i> )
TTL	Task Team Leader
UCG	SWM Coordination Unit ( <i>Unité de Coordination de la Gestion des déchets solides</i> )
UNDB	United Nations Development Business



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DATASHEET

**BASIC INFORMATION**

Country(ies)	Project Name	
Senegal	Senegal Municipal Solid Waste Management Project	
Project ID	Financing Instrument	Environmental Assessment Category
P161477	Investment Project Financing	A-Full Assessment

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input checked="" 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 type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
05-Mar-2020	30-Jun-2026
Bank/IFC Collaboration	Joint Level
Yes	Complementary or Interdependent project requiring active coordination

**Proposed Development Objective(s)**

The Project Development Objective (PDO) is to strengthen the governance of solid waste management in Senegal and improve solid waste management services in selected municipalities.

**Components**

Component Name	Cost (US\$, millions)
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Strengthening Sector Governance and Institutional Capacity	20.00
Improving Solid Waste Infrastructure and Services in Selected Agglomerations	256.10
Project Implementation Support	18.60

**Organizations**

Borrower: Republic of Senegal

Implementing Agency: Unité de Coordination de la Gestion des déchets solides (UCG)

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

<b>Total Project Cost</b>	294.70
<b>Total Financing</b>	294.70
<b>of which IBRD/IDA</b>	125.00
<b>Financing Gap</b>	0.00

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

International Development Association (IDA)	125.00
IDA Credit	125.00

**Non-World Bank Group Financing**

Counterpart Funding	55.20
Borrower/Recipient	55.20
Other Sources	114.50
FRANCE: Govt. of [MOFA and AFD (C2D)]	44.00
SPAIN, Govt. of	55.00
Foreign Private Commercial Sources (unidentified)	15.50



IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
<b>Senegal</b>	125.00	0.00	0.00	125.00
National PBA	12.16	0.00	0.00	12.16
Scale-up Facility (SUF)	112.84	0.00	0.00	112.84
<b>Total</b>	<b>125.00</b>	<b>0.00</b>	<b>0.00</b>	<b>125.00</b>

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
<b>Annual</b>	0.00	6.99	8.73	13.93	24.92	33.74	36.70
<b>Cumulative</b>	0.00	6.99	15.71	29.64	54.56	88.30	125.00

INSTITUTIONAL DATA

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Infrastructure, PPP's & Guarantees

Climate Change and Disaster Screening

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

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Substantial
7. Environment and Social	● High





8. Stakeholders	● Substantial
9. Other	● Moderate
10. Overall	● Substantial

**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

Financing Agreement - Schedule 2, Section I. A.1 (a). The Recipient shall not later than three (3) months after the Effective Date, establish, and thereafter maintain, throughout the implementation of the Project, an inter-ministerial steering committee (Project Steering Committee), responsible for strategic oversight and guidance under the Project, with functions, composition and resources satisfactory to the Association as described in the



POM.

Sections and Description

Financing Agreement - Schedule 2, Section I. A.2 (a). The Recipient shall not later than three (3) months after the Effective Date, establish, and thereafter maintain, throughout the implementation of the Project, a technical committee (Technical Committee), responsible for the technical review of strategic studies, feasibility studies, and other project-related documents and reports under the Project, with functions, composition and resources satisfactory to the Association as described in the POM.

Sections and Description

Financing Agreement - Schedule 2, Section I. A.3 (a). The Recipient shall designate and maintain, at all times during the implementation of the Project, the PMU with a composition, mandate, staffing and other resources satisfactory to the Association, to be responsible for prompt and efficient oversight and coordination of the implementation of activities, under the general guidance of the Project Steering Committee, all in accordance with the provisions of the POM.

Sections and Description

Financing Agreement - Schedule 2, Section I. B.1. The Recipient shall, through the PMU, no later than one (1) month after the Effective Date, prepare and adopt the Project Operations Manual (“POM”) in a manner satisfactory to the Association and thereafter implement the Project in accordance with its provisions

Sections and Description

Financing Agreement - Schedule 2, Section I. C.1. The Recipient shall, through the PMU, prepare and furnish to the Association an annual plan and budget approved by the Project Steering Committee, not later than November 30 of each year during the implementation of the Project, for its approval within 30 calendar days, except for the annual work plan and budget for the Project for the first year of Project implementation which shall be furnished no later than two (2) months after the Effective Date.

Sections and Description

Financing Agreement - Schedule 2, Section I. D.5. The Recipient shall adopt and disclose the Livelihood Restoration Plan (“LRP”) in a manner satisfactory to the Association no later than ten (10) months after the Effective Date.

Sections and Description

Financing Agreement - Schedule 2, Section I. E.1. By no later than six (6) months after the Effective Date, the Recipient shall, cause the PMU to, hire and thereafter maintain, throughout the period of implementation of the Project, one or more Independent Verification Agent(s) with qualifications and experience and under terms of reference acceptable to the Association to verify the achievements of one or more DLRs set out in Schedule 4 of this Agreement, for which verification reports shall be issued as per the terms and conditions of the DLR Verification Protocol.

Sections and Description

Financing Agreement - Schedule 2, Section I. E.2. The Recipient shall, recruit a fiduciary team under terms of reference acceptable to the Association.



Sections and Description

Financing Agreement - Schedule 2, Section I. E.3. The Recipient shall provide, no later than one (1) month after the Effective Date, training to the fiduciary staff of the PMU on the Association's procedures.

Sections and Description

Financing Agreement - Schedule 2, Section I. E.5. No later than the Co-financing Deadline, the Co-financing Agreements shall be executed and delivered respectively and all conditions precedents to their respective effectiveness or to the right of the Recipient to make withdrawals under them (other than the effectiveness of this Agreement) shall have been fulfilled.

Sections and Description

Financing Agreement - Schedule 2, Section I. E.4. The Recipient shall maintain the accounting software for the bookkeeping of the Project updated.

**Conditions**

Type	Description
Disbursement	<p>Financing Agreement - Schedule 2, Section III. B.1. Notwithstanding the provisions of Part A above, no withdrawal shall be made:</p> <p>(a) for payments made prior to the Signature Date; and</p> <p>(b) for payments: (i) under Category (1), unless and until the Recipient:</p> <p>(A) has furnished evidence satisfactory to the Association in accordance with the DLR Verification Protocol, that the Recipient has achieved the respective DLR Targets set forth in Schedule 4 to this Agreement against which withdrawal is requested; and</p> <p>(B) has complied with the additional instructions referred to in Section III.A of this Schedule, including furnishing to the Association the applicable interim unaudited financial reports documenting the incurrence of EEP expenditures during the respective Year up to the date against which withdrawal is requested; and</p> <p>(ii) under Category (4), unless and until the Recipient: (A) has adopted and disclosed the Livelihood Restoration Plan in a manner satisfactory to the Association.</p>
Disbursement	<p>Financing Agreement - Schedule 2, Section III. B.2. Notwithstanding the provisions of paragraph 1 (a) of Part B above, no withdrawal shall be made for payments made prior to the date of countersignature of this Agreement by the Recipient, except that withdrawals up to an aggregate amount not to exceed EUR4,450,000 equivalent may be made for payments made prior to this date but on or after February 1, 2020, for Eligible Expenditures under the Advance.</p>
Disbursement	<p>Financing Agreement - Schedule 2, Section III. B.3. Notwithstanding the foregoing provisions of the table under Part A of this Section, the sum of the Association's financing percentage of</p>



	Eligible Expenditures under this Agreement combined with the financing percentage provided by the Co-financiers (AFD and AECID) and the Recipient equals 100% of each Eligible Expenditure under Part I (2), Part II and Part III of the Project.
Type Disbursement	Description Financing Agreement - Schedule 2, Section III. B.4. Notwithstanding the provisions of Part B.1(b) of this Section, the amount of the Financing to be withdrawn upon the verified achievement of any DLR Target shall correspond to the DLR Value of such DLR Target as set forth in Schedule 4 to this Agreement.
Type Disbursement	Description Financing Agreement - Schedule 2, Section III. B.5. Notwithstanding the provisions of Part B.1(b) of this Section, if the Association shall determine, based on the evidence furnished by the Recipient under Part B.1 of this Section, that any DLR Target has not been fully achieved by its DLR Target Achievement Date and/or the DLR Value of such DLR Target has not been fully withdrawn, the Association may in its sole discretion, by notice to the Recipient: (a) authorize the withdrawal of such lesser amount of the respective DLR Value allocated to said DLR Target which, in the opinion of the Association, corresponds to the extent of achievement of said DLR Target, said lesser amount to be calculated in accordance with the formula set forth in Schedule 4 to this Agreement; (b) withhold in whole or in part the proceeds of the Financing then allocated to said DLR Target until such DLR Target is satisfactorily met; and/or (ii) authorize, at a later date, the full release of the amounts so withheld, if and when the Association is satisfied that the respective DLR Target has been satisfactorily met; (c) authorize the unwithdrawn amount by which such disbursement has been reduced due to partial achievement of a DLI, be carried forward to subsequent Withdrawals; (d) reallocate in whole or in part the proceeds of the Financing then allocated to said DLR Target to any other DLR Target(s); and/or (e) cancel in whole or in part the proceeds of the Financing then allocated to said DLR Target.



## I. STRATEGIC CONTEXT

### A. Country Context

1. **Senegal has been one of the fastest-growing economies in Sub-Saharan Africa after decades of subpar growth.** Driven by progressively resurgent exports, the Senegalese economy has been expanding at more than 6 percent annually since 2015—though high oil prices and other fiscal constraints may have a moderating effect. Private sector investment increased by 14.6 percent in 2018. Public investment, although slightly slowed down in 2018, remains robust to support the Government development program. Senegal’s medium-term economic prospects will remain positive as long as its new structural reforms are sustained and deepened and the external environment remains benign.

2. **World Bank estimates suggest that while extreme poverty incidence has declined, the pace of poverty reduction is slow, and inequality in asset accumulation persists.** The most recent projections indicate that about a third of the population (33 percent) lives below the international extreme poverty line of \$1.90-a-day,<sup>1</sup> compared to 38 percent in 2011 (last official statistics). Contrary to East Asian and Latin American countries where urbanization has generally been accompanied by poverty reduction, Senegal has yet to reap the benefits associated with urbanization in terms of economic growth and poverty reduction. In particular, Senegalese secondary municipalities lag behind in terms of generating economic opportunities and are home to a large share of the urban poor, who are often the most vulnerable.<sup>2</sup>

3. **The National Development Plan (*Plan Sénégal Emergent*, PSE), now entering its second implementation phase, is the overarching strategic framework for the long-term economic and social development of the country.** It aims to achieve middle-income status for Senegal by 2035. The PSE, adopted in 2014, has three strategic axes: (a) transforming the structure of the economy to support strong and sustainable growth; (b) expanding access to social services and social protection and preserving the conditions for sustainable development; and (c) responding to the requirements of good governance, through institutional strengthening and promoting peace, security and African integration. Implementation of each phase of the PSE is guided by a Priority Action Plan.

### B. Sectoral and Institutional Context

4. **Senegal has experienced a rapid pace of urbanization.** More than 48 percent of the total population currently lives in urban areas, which is 10 percent higher than the average urban population in Sub-Saharan Africa. This number is expected to increase due to strong economic activity in urban

<sup>1</sup> World Bank. 2019. Macro Poverty Outlook: Country-by-country Analysis and Projections for the Developing World. .

<sup>2</sup> World Bank. 2016. Review of Urbanization : Emerging Cities for an Emergent Senegal (*Revue de l’urbanisation : Villes émergentes pour un Sénégal émergent*)..



centers which contributes to the acceleration of the urbanization rate.<sup>3</sup> At the current pace of urbanization,<sup>4</sup> it is projected that about 62 percent of the population will live in urban areas by 2025.

5. **Rapid urbanization begins putting significant strains on the capacity of municipalities to efficiently deliver basic urban services.** Municipal solid waste is particularly challenging because rapid increases in waste production far outpace the provision of waste management services. In 2015, over 2.4 million tons of solid waste (SW) were produced in Senegal, of which 1.1 million tons were uncollected<sup>5</sup>, with only three active companies in waste collection. Because of these moderate formal collection rates, open dumping and burning are commonly used to eliminate remaining household waste. Even formally collected waste is disposed of at unsanitary dumpsites without any form of processing.

6. **The capital Dakar, in particular, suffers from a lack of sustainable solutions for waste management.** Though the ratio of SW collection in Dakar is relatively high compared to other parts of the country, waste is currently disposed of without any form of treatment at a large open dumpsite located in Mbeubeuss, a densely populated suburban area of the capital. The Government tried to build a proper sanitary landfill in the 2010s but the initiative failed. Today, the Mbeubeuss dumpsite continues to expand (from 14 ha in 1978 to 114 ha in 2017) and has become a serious source of water, air, and land pollution. In addition, the site hosts about 1,880 informal recyclers (or ‘waste pickers’) working or living at the Mbeubeuss dumpsite, out of which 571 are women.

7. **Waste management in secondary municipalities is even poorer with rudimentary and spotty services.** Access to waste collection and treatment is uneven across regions: the average waste collection rate is at 84 percent in Dakar, 33 percent in regional capitals and only 22 percent in secondary municipalities. The existing collection services are irregular and unreliable. With no sanitary landfill, open dumping and burning are prevalent in Senegal’s secondary municipalities.

8. **The underperforming SW sector results in serious economic, social, and environmental impacts and the urban poor and women are disproportionately affected.** The poor are frequently located in/nearby areas where uncollected or improperly disposed waste is dumped and are exposed to contaminated land, air, and water. Informal recyclers or waste pickers, often low-income women or children or migrants from rural areas, tend to depend on open-air dumps for their livelihood. Women often carrying babies are seen disposing or picking waste at the dumpsites. They are highly vulnerable to health risks and economic uncertainty. There is an urgent need to develop appropriate social, entrepreneurial, and skills development programs to mitigate these risks.

9. **Such economic, social, and environmental impacts are exacerbated by climate risks the country is exposed to.** 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 1 m by the end of the century, which could result in the disappearance of between 55 and 86 km<sup>2</sup> of the country’s beaches

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<sup>3</sup> The World Bank’s Review of Urbanization : Emerging Cities for an Emergent Senegal (*Revue de l’urbanisation : Villes émergentes pour un Sénégal émergent*) (2015) estimates that 65 percent of Senegal’s GDP is produced in urban centers and 55 percent in Dakar itself. About 80 percent of the registered firms are located in Greater Dakar. More than 52 percent of jobs and 62 percent of business openings are created in Dakar.

<sup>4</sup> 3.76 percent annual growth rate.

<sup>5</sup> Municipal Solid Waste Management in Senegal : Challenges and Improvement Opportunities (*Gestion des déchets solides municipaux au Sénégal : Défis et opportunités d’amélioration*), World Bank, 2018.



and flood 6,000 km<sup>2</sup> of low-lying areas. It is likely that a greater proportion of precipitation will occur in heavy rainfall events. Such climate change impacts will exacerbate the risk of floods, droughts, coastal inundation, and erosion and land degradation. The existing Mbeubeuss dumpsite is located in a flood-prone area near the sea and is exposed to the risks of sea-level rise, coastal erosion, and more intense and severe climate events. Furthermore, the current common practices of open dumping and burning in the secondary municipalities are adding to carbon emissions and a reduction of such activities would support the climate mitigation agenda.

10. **Through the launch of its National Solid Waste Management Program, the Government has shown commitment to improve waste management.** With the objective to provide technical and financial backstopping for better waste management in Senegal, the Government launched in 2014 the National Waste Management Program (*“Programme National de Gestion des Déchets”* or PNGD) and adopted in 2015 the Integrated and Sustainable Solid Waste Management Strategy (*“Stratégie de Gestion Intégrée et Durable des Déchets Solides”*). In this context and to achieve economies of scale, the country has been organized into seven Waste Management Agglomerations (*“Pôles de Gestion des Déchets Solides”*). The Government started implementation of this overall approach to improve solid waste management (SWM) through an initial financing from the Islamic Development Bank (IsDB) amounting to US\$35 million and targeting three municipalities (Touba, Tivaouane, and Kaolack). The needs are significant and it is critical to move implementation forward, in particular to (a) equip the rest of the country, most notably the municipalities with high economic and touristic activities which are affected by poor waste management, (b) address the financing gap for operation and maintenance (O&M) of SW infrastructure, and (c) build municipal capacity to improve overall sector performance and ensure operational and financial sustainability of investments.

11. **SWM investments and O&M are critically underfunded.** Currently, the budget made available for the SW sector and the associated revenue sources are far too little to cover capital investment and O&M needs. The annual O&M budget needed for proper waste collection, treatment, and disposal nationwide is estimated at CFAF 45 billion (US\$75 million equivalent). Yet, the actual budget in 2016 amounted to CFAF 24 billion (US\$40 million equivalent), consisting of CFAF 5 billion from the SWM tax (Solid Waste Management Tax, *Taxe d’Enlèvement des Ordures Ménagères* [TEOM]), CFAF 13 billion transfer from the central government, and CFAF 6 billion in cross-subsidies. This represents a shortfall of CFAF 21 billion, without taking capital investment needs into account. The lack of resources in secondary municipalities is more dire, with no or insufficient equipment and facilities to provide basic collection services for some municipalities. Only 23 percent of the SWM funds allocated by the central government to the SWM Coordination Unit (*“Unité de Coordination de la Gestion des déchets solides”* [UCG]) were spent in secondary municipalities in 2016 and covered periodic and just-in-time cleanup operations.

12. **There is a need to unleash the potential of private sector response, investment, and demand-responsive SWM services.** The Government’s ambition for integrated and sustainable SWM cannot be financed and supported by the public sector alone. Global experience shows that private sector participation in SW infrastructure and service provision, if carried out effectively, can leverage investment by orders of magnitude and greatly improve service provision. As highlighted in paragraph 5, it is critical that the Government take action to level the playing field for all businesses and unlock their potential for further improvements in the SWM sector. In 2011, the Government’s previous attempt to partner with the private sector was not successful due to (a) the lack of a legal framework for public-private partnerships (PPPs), at the time, which discouraged SW operators from participating, and (b) poor



communication and insufficient citizen engagement, which resulted in considerable public opposition. The enactment of a new PPP Law in 2014, its revision in 2015, and the adoption of a decree establishing a National Committee to support PPPs, currently provide legal ground for PPPs in the SW sector. Furthermore, UCG tried and successfully implemented a community participation and citizens' engagement in the IsDB-financed Sustainable Urban Solid Waste Management Project ("*Projet de Gestion Durable des Déchets Solides Urbains*" [PGDSU]), which led to the selection and construction of SW infrastructure in Touba, Kaolack, and Tivaouane with full community support. Building on these efforts, the Government, through the proposed project, will further seek to attract private investments in the SW sector by (a) engaging the service of an international firm as a PPP transaction adviser; (b) ensuring more balanced allocation of responsibilities and risks between the different stakeholders in the tender documents; and (c) considering de-risking measures, such as the European Union (EU) guarantee, currently under consideration.

13. **The proposed project adopts an innovative three-pronged approach to help address the identified challenges in the SW sector, articulated around an integral solution for SWM, results-based financing, and maximizing finance for development.** First, while previous World Bank and other donor-financed operations have supported discrete, small-scale, SW activities as part of large urban or environmental interventions, the proposed project aims to provide (a) an integrated SW solution for investments covering the entire value chain from collection—transfer, treatment to disposal, and recycling with climate resilient/gender-informed design and (b) institutional support to improve policy, regulatory, and financing frameworks and improve overall sector performance and sustainability. Second, the proposed project uses result-based financing (RBF) to introduce disbursement-linked indicators (DLIs) that can help incentivize results related to improving the institutional and operating frameworks in the SW sector that are supported by technical assistance (TA), thereby protecting and strengthening the effectiveness of project investments. Third, to enable Senegal to close the infrastructure gap by maximizing finance for development, the proposed Project engages: (a) various development partners, such as the Spanish Agency for International Cooperation and Development (AECID), the French Development Agency (AFD), and potentially the European Investment Bank (EIB); and (b) the private sector, supporting the creation of a favorable environment for the private sector and the mobilization of private capital potentially covered by a payment guarantee from the EU to provide an extra-layer of confidence to international private sector firms willing to enter the SWM market for the first time.

### C. Relevance to Higher Level Objectives

14. **The proposed project contributes directly to the World Bank's twin goals of ending poverty and promoting shared prosperity. It also contributes to achieving the Sustainable Development Goal 11 on Sustainable Cities and Communities.** Specifically, the proposed project contributes to (a) reducing inequality in SW service delivery between high- and low-income communities and between the capital and participating secondary municipalities by increasing access to reliable and affordable SW services in selected underserved areas; (b) generating job opportunities and offering training opportunities for both skilled and unskilled local workers and for both women and men in an equal way; (c) reducing the adverse effects of uncollected garbage along the beaches on tourism—a key driver of the local economy in several selected municipalities; and (d) improving human health, including the living and working conditions of one of the most vulnerable groups of informal workers, that is, waste pickers, including women and children, exposed to significant health risks. Furthermore, by improving waste collection and





disposal, the proposed project contributes to achieving Sustainable Development Goal 11 of the 2030 Agenda for Sustainable Development, supporting inclusive and sustainable urbanization and reducing environmental impact of human settlements, including from flooding as a result of blocked drainage systems.

15. **The proposed project is in line with the FY20–24 Country Partnership Framework (CPF) and the World Bank Climate Change Action Plan (2016-2020).** The PSE strives to boost the country’s economic growth by leveraging the emerging growth-driven economic sectors, fighting socio-economic inequality, and strengthening governance. It also recognizes the increasing climate risks, particularly floods and coastal erosion that are the major challenges that Senegal is facing and that highlight the urgent need to work with municipalities and citizens towards climate adaptation and mitigation. The proposed project will help achieve these goals by: (a) unleashing the economic potential existing in the SWM sector; (b) increasing access to collection and disposal services in areas where services are suboptimal and/or non-existent, which is particularly in line with Objective 3.2 of the FY20-24 CPF thriving to ensure access to water, sanitation and SWM in the most vulnerable areas of the country; (c) creating job opportunities; (d) improving the institutional framework of the SW sector; and (e) integrating climate adaptation and mitigation resilience measures into the site selection and design of key infrastructure, thereby reducing Greenhouse Gas (GHG) emissions and enhancing environmental health and safety in view of increasingly severe climate events.

16. **The proposed project also supports the global initiative to tackle marine litter.** It is estimated that globally 80 percent of marine waste originates from land-based waste due to inadequate collection and upstream disposal. The interventions to improve collection, transport, recycling, and disposal of waste in coastal cities (for example, Dakar, Saint Louis, and Mbour) or in cities along major rivers discharging into the ocean (for example, Ziguinchor) will help reduce the large volume of waste flowing into the ocean. The proposed project will also support a specific collection system to reduce waste along beaches. Furthermore, the proposed project supports policy and institutional frameworks for better managing waste in coastal municipalities to reduce ocean leakage. For instance, the project supports the strengthening of the regulatory framework upstream to reduce waste and facilitate the enforcement of the ban on plastic bags (2015 law), which are a major source of land and marine pollution. The impact of marine litter on the economy is significant, given that fishing is an important economic activity in the selected municipalities.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### PDO Statement

17. The Project Development Objective (PDO) of the project is to strengthen the governance of solid waste management in Senegal and improve solid waste management services in selected municipalities.

#### PDO Level Indicators

18. PDO-level key results indicators are the following:



- (a) People provided with access to improved solid waste services (Number, gender disaggregated) (Corporate Results Indicator)
- (b) Solid waste recycled or disposed at sanitary landfills in selected municipalities of the project (Metric tons/year)
- (c) Surface area of dumpsites rehabilitated (Square Meter (m<sup>2</sup>))
- (d) Municipalities with strengthened solid waste management capacity (Number)

## B. Project Components

### **Component 1: Strengthening Sector Governance and Institutional Capacity (US\$20.0 million equivalent, of which US\$20.0 million from IDA)**

19. This component aims to strengthen the institutional framework governing the sector, ensure the effectiveness of investments under Component 2, and create a favorable environment for private sector investment in the SW sector, by supporting the following:

- (a) *Subcomponent 1a:* Operationalization of the existing laws and regulations governing SWM, through ensuring (i) effective municipal and intercommunal planning for SWM, (ii) availability of financial resources for secondary waste collection,<sup>6</sup> and (iii) an increase in local SW taxation to strengthen the sector's self-financing capacities and sustainability. The specific areas of support will be financed through Results Based Financing (RBF) scheme, whereby funds will be disbursed to specified local or central agencies or ministries based on the achievement of specific results detailed under DLIs (see DLIs Matrix in Section VI on Results Framework and Monitoring).
- (b) *Subcomponent 1b:* TA seeking to (i) strengthen the SWM institutional framework through a range of activities, spanning from strengthening the legal and regulatory framework to capacity building for all aspects of reform and governance; (ii) promote a sustainable financing mechanism for the sector, including support for carrying out affordability and willingness-to-pay studies and creation of databases for SW fees/taxes; (iii) reinforce the PPP framework, with the standardization of key bidding documents and contracts; and (iv) enhance SW service delivery by identifying and operationalizing good practices and tailoring capacity-building activities to the selected municipalities.

### **Component 2: Improving Solid Waste Infrastructure and Services in Selected Agglomerations (US\$256.1 million equivalent, of which US\$86.4 million from IDA)**

20. This component will finance waste management facilities and equipment needed to establish or improve the delivery of waste management services in Greater Dakar and three secondary

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<sup>6</sup> Primary waste collection is the first part of a waste management system, consisting of collecting waste from homes and businesses to a communal bin, a waste collection point, or a transfer station. This process is typically handled by informal waste collectors, small enterprises, or community-based organizations for a fee, and cost recovery is generally not an issue. Secondary collection is the process of removing the waste from a communal bin, a waste collection point, or a transfer station to the final disposal site. This process is handled at the municipal or intermunicipal level. Secondary collection is generally financed through the municipality's general budget or taxes and its financing needs to be strengthened.



agglomerations, namely, Thiès, the North, and Casamance.<sup>7</sup> Component 2 will also capitalize on synergies and experiences of the forthcoming regional program Africa Environmental Health and Pollution Management Program (P167788) financed by the Global Environment Facility, which, in Senegal, supports the development of a national strategy and plan for the treatment of and exposure to harmful chemicals and persistent organic pollutants (POPs).<sup>8</sup> Component 2 is divided in three subcomponents, as follows:

*Subcomponent 2a. Improving waste management services for Greater Dakar*

21. In Greater Dakar, the main challenge has been the use of Mbeubeuss dumpsite for waste disposal in the absence of a more sustainable solution for SWM. The project proposes a realistic approach for improving the condition of the Mbeubeuss dumpsite in the short, medium and long-term, with the perspective of a long-term waste treatment and disposal system to be financed under the project as a PPP/Design-Build-Finance-Operate - DBFO.<sup>9</sup> The Government is preparing feasibility studies and bidding documents for the rehabilitation of the Mbeubeuss dumpsite,<sup>10</sup> to be carried out in three phases:

- (a) **The first phase** (Year 1–2) will consist of implementing emergency measures to improve the site and the working conditions of waste pickers. This will include securing the site to prevent unauthorized access, adopting a code of conduct and operational measures to prevent burning of waste, and providing a health program for waste pickers.<sup>11</sup>
- (b) **The second phase** (Year 2–4) will consist of reshaping the landfill to reclaim part of the land and covering and vegetating the waste that is already in place and stabilized. Part of the reclaimed land will be used for the construction of a sorting and composting facility. Waste remodeling is done essentially to optimize the footprint of the dumpsite and to better control and manage leachate runoff and infiltration.
- (c) **The third and final phase** (Year 5–6) will consist of permanently capping the waste at Mbeubeuss and distinguishing between presorted waste and residual waste. Only presorted waste will be allowed at the transfer and composting facilities managed by former waste pickers. Residual waste will be managed in the new long-term waste treatment and disposal system.

22. The Government has prepared a long-term waste management strategy for Greater Dakar specifically, promoting a PPP scheme. The World Bank and the International Finance Corporation (IFC)

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<sup>7</sup> The Government selected the agglomerations of Thiès (Thiès, Mbour and Tivaouane), the North (Saint Louis and Matam) and Casamance (Ziguinchor, Kolda and Sedhiou) to participate in the project based on four main criteria: (a) total population and population growth, (b) current socioeconomic situation and expected impact that improved SWM could have on economic activities such as tourism and fishery, (c) coastal municipalities where the improper SWM is a major source of litter entering the marine environment, and (d) locations where there already are active programs or projects under implementation and financed by the project co-financiers that can be leveraged to enhance synergies.

<sup>8</sup> POPs are toxic, long-lasting substances of global concern due to their potential for long-range transport, persistence in the environment, ability to biomagnify and bioaccumulate in ecosystems, and their significant negative effects on human health and the environment.

<sup>9</sup> Private sector co-financing has been kept to a minimum to show Government commitment and to attract private sector firms for a DBFO. Therefore, the risk of this DBFO not materializing is low. However, as a contingency measure, should the PPP not materialize, the construction of the new infrastructure would be carried out as a Design-Build and Operate or as a Design-Build.

<sup>10</sup> To be ready soon after project effectiveness and once the Livelihood Restoration Plan (LRP) is completed.

<sup>11</sup> Childcare services will be operated by a specialized service provider selected and scrutinized to prevent potential risks to children.



teams have jointly conducted TA and dialogue with the Government in support of this new strategy. The strategy concluded that a PPP was feasible to address the waste management situation in Greater Dakar. In this context, the Government has prepared an environmental and social (E&S) evaluation of the strategy and recruited a PPP transaction advisory firm to prepare the PPP tender documents. The project will support the design and implementation of this PPP, under which, the private sector will design, construct, co-finance, and operate the new waste management system for Greater Dakar. As such, the project will support:

- (a) The cost of the feasibility studies, safeguards documents (as sites are identified), and detailed engineering designs.
- (b) The public sector contribution to the PPP will cover fixed assets to remain Government's property.<sup>12</sup> This arrangement will reduce the cost per ton that the Government will have to support over the life of the PPP. The private sector's co-financing will cover mobile assets<sup>13</sup> that the private firm deems feasible at its own risk.
- (c) Implementation support to closely monitor and supervise the implementation of the PPP, especially during the first year of implementation, in particular safeguards performance.

*Subcomponent 2b. Establishing integrated waste management systems in selected secondary agglomerations*

23. In the secondary agglomerations of Thiès, the North, and Casamance, the project will introduce a new way to manage SW in small and medium-sized municipalities by leveraging intermunicipal cooperation around SWM to address the critical challenge of land scarcity, take advantage of economies of scale, and attract private sector participation for greater efficiency. To these ends, the project will support the establishment of agreements among municipalities within the same agglomeration, in collaboration with the Ministry of Urbanism, Housing and Public Sanitation (*"Ministère de l'Urbanisme, du Logement et de l'Hygiène Publique"*, MULHP) (the line ministry for the project), the Ministry in charge of Territorial and Local Governments through its deconcentrated agencies, and the governors and prefects. The agreements will specify: (i) cost sharing and fee arrangements between municipalities; (ii) location of the waste management infrastructure; (iii) management structure for operating and maintaining common infrastructure; and (iv) grievance redress mechanisms (GRMs). More specifically, Subcomponent 2b will support:

- (a) Preparation of municipal and intermunicipal waste management plans within each agglomeration, which identify specific investments in infrastructure, equipment, service delivery models, cost recovery, and entry points for the private sector;
- (b) Investments in integrated intermunicipal waste management systems—modalities for partnering with the private sector will be explored to implement these investments and/or for O&M;
- (c) Technical feasibility, preparation of safeguard documents, detailed engineering design studies, and supervision services related to the proposed investments;
- (d) Implementation support for safeguards measures; and

<sup>12</sup> The feasibility studies have been initiated financed by the Project Preparation Advance.

<sup>13</sup> Such as vehicles, and additional waste treatment and valorization.



- (e) Capping or clearing of illegal dumpsites, as feasible depending on their size and land value.

*Subcomponent 2c. Improving the livelihood of waste pickers*

24. Besides land acquisition and resettlement compensation, investments in the proposed SW facilities under Subcomponents 2a and 2b require a social program to mitigate the project’s impacts on informal recyclers and to provide livelihoods restoration and reskilling support, in particular, taking account of the challenges for women. This subcomponent will fund: (a) the hiring of a nongovernmental organization (NGO) for community engagement and public consultation and (b) the full implementation of the LRP, including women’s empowerment activities,<sup>14</sup> health monitoring of waste pickers, protection of children currently working at the Mbeubeuss dumpsite through targeted activities to keep them away from the dumpsite, and development of a set of livelihood options for individual pickers and their families, in close consultation with them. Cash compensation to affected people identified in the Resettlement Action Plan (RAP) will be covered separately by the Government.

**Component 3: Project Implementation Support (US\$18.6 million equivalent, of which US\$18.6 million from IDA).**

25. This component will support implementation of all project activities in accordance with World Bank policies. This includes financial management (FM), procurement, monitoring and evaluation (M&E), communication, audits, the development of ICT solutions for monitoring and evaluating the sector, supervision of social and environmental safeguard measures, and related training. This component will finance goods, services, non-consulting services, training, and operational costs and services, including the hiring of an independent verification agency in charge of verifying the results linked to the RBF subcomponent (Subcomponent 1a).

**Table 1. Project Financing<sup>a</sup>**

	IDA	AECID <sup>b</sup>	AFD <sup>c</sup>	Gov. of Senegal	Private Sector	Total <sup>d</sup>
<b>Component 1</b>	<b>20.0</b>					<b>20.0</b>
Results-based financing (DLIs)	11.0					11.0
Technical assistance	9.0					9.0
<b>Component 2</b>	<b>86.4</b>	<b>55.0</b>	<b>44.0</b>	<b>55.2</b>	<b>15.5</b>	<b>256.1</b>
Improving SWM in Greater Dakar	44.7	31.0	23.6	0.8	10.0	110.1
Works in secondary agglomerations	40.0	23.1	19.7	0.0	5.5	88.3
Taxes				34.0		34.0
Customs				4.7		4.7
Compensation to PAPs (Escrow account)				15.7		15.7
Livelihood program for waste pickers at Mbeubeuss	1.7	0.9	0.7			3.3
<b>Component 3</b>	<b>18.6</b>					<b>18.6</b>

<sup>14</sup> As part of this plan, a women user’s committee would be set up to provide inputs on the design of the project and help develop a gender action plan and monitor results.



	IDA	AECID <sup>b</sup>	AFD <sup>c</sup>	Gov. of Senegal	Private Sector	Total <sup>d</sup>
Project implementation support	18.6					18.6
<b>Total (US\$, millions)</b>	<b>125.0</b>	<b>55.0</b>	<b>44.0</b>	<b>55.2</b>	<b>15.5</b>	<b>294.7</b>

Note: PAP =Project-affected persons.

a. Allocation of financing between the source of funds (IDA, AECID, and AFD) may vary from one activity to another and will be decided on a case-by-case basis during implementation as the project progresses. Financing from one source of funds is flexible and may vary from 0 to 100 percent for each given activity.

b. AECID co-financing is being prepared and will be approved in the first half of 2020, following the World Bank project approval by the Board.

c. AFD co-financing was approved by the AFD Board on December 18, 2019. It is pending signature.

d. The Government is discussing a potential parallel financing from EIB that should be approved by June 2020. If this funding does not materialize, an Additional Financing might be sought to cover the areas that EIB financing is expected to cover.

### Key features and benefits of the project

26. **Improving services and sustainability by leveraging partnerships and resources.** The project leverages multiple partnerships and financing instruments, including PPP and RBF. As such, the project has great potential to serve as a model for future interventions in the SW sector and the improvement of waste picker livelihoods. The support provided as part of the project regarding revenue mobilization SW (reformed TEOM) and efficiency gains from private sector participation is expected to reduce the financing gap from 60 percent to 6 percent,<sup>15</sup> by project closure. The Government will continue to provide financial support mainly to secondary waste collection.

27. **Enhancing local economic development and building human capital.** The project’s focus on improved SW services and sustainable urban management will benefit local economic development and quality of life. Global experience demonstrates reduced pollution from SW (e.g. air, land, freshwater, and marine environments) has economic, public health, cultural, and recreational value and is conducive to improving the overall business environment and growth in the tax base and job opportunities. Building human capital is essential for enhancing the value-added of the project to the local economy and for the sustainability of SWM services. UGC carried out a specific survey to identify job opportunities associated with waste management (e.g., waste collection drivers, recyclers, equipment mechanics) and develop adapted skills training curricula for potential male and female job seekers to fill each category of job. The project also aims to leverage ICT tools to enhance citizens’ engagement to improve performance in service delivery. The ICT tools will particularly leverage women’s knowledge and skills (see below).

28. **Strengthening climate resilience and co-benefits.** As potential threats from climate change increase globally, Senegal is especially prone to climate risks such as flooding, sea-level rise, forest fires, coastal erosion, and landslides. The project contribution to strengthening climate resilience in Senegal both through policy and regulatory support (Component 1) and through direct investments to infrastructure and equipment to strengthen the climate resilience of the SW sector in Senegal (Component 2), with integration of climate adaptation and mitigation resilience measures into the site selection and design of key infrastructure. More specifically: (i) an integrated solution for all segments of SW services from collection to disposal with maximized reducing-reusing-recycling; (ii) climate adaptive

<sup>15</sup> The gap is calculated by dividing the available or projected financial resources for waste management by the estimated cost for a full-service coverage and proper treatment and disposal of the waste.



design for key facilities and site improvement of Mbeubeuss to enhance environmental health and safety in view of increasingly severe climate events; and (iii) reduction of GHGs through increased recycling and reuse of materials, closure of open dumpsites and proper treatment in lieu of open dumping and burning, methane capturing in the landfill facilities, and energy efficiency improvement in waste management service such as installation of solar or landfill gas-powered lighting and more fuel-efficient equipment to replace the aged diesel fleet used for waste collection. The climate co-benefits analysis is presented in annex 2.

### C. Project Beneficiaries

29. **The direct beneficiaries from this project are the six million residents of the four agglomerations** who will benefit from improved SWM services and will be less exposed to the adverse effects of poor SWM on their living environment. It is estimated that 5,000 people, including at least 50 percent women, will benefit from various capacity building and skills development activities under the project. Indirect beneficiaries include all municipalities in Senegal that will enjoy a clearer institutional mandate for SWM in the country, an enhanced regulatory framework, and a more efficient mechanism to mobilize resources and partner with private sector firms for improved SWM, as a result of the project activities supporting governance and institutional strengthening.

#### Bridging the gender gap

30. **Despite the considerable efforts the Government has made to advance the national agenda for gender equality through the 1997 Constitution and the new National Gender Policy, gender inequalities persist in Senegal.** The 2018 World Bank's Systematic Country Diagnostic (SCD) for Senegal recognizes inhibitory social norms affecting the behaviors and choices of women as a major constraint to their inclusion in the country's growth process. These translate into two major gender gaps, especially among poorer segments of the society:

- (a) Women lack access to basic services and infrastructure is not designed to respond to their needs—persistent inequalities are highlighted in the SCD. In the SW sector, on average, 55 percent of the population have no access to any waste collection services.<sup>16</sup> This affects mostly women given that they perform most of housework activities in Senegal including disposing of domestic wastewater and SW. Women, both inside and outside the labor force, spend on average six times more time than men taking care of the family and doing household chores.<sup>17</sup> Due to productivity gains derived from reduced housework burden, time savings from domestic chores is one of the key outcomes sought to be achieved under the 'National Strategy for Equity and Gender Equality in Senegal: 2016–2026' to diminish gender gaps.
- (b) Girls are likely to drop out early from primary or secondary schools mainly due to cultural practices such as early marriages, which together with their lower access to productive inputs, weighs heavily on their earning capacity. Women are also more likely to be underemployed (more than 50 percent of young women neither study nor work), less likely to be salaried, and when economically active, they tend to work in vulnerable conditions (68 percent of women versus 50

<sup>16</sup> World Bank. 2018. Municipal Solid Waste Management in Senegal : Challenges and Improvement Opportunities (*Gestion des déchets solides municipaux au Sénégal : Défis et opportunités d'amélioration*).

<sup>17</sup> International Monetary Fund. 2019. Informality and Gender Gaps Going Hand in Hand.



percent of men) and be paid less than men. Due to time, mobility, and cultural constraints, women tend to get involved in the informal sector and waste handling is an important source of income. However, working conditions are precarious and women face discrimination. At the Mbeubeuss dumpsite, women represent 42 percent of waste pickers and are engaged in the recovery of food residues for pig farming and the sorting of waste with environmental hazards and health risks. They generally earn less income than men (by about 30–70 percent) as they physically compete with young males for recyclable material.

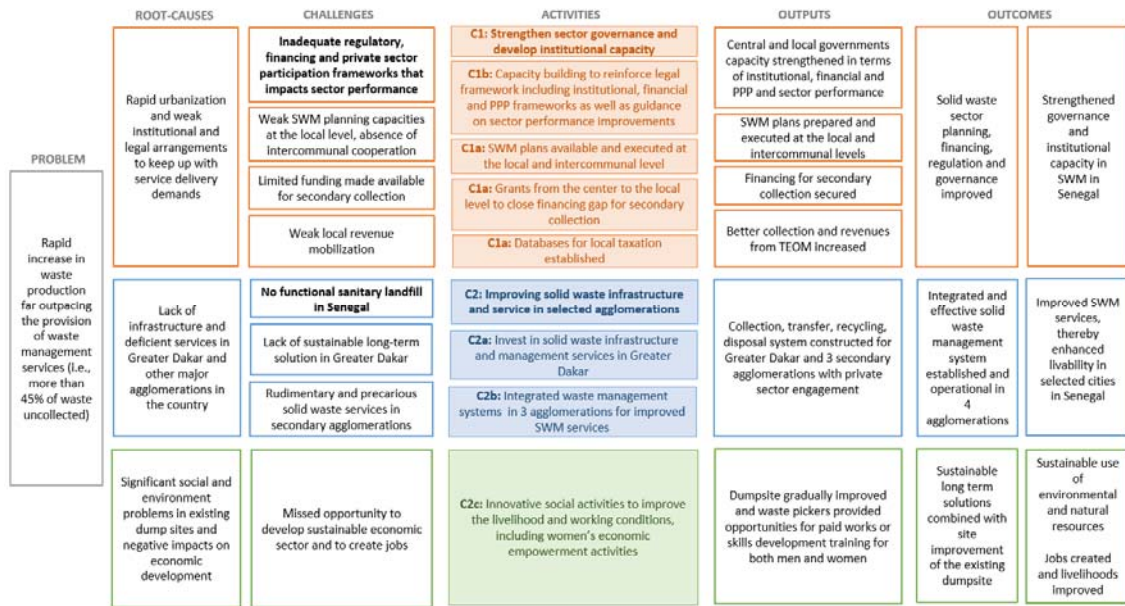
31. **To reduce these gender gaps, the project will aim to:** (i) reduce the time spent by women on SWM household chores; (ii) incorporate gender consideration in infrastructure design; (iii) offer equal opportunities for training for both men and women under the TA activities; and (iv) improve the working, living conditions and access to basic health care of female waste pickers and their families, offering them the opportunity to receive equal earning to that of men for equal work. More specifically, women will significantly benefit from improved SWM services—through project interventions under Component 1 and Subcomponents 2a and 2b—with saved time, improved productivity, and enhanced awareness in waste management and shared responsibility in household activities. Furthermore, to make infrastructure and service design gender-sensitive, women’s participation in key stakeholder meetings to design and implement project activities will be ensured and sensitive to women’s specific needs (place and timing of meetings, facilitation techniques, and closer collection points). In addition, under Subcomponent 2c, specific economic empowerment activities will be introduced to provide female waste pickers with viable and sustainable opportunities for paid work and improved working conditions and livelihood restoration and reskilling training so that they can integrate the formal economy and earn an income at a level on par with men. It is also envisaged that waste pickers would register with UCG before entering the site, receive appropriate protection gear, and be allowed access to perform their activities with some form of supervision. The project will also offer free childcare services and will carry out awareness activities on health, sanitation, and safety focused on women’s needs.

32. **Collecting and monitoring gender-disaggregated data related to the following key indicators:** (i) Women provided with access to improved SWM services; (ii) Female beneficiaries satisfied with improvements in SWM services; (iii) Female beneficiaries claiming saved time from improvements in SWM services; (iv) Share of women waste pickers provided with viable and sustainable opportunities for paid work or skills development training; (v) Share of women waste pickers with improved working conditions; and (vi) Share of women waste pickers earning an income at a level on par with men.



**D. Results Chain**

**Figure 1. Project Theory of Change**



**E. Rationale for World Bank Involvement and Role of Partners**

33. **World Bank global experience in leading policy dialogue in the SWM sector in other countries such as Morocco, Tunisia, West Bank and Gaza, Azerbaijan, and other countries will be leveraged to help Senegal (a) rethink sector policies causing institutional bottlenecks, (b) attract private sector firms in the SWM sector, and (c) innovate to ensure the livelihood restoration of project-affected communities.**

34. **The World Bank’s convening power and track record in developing large-scale investments incentivized other development partners to expand their support to the SW sector in Senegal.** AECID and AFD confirmed their co-financing. AFD financing was approved on December 18, 2019, and is pending signature. EIB parallel financing is still to be agreed with the Government and is expected before June 2020. The involvement of the World Bank and development partners in the project will be critical to (a) lessen disparities in SWM services and infrastructure; (b) integrate communities into sector planning, financing, and management, in particular women; (c) support municipalities to deliver on their SWM responsibilities in accordance with the decentralization law; (d) ensure the long-term sustainability of waste management; and (e) emphasize on resilience.

35. **There is a strong rationale for provision of public sector financing to supplement private investment as the project supports improved governance and limited public goods with significant impact on the local economy and environment.** The public goods to be financed under the project comprise the infrastructure subcomponents that generate substantial economic benefits and positive externalities for the public, as they will help boost the local economy and promote private sector investment to generate more income and job opportunities, as well as improve living conditions, and strengthen the resilience of municipalities to the effects of climate change.



36. **There is significant potential for the private sector to play an active role in addressing financial and managerial needs for critical infrastructure and providing operational efficiency gains to SWM services.** Transaction advisory services are being provided, in close collaboration with the City Resilience Program (CRP), to prepare tender documents for PPPs and secure a long-term design, build, and conduct O&M of an integrated SWM system in Greater Dakar. This support will mobilize private capital to co-finance the new infrastructure.

#### F. Lessons Learned and Reflected in the Project Design

37. **The proposed project builds on key lessons learned from past World Bank projects in Senegal either financed by the World Bank or other donors and from SWM operations financed by the World Bank in other countries.** These include the World Bank-financed Dakar Diamniadio Toll Highway Project (P087304), the PGDSU project financed by IsDB, the World Bank-financed Development Policy Loans in Morocco which helped design policy reforms to improve waste management, and previous World Bank-financed projects in West Bank and Gaza and in Azerbaijan. The lessons learned from these projects which are reflected in this design are summarized below.

38. **Strong communication strategy, community participation and citizen engagement.** The Dakar Diamniadio Toll Highway Project (P087304) highlights the need for a strong communication plan, community participation, and citizen engagement. That project was not successful in closing the Mbeubeuss dumpsite in 2010 because it relied on a parallel project to build a new landfill, which later on faced strong opposition from the Sindhia population due to incorrect community perceptions that an unsanitary dumpsite like Mbeubeus was being developed to transfer waste from Dakar to their neighborhood. To address this specific challenge the proposed Project has limited the area for site identification within the Dakar Region (for new infrastructure) and made a communication plan for key stakeholders a priority. It also highlighted the need for a phased rehabilitation of the dumpsite along with activities to improve the livelihood and working conditions of the waste pickers to build trust. The PGDSU project financed by IsDB and implemented by UCG has similar lessons on communication and citizen engagement. It is now almost completed and has constructed infrastructure for integrated SWM in Touba, Tivaouane and Kaolack in strong consultation with citizens and local leaders. Finally, the project draws on similar lessons from past experience in West Bank and Gaza and in Azerbaijan where unsanitary dumpsites were successfully closed with a well-design social programs for waste pickers.

39. **Effective policy and institutional framework.** A regulatory framework that clearly defines the roles and responsibilities of various stakeholders (e.g., central and local government agencies, service providers) and the procedures necessary for implementation are key to integrated and efficient SWM systems. Furthermore, for legislation to be effective, it must not only be clear, but also enforceable. This requires adequate institutional capacity, financing, and legitimacy. To create a favorable environment for the long-term sustainability of the sector, the proposed project will thus support the operationalization of critical SWM laws and provide institutional strengthening through RBF.

40. **Financial sustainability.** SWM is an operation-intensive activity. However, it is not sustainable to have operational costs fully financed by central government resources. At the same time, the capacity of municipalities to mobilize sufficient resources for O&M is limited. The proposed design highlights the importance of improving cost recovery and revenue generation and provides technical backstopping for reforming the SW taxes (TEOM). The feasibility study for each subproject will include a financial model of



the cost and revenue. Sector operating revenue is expected to come from sources such as intergovernmental fiscal transfers to municipalities already reinforced by the World Bank-financed Municipal and Agglomerations Support Program (P157097),<sup>18</sup> and municipal own source revenues, including user fees collected through the TEOM.

41. **The role of the private sector.** Private sector participation can be an efficient way to improve operational effectiveness. However, there are also examples of failure in private sector participation in the SW sector in Africa, including in Senegal. The keys to success are strong contract management, realistic expectations for outcomes (usually established as levels of service), and appropriate financing frameworks. To overcome the potential challenges associated with the establishment of PPP for SWM, the proposed project will (a) provide TA to enhance the financing mechanism as well as PPP framework, (b) co-finance infrastructure and social programs that are unlikely to be financed by the private sector (such as closure of dumpsites and implementation of livelihood programs for waste pickers), and (c) consider a financial guarantee to attract reputable firms to the SWM sector in Senegal.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

42. **The project will be guided by a Steering Committee (SC)** chaired by the Minister of the MULHP or his/her designated representative. The SC will play a significant role in high-level decision making, assist interaction among the various ministries, and accelerate implementation of the proposed activities under Component 1. The SC will comprise representatives from various ministries (see Annex 1).

43. **A Technical Committee (TC) will be created to facilitate the implementation of the project** and act as the technical arm of the SC. It will oversee the technical review of strategic and feasibility studies, and other project-related documents and reports. The TC will also be supported by technical groups, which will be formed as needed to facilitate the implementation of activities under Component 1.

44. **The Project Management Unit (PMU) housed at the UCG will be headed by a full-time project manager.** The project manager will work under the coordinator of UCG, manage the project on a daily basis, and coordinate the overall project implementation in various locations, ensuring the timely transfer of funds, maintaining project accounts and producing financial reports, monitoring and evaluating project implementation and impacts, and reporting results to the SC and other relevant stakeholders. The PMU will acquire, as necessary, support staff and consultants to support project implementation.

45. **UCG is the government entity in Senegal with the most experience in SWM.** It was initially set up as the PMU to implement the IsDB-funded SWM project. Since then, UCG has scaled up its role and has begun playing an advisory role to the MULHP, as well as an operational role nationwide in supporting municipalities in improving their SWM collection and recycling practices. UCG is also the implementing agency for the Government's SWM program, PNGD. The project will benefit from UCG's network of technical staff working on various SW-related topics.

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<sup>18</sup> World Bank. 2018. Municipal and Agglomerations Support Program in Senegal (*Programme d'Appui aux Communes et aux Agglomérations au Sénégal : PACASEN*).



46. **In addition to the central PMU in Dakar as the primary PMU, three local PMUs will be set up** in Thiès, Saint Louis, and Ziguinchor to provide the local presence to the central PMU in Dakar and participating agglomerations and municipalities. Each local PMU will be headed by the coordinator of the agglomeration (a full-time staff of UCG) and will include (a) a social facilitator, (b) an environmental specialist, and (c) a civil engineer. Local PMUs will have no fiduciary responsibility and will report to the central PMU which will also ensure that the project in each agglomeration adheres to the minimum engineering, social, and environmental standards.

## **B. Results M&E Arrangements**

47. **M&E of outcomes and results during implementation will follow standard World Bank practice.** The PMU at UCG will prepare quarterly reports with data for the Results Framework to be reviewed and discussed with the World Bank and other financing partners. To monitor the achievement of targets for DLIs, the World Bank and UCG have developed a verification protocol. DLIs and Eligible Expenditure Programs (EEPs) will be tracked throughout project implementation to verify progress toward achieving targets, identify and resolve problems, and ensure the required evidence of achievement is available and presented.

## **C. Sustainability**

48. **Project sustainability entails consideration of technical, financial, social, environmental, and management aspects.** The project will adopt a technically sound design accommodating local conditions including climate risk and accords in line with national design guidelines and regulations. All project-supported infrastructure will be screened up front for sustainability of O&M arrangements. Investments need to be accompanied by an O&M plan that demonstrates adequate human, technical, and financial resources to ensure continued flow of benefits from investments. In terms of E&S sustainable benefits, the project will help transform Senegal's SW sector from a fragmented service to an integrated long-term solution for the Greater Dakar region and selected secondary agglomerations, with significant E&S benefits. The phased site improvement of the existing Mbeubeuss dumpsite will progressively improve E&S conditions at the site and reduce cumulative impacts on the neighboring area.

49. **The institutional strengthening and capacity building component will provide training and TA** to UCG and concerned government departments and agencies at central, regional, and local levels so that they have adequate capacity to manage and sustain project facilities. The project will also support a move toward a financial mechanism that is based on strengthened municipal financial capacities to sustain SW service delivery. Encouraging private sector participation will also enhance sustainability of the project. The project's beneficiary feedback mechanism will help identify areas for improvements related to sustainable design and implementation and use of project facilities while promoting greater gender sensitivity.

50. **A guarantee scheme is under consideration for the PPP for Dakar in collaboration with the EU to support the Government's payment security obligations.** If it materializes, this guarantee would further strengthen the financial viability and operational sustainability of the envisaged PPP operations in Dakar lowering further the risk of nonpayment or less revenue generation than projected for the PPP operations. It would help attract top international private operators to enter the Senegalese market.



Should the guarantee not materialize for any unforeseen circumstance<sup>19</sup>, the PPP would still be carried out with a payment guarantee from the Government. A PPP without a donor guarantee has been carried out successfully in the waste sector in other countries in the region but at a higher cost.

#### IV. PROJECT APPRAISAL SUMMARY

##### A. Technical, Economic and Financial Analysis

###### Technical

51. **The design of this project builds on the national SWM strategy and on a number of studies related to the SW sector performance in Senegal.** The studies undertaken identified sectoral bottlenecks on the institutional, financial, and operational levels. Institutionally, the sector is characterized by (a) institutional instability; (b) unclear roles and responsibilities at the operational level, despite legal clarity; and (c) a weak management capacity, especially at the local level. Financially, the sector is underfunded, not just in terms of capital costs but more critically in terms of O&M. The project therefore seeks to bring about a paradigm shift that supports institutional, regulatory, financial, and operational strengthening as well as communication, outreach, infrastructure development, and opportunities for private sector partnerships.

52. **The project was designed to follow the 3R concept (reduce, reuse, and recycle).** The project's outreach and communication efforts will help raise residents' awareness on issues related to waste minimization, sorting, and containerization. Given women's significant role in managing SW at the household level, special emphasis will be added on targeting them. Given the land scarcity for waste disposal, all collection points and transfer stations will consider recycling systems (where feasible). The joint sanitary landfills to be constructed under this project will include a combination of material recovery, recycling, energy and methane recovery (where feasible), composting, and minimum disposal in a manner that prolongs as much as possible the life of the facility and creates value.

53. **Site selection considerations for the joint sanitary landfills.** This project will include the construction of several joint waste treatment and disposal sites, designed according to international best practices. The site selection process will include (a) visual site inspection and preliminary technical assessment; (b) review of relevant documents; (c) consultation with local communities and interviews of knowledgeable local individuals, including men, women, and vulnerable groups; (d) topographical survey of the sites; (e) assessment of the geology; (f) assessment of the hydrology; (g) ecological and environmental assessment; (h) socioeconomic assessment; and (i) climate change and resilience considerations. Thorough communication and citizen engagement activities will accompany the site selection process.

54. **PPP arrangement.** The proposed arrangement envisions the private sector undertaking the design, financing, construction, and operation of various facilities. The private operator would receive waste collected by local collectors contracted by UCG but will not undertake waste collection itself, as this will continue to be carried out by existing local collectors under contract with UCG. These collection contracts will be reorganized to ensure that the waste collection system is efficient and the waste

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<sup>19</sup> This risk was assessed as Moderate.



collected gets delivered to the designated facility. The private operator would also depend on the Government to provide site enabling infrastructure, which will be funded by the project.

55. **Closure and rehabilitation of existing dumpsites.** The project will support the closure and rehabilitation of existing dumpsites once the new landfills are constructed and operational. The rehabilitation of dumpsites will be assessed on a case-by-case basis considering site size and land value. Smaller dumpsites will be cleared up, whereas large dumpsites will be capped in place. The clearing and landfill capping will consider the surrounding environment (land owners and waste pickers) and will be subject to social and/or environmental assessment as the case may be in accordance with the project Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF).

### Economic and Financial Analysis

56. **The role of SWM in improving cleanliness of the environment, increasing touristic attraction, and boosting inclusive green growth is well known.** Poor SWM in Senegal led to the degradation of cities and towns with decreasing economic opportunities and land value and blocking of stormwater drains causing flooding, degradation of surface water and groundwater quality, the spread of disease pathogens, and GHG emissions. The impacts and the untapped opportunities are estimated to represent 1.06 percent of the country's GDP.<sup>20</sup>

57. **The focus of the economic analysis is Component 2, since improving SW infrastructure and services accounts for about 87 percent of the total project cost.** It is expected that Component 2 will finance the construction of approximately seven sanitary landfills and 148 SW collection and transfer stations, as well as rehabilitation/improvement of open dumpsites. These numbers were calculated as part of the strategy and based on quantity of waste and the population to be covered by the project. The role of the private companies engaged in the SWM value chain will be greatly expanded from the current three companies. The investment, when operational, will serve an estimated six million residents in Greater Dakar and three secondary agglomerations.

58. **The benefits of the project arise from resource savings or externalities.** The resource savings include those direct effects that arise from (a) avoided waste to the landfills through recycling and composting, (b) recovery of recyclable materials and production of compost, and (c) energy recovery. The benefits from externalities include (a) reduced health and environmental hazards; (b) avoidance of drainage blockage and flooding; (c) reduced GHG emissions; (d) increased property values; and (e) enhanced cultural and recreational values. A review of the literature on the impact of installation of modern SWM on property value on the surrounding property in Africa<sup>21</sup> is ambiguous and therefore was left out from further consideration.

59. **Investment, O&M costs and periods.** The investment schedule for 2020–2025 that is considered follows the implementation period. O&M is needed for both the investment period and the operation

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<sup>20</sup> World Bank. 2016. Municipal Solid Waste Management in Senegal : Challenges and Improvement Opportunities (*Gestion des déchets solides municipaux au Sénégal : Défis et opportunités d'amélioration*). .

<sup>21</sup> Ghana-George Owusu, et al. 2014. "How Do Ghana's Landfills Affect Residential Property Values? A Case Study of Two Sites in Accra." *Urban Geography* 35 (8): 1140–1155, <http://dx.doi.org/10.1080/02723638.2014.945261>.



period (set at 2026–2045). Unit cost for each segment of waste collection, transport, transfer, and disposal is estimated along with unit prices of subproducts and selected services to assess cost and benefits.

60. **The internal rate of return (IRR) and net present value (NPV) were estimated for the base case.** The results of the analysis are detailed in Table 2. Sensitivity analyses were undertaken for the following scenarios: (a) 20 percent increase in investment and O&M costs, (b) 20 percent increase in investment cost, (c) 20 percent increase in O&M cost, (d) one-year delay in implementation, (e) one-year delay in implementation plus 20 percent increase in investment and O&M costs, and (f) 20 percent decrease in benefits. The results of each scenario are still robust, indicating that the investment is beneficial to society.

**Table 2. Summary of Cost-benefit analysis (NPV in US\$ million)**

Scenario/Region	Total	
	NPV	IRR (%)
Base case	722.2	28
Investment and O&M + 20%	497.7	21
Investment + 20%	699.9	23
O&M + 20%	525.0	23
Implementation delay + 1 year	687.9	28
Implementation delay + 1 year + Investment + O&M + 20%	474.1	21
Benefit - 20%	353.2	19

61. **The cost-benefit analyses indicate that the project is economically viable and would have significant benefits.** Given the expected private sector participation, a detailed financial analysis should also be conducted to identify the economic benefits of the project. In addition, there are other factors that can potentially reduce the estimated NPV and IRR results such as (a) performance of the established system, (b) regulatory environment, (c) demand, (d) technical design, (e) administration, (f) land acquisition, (g) procurement, (h) construction, (i) operation, and (j) FM. These factors are linked to project implementation and therefore require particular attention during project execution.

**B. Fiduciary**

**Financial Management**

62. **The central PMU will be staffed with an FM specialist and an accountant.** The project will be the first World Bank-financed operation to be implemented by UCG, which has good experience in implementing donor-funded projects, such as the PGDSU financed by the IsDB which scores a Satisfactory overall performance. Staffing has remained adequate ever since and proper books of accounts and supporting documents are well archived. The auditor issued an unqualified opinion on the audited financial statements from 2014 to 2017. The interim financial reports (IFRs) associated to the Project Preparation Advance (PPA) of this project were all submitted on time and acceptable with the World Bank.

63. **However, the FM assessment carried out in January 2019 also identified the following weaknesses:** (a) the entity is not subject to yearly external audit, (b) the UCG internal auditor position was vacant at the time of the assessment but has since been filled, (c) the UCG administrative and financial manual is being used and has not been updated to include the specificities of the project, (d) the accounting software has not been updated for the bookkeeping of the project, and (e) periodic bank



reconciliations are not performed. These risks may weaken the fiduciary environment and delay implementation of activities.

64. **The FM mitigation measures that will be undertaken** to address these weaknesses, ensure immediate and effective implementation, and maintain an adequate FM system in place are as follows: (a) the Project Operations Manual (POM) with detailed procedures for requesting and reporting under RBF and the eligibility of expenditures under Component 1 will be completed and adopted no later than one month after project Effectiveness, (b) the independent verification agent for the DLI verification under Component 1 and the external auditor will be recruited no later than six months after project effectiveness, (c) an accountant will be recruited in a timely manner to support the FM Specialist who has already been appointed by the PMU, (d) training on World Bank's procedures will be provided to all the PMU fiduciary staff no later than one month after project effectiveness, (e) the PMU will maintain an accounting software for the project's bookkeeping throughout project implementation, and (f) the UCG will submit yearly audit reports throughout the project period.

### Procurement

65. **Procurement activities under the project will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers:** 'Procurement in IPF, Goods, Works, Non-Consulting, and Consulting Services', dated July 1, 2016, revised in August 2018; '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.

66. **A full procurement capacity assessment of the PMU was carried out as part of project preparation to assess the risks and procurement staffing needs.** The main findings are: (a) UCG has several years of experience in implementing projects financed by other development partners; (b) over time, there were improvements particularly in the areas of 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; and (c) the PMU has the staff with the capacity to implement the proposed project. The World Bank team will provide oversight of procurement activities through prior reviews, which is based on the level of risk and depend on contract amount thresholds. The overall risk associated with Procurement is rated **Substantial**.

67. **The borrower has prepared a Project Procurement Strategy for Development (PPSD),** which forms the basis for a Procurement Plan (PP) for the first 18 months of the project implementation and selection methods. This plan was agreed between the borrower and the World Bank and disclosed on January 13, 2020. The PP will be updated by the project team annually or as required to adjust and reflect the actual needs. The project will use the World Bank online procurement planning and tracking tool STEP (Systematic Tracking of Exchanges in Procurement) to prepare, clarify, and update the PP and all related procedures.

### C. Safeguards

#### Environmental Safeguards





68. **The overall environmental impact of the project will be positive as the project waste management situation is expected to improve**, with higher rate of collection, sorting, recycling and composting, and reduction/elimination of open dumping and burning. The project will rehabilitate the existing unsanitary dumpsite in Dakar (Mbeubeuss), which currently has significant E&S issues. During implementation, the site will be progressively rehabilitated, fenced off, capped, and revegetated. Open dumping and the risk of fire will be reduced; groundwater and surface water contamination by leachates migrating from the dumpsite will be reduced as will the release of toxic air pollutants from open burning of waste. Similar rehabilitation, clearing, and capping works will be done at other smaller dumpsites near Dakar and the other three selected secondary agglomerations.

69. **Nevertheless, the project will also finance activities with potentially significant negative environmental impact**, such as the construction of new SWM infrastructure, transfer stations, composting centers, waste collection, and landfilling. These activities could produce impacts related to air and water pollution, health and safety, odor, nuisance, and conversion of land. Furthermore, if waste facilities are inadequately managed, there is a risk of waste cumulation at these sites, thus deteriorating the environment. The project will require substantial areas of land.<sup>22</sup> Part of it will be in a natural state and will be converted to waste collection/transfer/disposal sites, resulting in permanent loss of natural sites. Existing unsanitary dumpsites already receiving waste (Mbeubeuss) will be rehabilitated and part of the reclaimed land will be used for transfer and composting activities. At this point, the exact location of all the sites is not yet known. For known sites, E&S safeguard studies were prepared and disclosed. The environmental policies triggered are listed in the Datasheet on page 4 and are: OP 4.01; OP 4.04 and OP 4.36 for potential impacts on forests, coastal zones, wetlands and other habitats that could identified once all locations are known; OP 4.09 for potential impacts from the use of pesticides to control pests in and around the project sites; OP 4.11 for potential impacts on physical cultural resources. The Government prepared, organized public consultations and disclosed on May 7, 2019 in-country and on the World Bank website the ESMF, which was deemed to be the appropriate safeguard instrument for the non-identified sites including collection routes (in Greater Dakar and the other participating agglomerations). Following a framework approach and as guided by the ESMF, once the sites are identified, the Government will prepare site-specific ESIA's and, if needed, RAPs. E&S risks will be assessed in detail prior to engaging in the PPP process. These ESIA's will be reviewed and cleared by the World Bank before being published and included as part of the tender documents for the PPP. Upon selection of the PPP partners, the World Bank will undertake a due diligence safeguard capacity assessment of the private partners. The private partners will be fully responsible for identifying, assessing and managing the E&S risks associated with the activities that they are implementing. As such, the PPP partners will prepare the final E&S safeguards instruments, using World Bank Operational Policies or IFC Standards, as well as the ESMF and relevant ESIA's and RAPs prepared by the Government as references. The PMU will rely on a team of environmental and social specialists based in Dakar and at each of the three secondary agglomerations to monitor the private partners. The World Bank will undertake due diligence supervision of the E&S risks during implementation support missions. The project is classified as Category A and environmental risk is **High**.

70. **The environmental safeguards approach for the project focuses on Component 2**. There are no physical activities under Component 1 and no risk in the institutional work it is supporting (regulatory and institutional framework strengthening, citizen engagement and public awareness improvement, human capital development and capacity strengthening). Under Component 2, the Government prepared,

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<sup>22</sup> An estimated 250 hectares of land will be required for infrastructure, based on the quantity of waste to be managed.



organized public consultations and disclosed an ESIA associated with the rehabilitation of the Mbeubeuss dumpsite. The ESIA included a comprehensive evaluation of the baseline situation and identified a set of actions to be taken to remediate the zones contaminated by hazardous waste, hydrocarbons, heavy metals, and other POPs; medical waste, household waste, etc. The ESIA also assessed the impacts of the activities relating to the rehabilitation of Mbeubeuss itself, to sorting and composting facilities that will be built adjacent to the Mbeubeuss dumpsite, and proposes mitigation measures in form of an E&S management plan (ESMP).

71. The contractor responsible for rehabilitating the site will prepare its own contractor’s E&S management plan (C-ESMP) based on the mitigation measures described in the ESIA and ESMP, as well as on the environmental audit and all other relevant studies.

72. Similarly, an ESIA was prepared for the existing transfer facility of Mbao. The ESIA gives a baseline and lists all potential impacts from activities related to sorting and transfer of waste. It also includes an ESMP describing the mitigation measures. It was subject to consultation and disclosed.

### Social Safeguards

73. **The project will have overall positive social impacts** in terms of improving access to SW services by citizens in selected agglomerations; enhancing public health and sanitary conditions;<sup>23</sup> and creating new employment opportunities for persons of legal working age.

74. **However, the project will also have significant social risks** associated with land acquisition and resettlement of Project Affected Persons (PAPs) from major civil works; loss of economic activities for the informal waste pickers in Mbeubeuss dumpsite (and possibly at other project sites which are not yet identified); and potential discontent and social unrest at the sites selected to host project facilities, particularly landfills. The social policy triggered by the project is OP/BP 4.12 on Involuntary Resettlement. To address the potential social impacts, the following social safeguard instruments were prepared: (a) a RAP for the improvement of the existing Mbeubeuss dumpsite (see Box 1); and (b) an RPF for the secondary agglomerations, as the sites and the scale of the investments are not all known at the time of project preparation. For the new SWM system for Greater Dakar under PPP, a RAP will be prepared during project implementation.

#### Box 1. Key elements of the RAP for the rehabilitation of the Mbeubeuss dumpsite

1. The RAP census counted 1,880 PAPs (1,309 men and 571 women) at Mbeubeuss dumpsite, including 977 people with no facilities or place of business (self-employed), 497 people with fixed installation, and 230 workers employed by the managers of fixed installation managers. The presence of vulnerable groups is also noted, including 168 children under 11 (160 boys and 8 girls) and 8 mentally ill (7 men and 1 woman). It is anticipated that some vulnerable PAPs would be re-oriented towards re-skilling training and integrated into other formal economic activities. Recovery and recycling activities generate significant income for the waste pickers, as well as for local recycling businesses and larger recycling industries. Some of the Mbeubeuss waste pickers are organized into a formally recognized association called “Book Diom” to defend their interests. The association elects its officials, and members pay dues. The association is federated with the group of women and residents of Baol belonging to the Mouride

<sup>23</sup> Particularly those of children working at the dumpsite, poor and vulnerable persons located in local neighborhoods who are currently exposed to serious land, air and water pollution through the dumping of uncollected or improperly disposed of waste.



community, whose leader is also a member of the steering committee. This association also rationalizes efforts to improve social visibility and working conditions, including the need to coordinate the increasing support and efforts of development partners.

2. The RAP for the rehabilitation of the Mbeubeuss dumpsite provided recommendations on how to mitigate the potential risks relating to livelihood restoration and the socio-economic reintegration of informal waste pickers, as follows: (i) assist affected people in their efforts to improve their livelihoods and living standards, or at least to restore them, in real terms, to their pre-displacement or pre-project levels, whichever is more beneficial to them; (ii) design and implement compensation and indemnification activities as sustainable development programs, providing sufficient resources and/or skill training for those affected by the project ; (iii) pay special attention to the needs of the most vulnerable among displaced populations (women, children, the elderly, pensioners, widows, etc.).
3. For the PAPs at Mbeubeuss dumpsite, a series of potential livelihood options have been developed in the RAP based on their socio-economic situation and preferences. These are being further developed into a detailed LRP, in close consultation with the PAPs and other key stakeholders, which will also specify the roles and responsibilities of UCG, local community-based organizations, national and international NGOs, and other actors in its implementation, under Subcomponent 2c of the project. Adequate budget has been set aside to cover the cost of these activities, based on a review of relevant good practice examples and the possibility of mobilizing contingency funds and other funding sources in the case that additional budget is required has been built into the project.
4. Lessons learned from the failed attempt to close Mbeubeuss dumpsite in 2010 were taken into account in the development the social safeguard instruments.

75. The project will aim to improve the living and working conditions and livelihoods of all PAPs, in particular vulnerable groups identified at the Mbeubeuss dumpsite, through support to the development of sustainable livelihood alternatives and additional assistance mechanisms for those receiving cash compensation to help strengthen their resilience. In addition, Subcomponent 2c is dedicated to improving the livelihood of waste pickers and includes the development and implementation of an LRP.

76. As part of the project and LRP development process, a series of emergency actions to improve the working and living conditions of informal recyclers and other vulnerable groups at Mbeubeuss were identified and will be implemented. They aim to minimize health and safety risks. They also contribute to building trust and mutual engagement between the public authorities and the communities. These actions, to be developed and prioritized in close consultation with the waste pickers and other key local stakeholders, will include the following: (a) securing the site access (as soon as possible, according to funds availability and final delimitation of the site perimeter); (b) distributing photo-ID badges and personal protective equipment; (c) keeping minors off the site with appropriate accompanying actions including providing childcare services to keep children away from the dumpsite while allowing mothers to continue working; (d) undertaking medical actions (e.g., checkups, sexually transmitted diseases testing, vaccinations, and first aid arrangements); (e) organizing fire protection arrangements with the local fire brigade; and (f) constructing sanitary facilities, such as access to drinking water, showers, and toilets.

77. **Given the role of women in handling domestic waste, a gender-sensitive communication campaign and outreach activities will be included** to target women and other vulnerable groups for behavioral change in waste reduction and proper disposal of waste, corresponding to local conditions.



Communication campaigns will also aim to encourage equal responsibility of household handling by men and women.

78. **The Gender-based violence (GBV) associated with the project is low.**<sup>24</sup> Nevertheless, GBV risks exist through the temporary influx of labor from major infrastructure works, particularly in secondary agglomerations, and their mitigation measures will be included in the ESMF and ESIA. The project will follow the World Bank's recommendations highlighted in the Good Practice Note For Addressing Gender-Based Violence in Investment Project Financing involving Major Civil Works (September 2018) and the approach followed to mitigate GBV and Sexual abuse and exploitation risks will entail (a) the review of sexual abuse and exploitation risks for the project areas and the availability of prevention and support services, (b) addressing of GBV risks through the procurement process with the adoption of codes of conduct by any contractor working on the project, and (c) the setting up of a monitoring framework in coordination with the communities. This will require adapting the project's GRM to specifically respect confidentiality in coordination with local leading partners.

### **Communication and Citizen Engagement**

79. **The project will include the principles of citizen engagement through the development and implementation of an inclusive and participatory communications strategy** supported through the set of safeguard instruments ESMF, RPF, ESIA, RAP, and LRP. Citizen engagement indicators have further been included in the results matrix. Citizen engagement is being facilitated by the clear identification of beneficiaries and affected persons/groups/entities during preparation, implementation, and evaluation. Throughout the project, male and female citizens will be consulted and opportunities will be provided for them to collaborate with the project and participate in the development relevant activities.

80. **Building on lessons learned from experiences in the SW sector, the project will adopt a participatory and inclusive approach to the communication strategy** in view of harmonizing the messages to be conveyed. Communities and NGOs will be engaged throughout project preparation and implementation with continuous updates on project activities and for their feedback. The project will support the following actions:

- (a) Recruitment of a communication expert for the development of an Institutional and Social Communication Plan that considers the political, social, and project contexts.
- (b) Preparation of a stakeholder mapping and a specific communication strategy for the rehabilitation of the Mbeubeuss dumpsite.
- (c) Establishment of a framework for collaboration with civil society, NGOs (including women's organizations), relevant institutional structures, PAPs, and any key local stakeholder in and around the dumpsite.
- (d) Recruitment of facilitating NGOs to promote the development among affected communities and to provide support to vulnerable groups who will also be involved in the planning, organization, and holding of consultations with local actors and implementation of GRM. These NGOs will be required to maintain a local presence in or around the landfill to facilitate accessibility for affected persons.

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<sup>24</sup> Assessment conducted using the World Bank's GBV risk assessment tool.



- (e) Development of a participatory social and gender support program for the various categories of actors operating at the landfill, focused on (i) the socioeconomic reintegration of vulnerable groups in partnership with specialized local and international NGOs, and (ii) the rehabilitation of the Mbeubeuss dumpsite and construction of an adjacent transfer and composting facilities operated by cooperatives of PAPs under acceptable health and safety conditions.

### Grievance Redress Mechanisms (GRM)

81. **GRM is a critical part of the project's citizen engagement strategy.** During implementation, complaints may arise with respect to breach of laws, land ownership and land use issues, and pollution nuisance and by beneficiaries or others. A project-level GRM is outlined in the ESIA and RAP. It is designed to (a) be a mechanism that is trusted by all relevant actors; (b) facilitate redress of any grievance or conflict that may arise from the project; (c) be supported by the project E&S specialists; (d) complement and facilitate access to independent judicial or administrative remedies outside the specific context; and (e) resolve grievances immediately using traditional, religious, and administrative mechanisms or the law courts at the national, regional, and community levels. The PMU will be notified of any disputes in the project area. Project field staff will work closely with communities and community leaders to clarify and resolve any misunderstandings that could give rise to conflicts. Where a dispute cannot be resolved at the community level, the affected party(ies) shall be advised to lodge a complaint with the GRM committee. A clear plan and procedures have been developed for this GRM, including complaint collection and processing procedures, reporting formats, database/records specifications, and committee membership—and are found in the RAP. Public participation and consultation will be a key part of the process at all times to promote understanding and prevent unnecessary complaints and disputes.

82. 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)

### V. KEY RISKS

83. **The overall risk is assessed as Substantial because of multiple key risk categories**—as listed below. The risks rated as Substantial or High and the proposed mitigation measures are elaborated as follows:

- (a) **Environmental and social: High.** The project is a Category A project, with World Bank safeguard policies requiring particularly strong and continuous supervision. In general, impacts are expected to be site specific but cumulative impacts of poor waste management and infrastructure



maintenance are also possible, potentially leading to flooding, groundwater contamination, public health and safety impacts, and even social unrest. Integration of the existing waste pickers into a formal waste management system or other economic activities will require specialized and intensive work. The proposed mitigation measures are detailed in the key project E&S safeguard instruments: (i) an ESIA relating to the phased site improvement of the Mbeubeuss dumpsite, including specific measures on livelihood restoration and reskilling of the existing waste pickers based on comprehensive census and consultation; (ii) the RAP, which presents general livelihood proposals in a general way; and (iii) the LRP, to be prepared and approved by the World Bank no later than 10 months after project effectiveness, which will delineate the final measures and an action plan for applying them in much greater detail, in part through substantial community engagement and awareness raising activities.

- (b) **Sector strategies and policies: Substantial.** The SWM sector in Senegal currently suffers from (i) lack of clarity at the operational level with regard to the respective roles of central and local governments in SWM, (ii) weak enforcement of regulations, and (iii) persistent underfunding. The new decentralization policy is yet to be made operational so that municipalities can act on their service delivery responsibilities and be provided with adequate means to fulfill their mandate. The proposed mitigation measures include (i) a comprehensive institutional strengthening of the SWM sector to enhance governance, planning, financing, management, and regulatory enforcement; (ii) corresponding capacity building for the concerned ministries, agglomerations, municipalities, agencies, and local communities; and (iii) engagement on PPP modalities, which may enhance the financial and operational sustainability of the sector.
- (c) **Technical design: Substantial.** While the experience with the ongoing SWM project financed by the IsDB will lessen the overall technical risk, the proposed phased site improvement of the Mbeubeuss dumpsite in an environmentally and socially sensitive area will add technical complexity to the project. The risks will be mitigated by (i) rigorous due diligence on the technical design and engineering throughout design, bidding, construction, and O&M stages; (ii) continued consultation with relevant stakeholders on the design and implementation; (iii) independent E&S impact studies; and (iv) additional capacity building support to the UCG.
- (d) **Institutional capacity for implementation and sustainability: Substantial.** The rating is due to the current institutional uncertainties among national, regional and local-level actors; the difficulties experienced in the past in getting a consensus on long-term solutions for SW disposal in the Greater Dakar region; lack of sustainability of investments due to weak O&M practices and inadequate resources; and a complex institutional setup with large number of stakeholders. The risk will be mitigated through (i) institutional reform and capacity building component, addressing the identified shortfalls in the institutional and financial arrangements and management capacity of each concerned agency at national, regional, and local levels; (ii) substantial community engagement and awareness raising activities throughout project design and implementation; and (iii) empowerment of UCG with streamlined communication process with key ministries and government agencies.
- (e) **Stakeholders: Substantial.** The horizontal and vertical multi-jurisdictional coordination is a critical success factor for the project including intermunicipal investments. Given the large number of stakeholders engaged in the sector and the current lack of clarity on roles and responsibilities of each sector actor, lack of coordination may be a risk to the project. Continuous stakeholder engagement and substantial public consultation and citizen engagement will thus be carried out during both design and implementation along with capacity building for all agencies involved in



implementation. The involvement of several development partners with different priorities, administrative policies and procedures adds some challenges, which will require additional efforts, close coordination and supervision.

- (f) **Fiduciary: Substantial.** The overall FM risk for the project is rated Substantial due to the lack of adequate internal and external audit arrangements and the complexity of project design, which involves multiple donors and actors intervening in the SWM sector, and will introduce PPP contracts. The FM and Procurement assessment identified mitigation measures and concluded that once they are implemented, the World Bank's minimum requirements under World Bank Policy and Directive for IPF will be met. In addition, the PMU has previous experience and a good track record implementing other donor-financed projects.



VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Senegal

Senegal Municipal Solid Waste Management Project

Project Development Objectives(s)

The Project Development Objective (PDO) is to strengthen the governance of solid waste management in Senegal and improve solid waste management services in selected municipalities.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Strengthen the Governance of SWM and Improve SWM Service in Selected Municipalities</b>								
People provided with access to improved SW services (Number)		0.00	0.00	0.00	600,000.00	1,000,000.00	2,000,000.00	6,000,000.00
Of which female (Number)		0.00	0.00	0.00	312,000.00	520,000.00	1,040,000.00	3,120,000.00
SW recycled or disposed at sanitary landfills in selected municipalities of the project (Metric tons/year)		0.00	0.00	0.00	90,000.00	400,000.00	800,000.00	1,100,000.00
Surface area of dumpsites rehabilitated (Square Meter(m2))		0.00	0.00	0.00	100,000.00	500,000.00	800,000.00	1,500,000.00
Municipalities with		0.00	0.00	0.00	0.00	10.00	30.00	90.00





Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
strengthened SWM capacity (Number)								

**Intermediate Results Indicators by Components**

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Component 1: Strengthening Sector Governance and Institutional Capacity</b>								
People benefiting from capacity building training, including central and local government officials, local communities, and entrepreneurs (Number)		0.00	250.00	500.00	2,000.00	4,000.00	4,500.00	5,000.00
Of which female (Number)		0.00	75.00	150.00	700.00	1,600.00	2,025.00	2,500.00
Technical and institutional framework for intermunicipal coordination improved for SWM (Text)	DLI 1	None.	2 sites selected for the construction of the joint sanitary landfills	4 sites selected for the construction of the joint sanitary landfills	4 intermunicipal agreements, delegating the management of the joint sanitary landfills, are signed by at least 60 percent of the selected municipalities	3 intermunicipal SWM plans are adopted	5 intermunicipal SWM plans are adopted	10 percent of the annual budget for O&M identified in each of the intermunicipal SWM plans is spent
Timely transfers for secondary waste collection (Number)	DLI 2	0.00	0.00	0.00	0.00	0.00	4.00	7.00
Increase in local taxation	DLI 3	0.00	0.00	0.00	0.00	10.00	15.00	20.00



Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
received by the selected municipalities (Percentage)								
Contracts signed with private sector service providers for collection, transfer or treatment and disposal of SW (Number)		0.00	0.00	0.00	1.00	4.00	7.00	10.00
Project-related grievances received, recorded and acted upon within two weeks (Percentage)		0.00	0.00	75.00	80.00	85.00	90.00	95.00
<b>Component 2: Improving Solid Waste Infrastructure and Services in Selected Agglomerations</b>								
Beneficiaries satisfied with improvements in SWM services (Percentage)		0.00	0.00	0.00	50.00	0.00	0.00	70.00
Female beneficiaries satisfied with improvements in SWM services (Percentage)		0.00	0.00	0.00	50.00	0.00	0.00	70.00
Female beneficiaries claiming saved time from improvements in SWM services (Percentage)		0.00	0.00	0.00	50.00	0.00	0.00	70.00
Sanitary landfills constructed and operational (Number)		0.00	0.00	0.00	0.00	3.00	5.00	7.00
SW collection and transfer facilities constructed (Number)		0.00	0.00	0.00	5.00	20.00	50.00	90.00
Waste pickers provided with viable and sustainable opportunities for paid		0.00	0.00	200.00	500.00	800.00	1,000.00	1,500.00



Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
works or skills development training (Number)								
Of which female (Number)		0.00	0.00	95.00	240.00	380.00	480.00	800.00
Female waste pickers with improved working conditions (Number)		0.00	0.00	95.00	240.00	380.00	480.00	600.00
Female waste pickers earning an income at a level on par with men (Number)		0.00	0.00	95.00	240.00	380.00	480.00	600.00

**Monitoring & Evaluation Plan: PDO Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People provided with access to improved SW services	This indicator captures the number of people benefiting from a full value-chain waste management service. This includes not only the collection of SW (household and commercial) and recyclable materials, but also the transport of these materials once collected, to	Annual	Progress reports by PMU and surveys.	In each agglomeration the local PMU teams will survey, on an annual basis, SW service providers to determine the number of people who have access to SWM services.	Project Management Unit



	an appropriate location (sanitary landfills, recycling center or other designated facility) where the collection vehicle is emptied.				
Of which female	Number of women provided with access to improved SW services.	Annual	Annual Survey of Beneficiaries	In each agglomeration the local PMU teams will survey, on an annual basis, SW service providers to determine the number of female who have access to SWM services.	Project Management Unit
SW recycled or disposed at sanitary landfills in selected municipalities of the project	Yearly volumes of SW either recycled or disposed at sanitary landfills or rehabilitated dumpsites, as a result of Project interventions.	Annual	Progress reports from PMU	Aggregated volume of waste recorded at each of the recycling and disposal facilities constructed under the project.	Project Management Unit
Surface area of dumpsites rehabilitated	Cumulative area of existing dumpsites rehabilitated under the project. This will include small dumpsites that are fully evacuated and larger dumpsites capped in place with impervious layer of soil and vegetated.	Yearly	Progress reports from PMU	The PMU will aggregate the surface area of dumpsites evacuated or capped in place as measured in the field and reported by the field engineer in their monthly reports.	PMU, local PMUs, municipalities



Municipalities with strengthened SWM capacity	Cumulative number of selected municipalities for which the project have resulted in: (i) municipal SW plan prepared and adopted by the municipal council; (ii) at least 75% of the SW infrastructure identified in the municipal plan constructed; (iii) staff trained in SWM; and (iv) municipal budgets adopted with line items dedicated for SWM.	Annual	Annual survey	The PMU will count the number of selected municipalities meeting this criteria by assessing the status of the municipal SW plan (adopted or not), the progress in the construction of the infrastructure identified in the SW plan, progress towards the capacity building activities and status of the municipal budget.	Project Management Unit
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**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People benefiting from capacity building training, including central and local government officials, local communities, and entrepreneurs	Cumulative number of people who benefited from capacity building training under the project. Beneficiaries will be disaggregated by target group (central and local government officials, local communities, and entrepreneurs), location and	Annual	Progress reports from PMU and surveys	The PMU will determine the number of people who have benefited from capacity building training through attendance sheets.	Project Management Unit



	gender (next indicator).				
Of which female	Cumulative number of women who benefited from capacity building trainings under the project. Female beneficiaries will be disaggregated by target group (central and local government officials, local communities, and entrepreneurs), and location.	Annual	Progress reports from PMU and surveys	The PMU will determine the number of women who have benefited from capacity building training through attendance sheets.	Project Management Unit
Technical and institutional framework for intermunicipal coordination improved for SWM	For Target 1-2, number of sites selected for the construction of the joint sanitary landfills ; For Target 3, number of intermunicipal agreements delegating the management of the joint sanitary landfills to a designated body signed by at least 60% of the selected municipalities within the radius of each of the selected sites; For Target 4-5, number of intermunicipal SWM plans adopted by a municipal decision or decree; For Target 6, percentage of the annual budget for O&M	Annual	Independent Verification Report	The report produced by the independent verification agent based on evidence submitted by the Government for each of the targets. Please refer to the DLI matrix for further details.	UCG/agglomerations/municipalities



	identified in the SWM plans spent.				
Timely transfers for secondary waste collection	Number of designated bodies that have received an earmarked grant for secondary waste collection, six months after the adoption of the Annual Budget Law, to be used to improve intermunicipal SWM.	Annual	Independent Verification Report	The report produced by the independent verification agent based on evidence submitted by the Government on the earmarked grant for secondary waste collection. Please refer to the DLI matrix for further details.	Project Management Unit
Increase in local taxation received by the selected municipalities	Percentage increase in the TEOM amounts received by the selected municipalities, calculated from the baseline.	Annual	Progress reports from PMU and Independent Verification Report	The PMU will aggregate the local taxes collected by all municipalities under the project through the country's treasury.	PMU/municipalities
Contracts signed with private sector service providers for collection, transfer or treatment and disposal of SW	Cumulative number of contracts concluded with the private sector for the construction or O&M of any segment of SW services, including collection, transfer, recycling and disposal system under the project.	Annual	Progress reports from PMU and contract documents	The project progress reports will provide an update on private sector contracts.	Project Management Unit
Project-related grievances received, recorded and acted upon within two weeks	Percentage of project-related grievances received, recorded and acted upon	Annual	GRM and Progress reports by	The GRM will be designed to keep track of this indicator.	PMU



	within two weeks.		PMU		
Beneficiaries satisfied with improvements in SWM services	Percentage of beneficiaries who express their satisfaction towards improvements of SWM services through a beneficiary feedback survey.	Twice - at mid-term and at completion	Beneficiary feedback survey reports	A representative sample of beneficiaries will be surveyed at mid-term and at completion to determine the level of satisfaction with SWM services.	Project Management Unit
Female beneficiaries satisfied with improvements in SWM services	Percentage of female beneficiaries who express their satisfaction toward improvements in SWM services through a beneficiary feedback survey.	Twice - at mid-term and at completion	Beneficiary feedback surveys reports	The beneficiary survey will be disaggregated by gender to determine the percentage of female beneficiaries who express their satisfaction with improvements in SWM.	Project Management Unit
Female beneficiaries claiming saved time from improvements in SWM services	Percentage of female beneficiaries who express saved time from improvements in SWM services through a beneficiary feedback survey.	Twice - at mid-term and at completion	Beneficiary feedback surveys reports	The beneficiary survey will include a question on the time saved by women as a result of SWM services improvements achieved under the project.	Project Management Unit
Sanitary landfills constructed and operational	Cumulative number of sanitary landfills that were	Annual	Progress reports from	The number of sanitary landfills reported as	Project Management Unit





	constructed and became operational through interventions of the project.		PMU	fully completed in the engineer's field report and confirmed by the PMU as being operational.	
SW collection and transfer facilities constructed	Cumulative number of solid waste collection and transfer facilities that were constructed and became operational as a result of project interventions.	Annual	Progress reports from PMU	The number of SW collection and transfer facilities reported as fully completed in the engineer's field report.	Project Management Unit
Waste pickers provided with viable and sustainable opportunities for paid works or skills development training	Cumulative number, of waste pickers that benefited from opportunities for paid works or skills development training.	Annual	Progress reports from PMU	The PMU will aggregate the number of waste pickers reported in the progress reports of the RAP and LRP as having benefited from opportunities for paid works or skills development training.	Project Management Unit
Of which female	Cumulative number of female waste pickers who benefited from opportunities for paid works or skills development training.	Annual	Progress reports from PMU	The PMU will aggregate the number of female waste pickers reported in the progress reports of the RAP and LRP as having benefited from opportunities for paid works or skills development training.	Project Management Unit



Female waste pickers with improved working conditions	Cumulative number of female waste pickers that claim they have improved working conditions.	Annual	Progress reports from PMU	The PMU will assess the number of female waste pickers reported in the progress reports of the RAP and LRP as having benefited from improved working conditions.	Project Management Unit
Female waste pickers earning an income at a level on par with men	Cumulative number of female waste pickers earning an income at a level on par with men.	Annual	Progress reports from PMU	The PMU will undertake regular survey of the income earning by male and female waste pickers as a basis for determining the number of female waste pickers earning an income at a level on par with men.	Project Management Unit

**Disbursement Linked Indicators Matrix**

<b>DLI 1</b>	Improving the technical and institutional framework for intermunicipal coordination for SWM			
<b>Type of DLI</b>	<b>Scalability</b>	<b>Unit of Measure</b>	<b>Total Allocated Amount (USD)</b>	<b>As % of Total Financing Amount</b>
Outcome	Yes	Text	4,000,000.00	3.20
<b>Period</b>	<b>Value</b>		<b>Allocated Amount (USD)</b>	<b>Formula</b>



Baseline	Intermunicipal cooperation for SWM is non-existent. No SWM plans were adopted at the local or intermunicipal levels before project preparation.		
Year 1	DLR 1.1: Number of sites (Selected Sites) for the construction of joint sanitary landfills that are selected following the local legal framework, by a Municipal decision or decree; and complying with technical, E&S requirements acceptable to the Association.	400,000.00	\$200,000/Selected Site.
Year 2	Same as above	400,000.00	\$200,000/Selected Site.
Year 3	DLR 1.2: Number of Intermunicipal Agreements, delegating the management of the joint sanitary landfills to a Designated Body, that are signed by at least 60 percent of the Selected Municipalities within the radius of each of the Selected Sites. /// DLR 1.3: Number of Intermunicipal SWM Plans that are adopted, following the local legal framework, by a Municipal decision or decree, and pursuant to the Intermunicipal Agreements.	971,429.00	DLR 1.2: \$142,857/Agreement. DLR1.3: \$100,000/plan.
Year 4	DLR 1.1: Number of sites (Selected Sites) for the construction of joint sanitary landfills that are selected following the local legal framework, by a Municipal decision or decree; and complying with technical, E&S requirements acceptable to the Association. /// DLR 1.3: Number of Intermunicipal SWM Plans that are adopted, following the local legal framework, by a	900,000.00	DLR 1.1: \$200,000/Site. DLR 1.3: \$100,000/plan.



	Municipal decision or decree, and pursuant to the Intermunicipal Agreements.			
Year 5	DLR 1.2: Number of Intermunicipal Agreements, delegating the management of the joint sanitary landfills to a Designated Body, that are signed by at least 60 percent of the Selected Municipalities within the radius of each of the Selected Sites. /// DLR 1.4: At least 10 percent of the annual budget for O&M identified in each of the Intermunicipal SWM Plans is spent to improve intermunicipal SWM in the Selected Municipalities.		1,328,571.00	DLR 1.2: \$142,857/Agreement. DLR1.4: proportionate to budget
Year 6				0.00
<b>DLI 2</b>	Timely transfers for secondary waste collection to provide for more efficient SWM by the designated bodies managing secondary waste collection.			
<b>Type of DLI</b>	<b>Scalability</b>	<b>Unit of Measure</b>	<b>Total Allocated Amount (USD)</b>	<b>As % of Total Financing Amount</b>
Output	Yes	Text	3,000,000.00	2.40
<b>Period</b>	<b>Value</b>		<b>Allocated Amount (USD)</b>	<b>Formula</b>
Baseline	No funds are currently allocated by central government for the management of secondary waste collection.			
Year 1				0.00
Year 2				0.00
Year 3				0.00



Year 4			0.00	
Year 5	DLR 2.1: Number of Designated Bodies that have received an Earmarked Grant for Secondary Waste Collection, no later than six (6) months, after the adoption of the Recipient’s Annual Budget Law (Loi de Finances), to be used to improve secondary SWM.		1,500,000.00	\$214,285/Designated Body.
Year 6	Same as above		1,500,000.00	\$214,285/Designated Body
<b>DLI 3</b>	<b>Strengthening local taxation received by the selected municipalities to improve SW services</b>			
<b>Type of DLI</b>	<b>Scalability</b>	<b>Unit of Measure</b>	<b>Total Allocated Amount (USD)</b>	<b>As % of Total Financing Amount</b>
Output	Yes	Text	4,000,000.00	3.20
<b>Period</b>	<b>Value</b>		<b>Allocated Amount (USD)</b>	<b>Formula</b>
Baseline	Annual revenues recovered from the official local tax allocated to SWM (TEOM) amounted approximately to US\$3.7 million in 2016. Municipalities receive only a portion of these revenues collected by central government.			
Year 1			0.00	
Year 2	DLR 3.1: Number of Selected Municipalities that have established a tax database for the assessment and valuation of the TEOM, in form and substance acceptable to the Association.		1,000,000.00	Proportionate to number of Selected Municipalities
Year 3	Same as above.		1,500,000.00	Proportionate to number of



			Selected Municipalities
Year 4	DLR 3.2: Increase in local taxation revenues from TEOM received by the Selected Municipalities to improve SW services.	500,000.00	Proportionate to % increase in TEOM received
Year 5	Same as above.	500,000.00	Proportionate to % increase in TEOM received
Year 6	Same as above.	500,000.00	Proportionate to % increase in TEOM received

**Verification Protocol Table: Disbursement Linked Indicators**

<b>DLI 1</b>	Improving the technical and institutional framework for intermunicipal coordination for SWM
<b>Description</b>	DLI 1 promotes intermunicipal coordination for SWM in line with Law No. 2013-10 of December 2013 related to the General Local Government Code which provides for inter-territorial organization. This will be achieved through: (a) the identification of the sites for the construction of the joint sanitary landfills by the selected municipalities benefiting from the joint infrastructure; (b) the adoption of intermunicipal plans to institutionalize the intermunicipal management of the joint sanitary landfills; and (c) ensuring the execution of the intermunicipal SWM plan.
<b>Data source/ Agency</b>	UCG/municipalities
<b>Verification Entity</b>	A consulting firm will be hired using project resources to assess the achievement of the DLI prior to disbursement.
<b>Procedure</b>	An independent verification agent will carry out an assessment based on submission to the Association of: DLR 1.1: Proof that sites were selected for the construction of the joint sanitary landfills (i) following the local legal framework, by Municipal decision or decree; and (ii) in compliance with technical, E&S requirements acceptable to the Association. DLR 1.2: Copy of the Intermunicipal Agreements delegating the management of the joint sanitary landfills to a Designated



	<p>Body, signed by at least 60 percent of the Selected Municipalities within the radius of each of the Selected Sites. The designated body could be: (i) the UCG; and/or (ii) a lead municipality/lead municipalities; and/or (iii) an intermunicipal entity; and/or (iv) any other entity.</p> <p>DLR 1.3: Copy of the Intermunicipal SWM Plans adopted by a Municipal decision or decree.</p> <p>DLR 1.4: (i) Progress reports on the execution of budget identified for O&amp;M in each of the Intermunicipal SWM Plans; and (ii) financial accounts of the Designated Body in charge of executing the Intermunicipal SWM Plan (audited accounts, where possible).</p>
<b>DLI 2</b>	Timely transfers for secondary waste collection to provide for more efficient SWM by the designated bodies managing secondary waste collection.
<b>Description</b>	Primary collection is relatively effective because door-to-door collection is provided for a service fee that is recovered fairly well by primary collectors; on the other hand, secondary collection is inefficient because of cost recovery issues. Grants from central government to manage secondary collection are therefore needed on a transitional basis, until cost recovery reaches a level of sustainability. DLI 2 provides for appropriate levels of funding necessary for suitable standards of secondary waste collection to be incorporated into the national budget and annually thereafter transferred to the designated bodies managing secondary waste collection. The verification that funds were spent by the Designated Bodies towards the intended purpose will be carried out by the Government in accordance with national auditing procedures.
<b>Data source/ Agency</b>	Ministry of Finance / UCG
<b>Verification Entity</b>	A consulting firm will be hired using project resources to assess the achievement of the DLI prior to disbursement.
<b>Procedure</b>	<p>An independent verification agent will carry out an assessment based on the submission to the Association:</p> <p>DLR 2.1: (i) the adopted Annual Budget Law reflecting the amount of the Earmarked Grant for Secondary Waste Collection; and (ii) the proof of timely transfer of the amount inscribed in the Annual Budget Law to the Designated Bodies in charge of secondary waste collection.</p> <p>The assessment by the independent verification agent will confirm that the amount of the Earmarked Grant transferred to each Designated Body is equal or superior to the one identified for O&amp;M in each of the Intermunicipal SWM Plans.</p>
<b>DLI 3</b>	Strengthening local taxation received by the selected municipalities to improve SW services
<b>Description</b>	The SWM sector is critically underfunded. The official local fiscal resource for SWM is the TEOM but its rate of recovery is



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	<p>very low. The TEOM fiscal potential is estimated to be ten times higher than the amounts currently recovered. DLI 3 incentivizes a gradual transition to a sustainable financing mechanism for SWM in Senegal. This will be achieved through ensuring that selected municipalities: (a) establish tax databases for the assessment and valuation of TEOM within their jurisdictions; and (b) receive the recovered aforementioned local tax resources. Subcomponent 1b will provide capacity building activities to selected municipalities and other stakeholders to strengthen local taxation more broadly. The DLI is used to provide incentives to achieve concrete results.</p>
<b>Data source/ Agency</b>	Treasury/UCG/municipalities
<b>Verification Entity</b>	A consulting firm will be hired using project resources to assess the achievement of the DLI prior to disbursement.
<b>Procedure</b>	<p>An independent verification agent will carry out an assessment based on the submission to the Association:</p> <p>DLR 3.1: A proof provided by Selected Municipalities that databases for the assessment and valuation of the TEOM were established.</p> <p>DLR 3.2: Financial accounts of Selected Municipalities (if possible, audited), and/or data from the treasury on the TEOM recovered amounts.</p>

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## **ANNEX 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN**

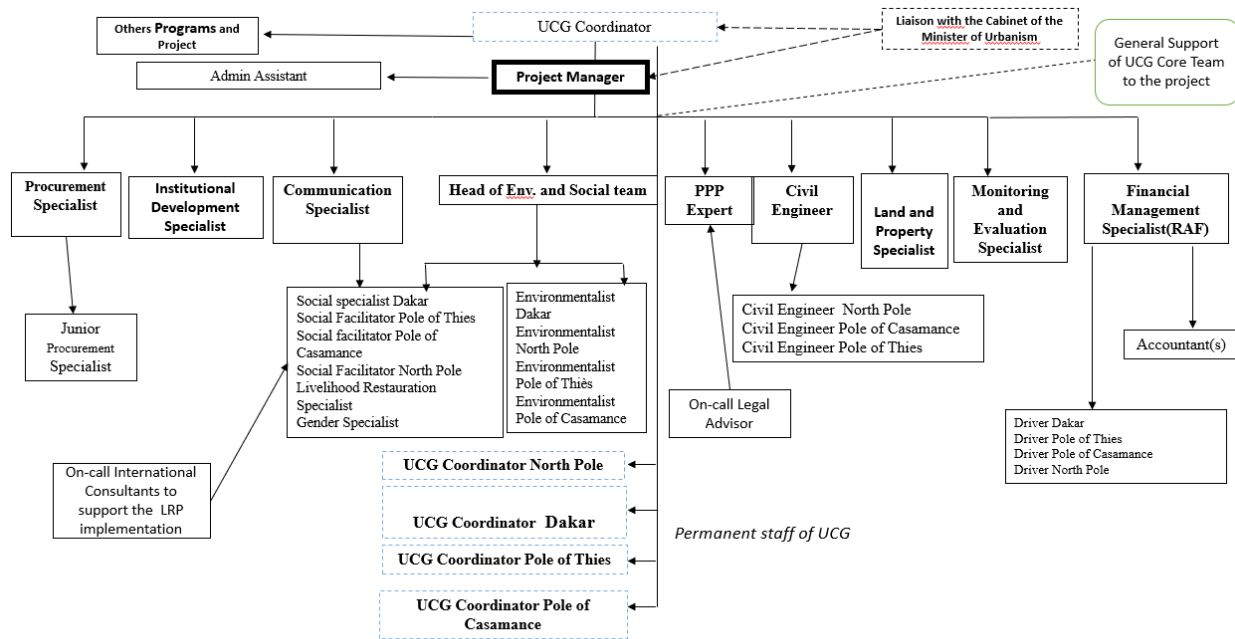
### **COUNTRY: Senegal**

#### **Senegal Municipal Solid Waste Management Project**

#### **Implementation Arrangements**

1. The project implementation will rely on an SC, a TC, and technical groups to facilitate the implementation of the proposed activities under Component 1, a central PMU, three local-level management units with institutional support provided by NGOs, consultants, and the private sector. The SC will play a significant role in high-level decision making, ensure harmonious interaction among the various governmental ministries, and accelerate the implementation of the activities proposed under Component 1.
2. The SC will be established within three months of project effectiveness, will be chaired by the MULHP, and comprises representatives of the following entities (a) the Ministry in charge of Territorial and Territory Administration; (b) the Ministry in charge of Interior; (c) the Ministry in charge of Finance and Budget; (d) the Ministry in charge of Economy, Planning and Cooperation; (e) the Ministry in charge of Environment and Sustainable Development; and (f) the Association of Mayors of Senegal.
3. A TC will be created to facilitate the implementation of the project and serve as the technical arm of the SC. The TC will oversee the technical review of strategic studies, feasibility studies, and project-related documents and reports. Also, the TC will be supported by technical groups to facilitate the implementation of the proposed activities under Component 1.
4. The following ministries will be part of the TC or technical groups, as deemed necessary during project implementation (and detailed in the POM): MULHP, Ministry of Interior, Ministry of Local and Territorial Governments, Ministry of Environment and Sustainable Development, Ministry of Finance and Budget, Ministry of Economy, Planning and Cooperation, Ministry of Health and Social Action, Ministry of Agriculture and Rural Development, Ministry of Gender, Family, and Child Protection, Ministry of Tourism and Air Transport, Ministry of Industrial Development and Small and Medium Industries, Ministry of Mines and Geology, Ministry of Livestock and Animal Production, Ministry of Trade and Small and Medium Enterprises, Ministry of Culture and Communication, Ministry of Labor, Professional Training and Crafts, and Ministry of Community Development, Social and Territorial Equity.
5. The project will be implemented by a PMU created within the UCG. The PMU will oversee the management of the financial resources allocated for implementation, the monitoring of project activities, and the performance evaluation of all the entities involved in project implementation.

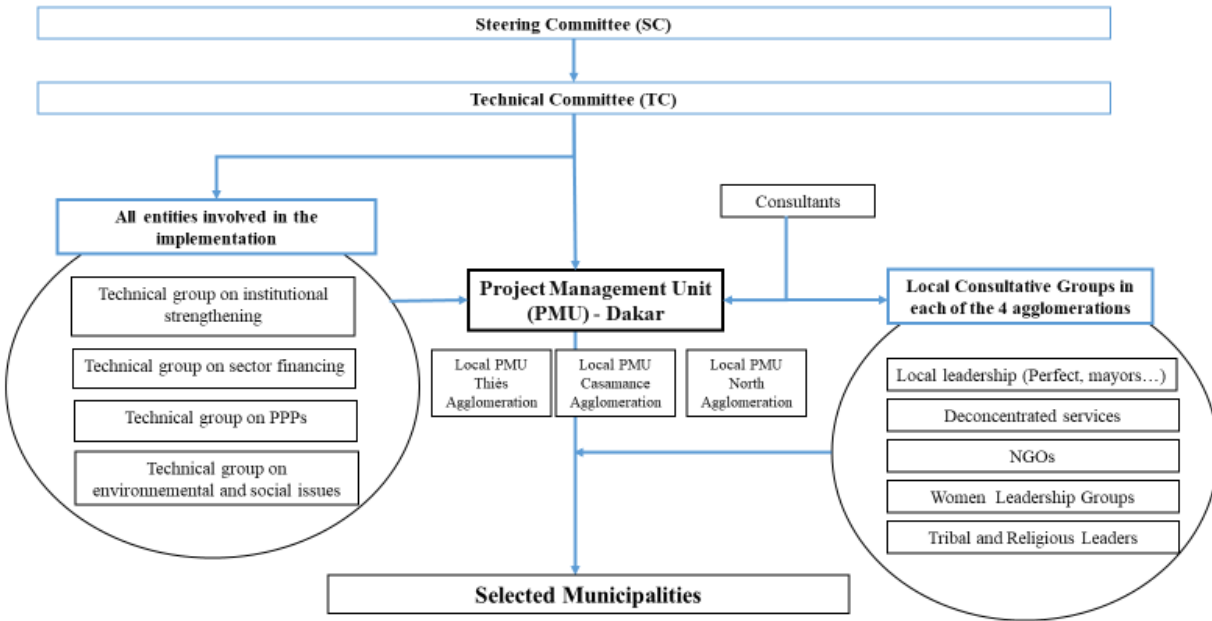
**Figure 1.1. PMU Organigram**



6. In each selected agglomeration, a local TC will be established to oversee the planning, monitoring, and implementation activities of the project. This committee will include representatives of the waste management services, local government technical services, and local communities. The selected municipalities do not all have the investment capacity required for the activities of the proposed project. Therefore, those municipalities will benefit from the technical and institutional support provided by NGOs, consultants, and the private sector.

7. The central PMU team will comprise at minimum one each of the following team members: (i) project manager, (ii) M&E officer, (iii) civil engineer, (iv) environmental specialist, (v) social and community engagement specialist, (vi) gender specialist, (vii) resettlement specialist, (viii) procurement specialist, (ix) procurement assistant, (x) FM specialist, (xi) accountant, (xii) legal and institutional expert, and (xiii) communication specialist.

**Figure 1.2 Institutional Arrangement**



### FM Arrangements

8. **Budgeting.** The budgeting process from elaboration to execution and control will be clearly defined in the manual of procedures, including FM arrangements, and the budget will be reviewed and adopted by the SC before the beginning of its execution. Annual draft budgets will be submitted to the World Bank and donors for review and non-objection before adoption and implementation and no later than November 30 of each year. Periodic monitoring of budget execution and variance analysis will be prepared by the PMU and included in the quarterly IFRs.

9. **Accounting.** The West African Accounting System (*Système Comptable Ouest Africain-Organisation pour l'Harmonisation en Afrique du Droit des Affaires*, SYSCOHADA) in use in the West African Economic and Monetary Union for ongoing World Bank-financed projects will be applicable. Annual financial statements will be prepared by the PMU in compliance with SYSCOHADA standards. An acceptable accounting and reporting system will be maintained for bookkeeping and to generate financial reports.

### Internal Control Arrangements and Internal Auditing Arrangements

10. The daily operations of the project will be guided by the POM, which will incorporate the FM procedures and the specificities of the project including RBF. The Administrative and Accounting Procedures Manual will include a division of roles and responsibilities between stakeholders and a clear description of the approval and authorization processes in respect of the rule of segregation of duties. An internal auditor with qualification and experience satisfactory to the World Bank will be recruited by UCG. The internal auditor will cover the audit functions of the project.



## **Funds Flow and Disbursement Arrangements**

11. **Disbursements will be report based.** The World Bank will disburse loan proceeds to the Ministry of Finance into a Designated Account maintained at a local commercial bank acceptable to the World Bank for the project. Advances will be provided to the Designated Account based on six-month forecast, excluding the DLIs payments, and subsequently quarterly IFRs will be used for documentation of expenditures. Other disbursement methods (reimbursement, direct payments, and special commitment) will be available for use. Overall disbursement arrangements will follow standard disbursement policies and procedures established in the Disbursement Guidelines for Investment Project Financing dated February 2017 and in the Disbursement and Financial Information Letter (DFIL) of the project. The disbursement of co-financiers (AFD and AECID) will go into separate Designated Accounts.

12. The disbursements for the DLI payments under Component 1 will be made against achievement of DLIs targets. A certain amount of credit proceeds will be allocated to each DLI, referred to as the DLI price, which is the amount that the designated beneficiaries' entities contributing to the envisaged reforms can claim as disbursements against EEPs if that DLI has been achieved and verified. These EEPs are a part of the designated beneficiaries' recurrent expenses of the eligible activities and shall primarily comprise capacity-building activities, operating costs, consulting services, and acquisition of equipment. Partnership agreements will be prepared and signed between each of the entities involved and UCG.

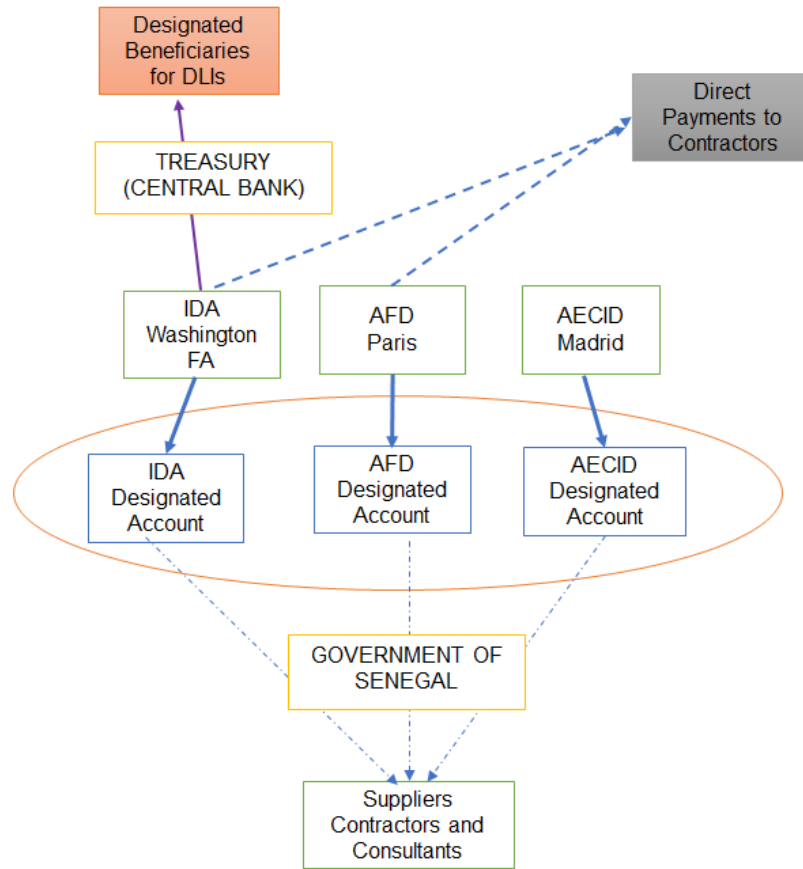
13. This mode of disbursement will mainly involve reimbursement of certified EEPs supported with achieved DLIs and other relevant documentation. The disbursements will be made against identified EEPs, and the triggers will be the actual values of predefined DLIs. Decisions over compliance and disbursement against indicators will be made based on periodic reports prepared by UCG and submitted to the independent verification agent with necessary documentation assuring that they have been satisfied. The World Bank will receive the EEP spending and DLI assessment report and will finally advise on the amount to be reimbursed to the designated beneficiaries which should be consistent with the EEPs in the partnership agreement and not exceed the actual value of the DLI. Disbursements against EEPs and DLIs will flow to a special account to be opened at the treasury.

14. **Carryforward of amounts not disbursed.** If the World Bank has received only partial evidence of compliance under the DLIs and/or the recipient has not presented enough eligible expenditures under the EEPs to disburse the full planned disbursement amounts, only part of the full planned amount will be disbursed. The World Bank may, at its discretion, authorize that the unwithdrawn portion of the financing resulting from this lack of evidence be carried forward to the subsequent withdrawals. If this occurs, the amount to be disbursed by the World Bank, in the aggregate under all subsequent withdrawals, shall not exceed 100 percent of the sum of the total amounts of EEPs incurred at that time.

15. **Distribution of carried forward disbursements.** The amounts carried forward for subsequent withdrawals because of the nonachievement of DLIs may be disbursed only if at the time of the subsequent withdrawal (a) the applicable DLIs have subsequently been achieved and (b) the recipient has submitted documentation of eligible expenditures in the amount at least equal to the withdrawal amount requested. The amounts carried forward due to lack of documentation of eligible expenditures in the amount at least equal to the amount requested for withdrawal may be disbursed at the time of the subsequent withdrawal only if such amount of eligible expenditures is then submitted.

16. A total of three DLIs will be financed from the US\$11.00 million allocated to EEPs.

**Figure 1.3. Funds flow (including financing by co-financiers)**





**Table 1.1. EEPs at Local and Central Levels**

Municipality Level	Budget Code	Corresponding DLI
EEP 1 : Office stationery	616 and 619	DL1 and DL13
EEP2 : Travel and mission expenses	622	DL1 and DL13
EEP3 : Salary, indemnity and compensation	650, 6510, 65301, 65300, 65308	DL1 and DL13

Central Level	Code Section	Department	Entity	Paragraph Code	Expenditure Code	Corresponding DLI
EEP 1 : office stationery	33	MINISTRY OF INTERIOR	General Department of Territorial Administration	601	5	DL1, DL12 and DL13
	43	MINISTRY OF FINANCE AND BUDGET	Department General of Public Accounting and Treasury	601	5	DL12
			Department of Local Public Sector	601	5	DL1, DL12 and DL13
			Taxation and Domains Department	601	5	DL13
			General Department of Budget	601	5	DL12 and DL13
			Department of Budget Planning	601	5	DL12 and DL13
			Department for the Ordering of the Public Expenditure	601	5	DL12 and DL13
	65	MINISTRY OF TERRITORIAL AND TERRITORIAL GOVERNMENTS	Department of Local Governments	601	5	DL1, DL12 and DL13
			Department of Local Development Support	601	5	DL1
	EEP 2 : Travel and mission expenses	33	MINISTRY OF INTERIOR	General Department of Territorial Administration	611	3
43		MINISTRY OF FINANCE AND BUDGET	Department General of Public Accounting and Treasury	611	3	DL12
			Department of Local Public Sector	611	3	DL1, DL12 and DL13
			Taxation and Domains Department	611	3	DL13
			General Department of Budget	611	3	DL12 and DL13
			Department of Budget Planning	611	3	DL12 and DL13
			Department for the Ordering of the Public Expenditure	611	3	DL12 and DL13
65		MINISTRY OF TERRITORIAL	Department of Local Governments	611	3	DL1, DL12 and DL13



		AND TERRITORIAL GOVERNMENTS	Department of Local Development Support	611	3	DLI1
EEP3 : Salary, indemnity and compensation	33	MINISTRY OF INTERIOR	General Department of Territorial Administration	623, 661, 662, 663	2	DLI1, DLI2 and DLI3
	43	MINISTRY OF FINANCE AND BUDGET	Department General of Public Accounting and Treasury	623, 661, 662, 663	2	DLI2
			Department of Local Public Sector	623, 661, 662, 663	2	DLI1, DLI2 and DLI3
			Taxation and Domains Department	623, 661, 662, 663	2	DLI3
			General Department of Budget	623, 661, 662, 663	2	DLI2 and DLI3
			Department of Budget Planning	623, 661, 662, 663	2	DLI2 and DLI3
			Department for the Ordering of the Public Expenditure	623, 661, 662, 663	2	DLI2 and DLI3
	65	MINISTRY OF TERRITORIAL AND TERRITORIAL GOVERNMENTS	Department of Local Governments	623, 661, 662, 663	2	DLI1, DLI2 and DLI3
			Department of Local Development Support	623, 661, 662, 663	2	DLI1

**Financial Reporting Arrangements**

17. The PMU at UCG will produce quarterly unaudited IFRs during project implementation encompassing activities for all components. The IFRs are to be produced on a quarterly basis and submitted to the World Bank within 45 days after the end of the calendar quarterly period.

18. UCG will also produce the project’s annual financial statements and these statements will comply with SYSCOHADA and the World Bank requirements. These financial statements will consist of the following: (a) a Statement of Sources and Uses of Funds that includes all cash receipts, cash payments, and cash balances; (b) a Statement of Expenses; (c) Accounting Policies Adopted and Explanatory Notes; and (d) a Management Assertion that project funds have been expended for the intended purposes as specified in the relevant Financing Agreements.

19. **Annual financial audit and DLI verification.** An external independent and qualified private sector auditor will be recruited to carry out the audit of the project’s financial statements. The auditor will express an opinion on the annual financial statements and will perform the audit in compliance with International Standards on Auditing. The auditor will be required to prepare a Management Letter detailing observations and comments and providing recommendations for improvements in the accounting system and the internal control environment. The audit report on the annual project financial statements and activities of the Designated Account will be submitted to the World Bank within six months after the end of each project fiscal year.



20. An independent verification agent will be responsible for the verification of the annual EEPs Spending and Results Reports. The borrower provides documentation that the expenditures have been made and that the indicator targets have been met. Decisions over compliance and disbursement against indicators will be made on the basis of reports prepared by the borrower and submitted to the independent verification agent with necessary documentation assuring that they have been satisfied. The agent will issue an opinion on the accuracy and fair view of the information presented by UCG on the EEPs and DLIs. The IVA will also confirm that the expenses in the EEP related to consulting services and goods have used approved procurement methods. This certificate should then be sent to the World Bank on an annual basis.

**Table 1.2. Audit Report Requirements**

<b>Auditing</b>	<b>Deadline</b>	<b>Responsibility</b>
Audited financial statements including audit report and Management Letter of the project	6 months after the end of the year	UCG

21. The project will comply with the World Bank disclosure policy of audit reports and place the information provided on the official website within one month of the report being accepted as final by the team. The following actions need to be taken to enhance the FM arrangements for the project.

**Table 1.3. FM Action Plan**

<b>No.</b>	<b>Action</b>	<b>Due Date</b>	<b>Responsible</b>
1	Elaborate the POM including detailed procedures for requesting and reporting on RBF under Component 1	1 month after effectiveness	UCG
2	Recruit an internal auditor for the UCG	Not later than three months after effectiveness	UCG
3	Recruit a project accountant	Not later than three months after effectiveness	UCG
4	Update the accounting software for the bookkeeping of the project	Not later than three months after effectiveness	UCG
5	Recruit an independent external auditor for the project and an external verification agent for the DLIs verification	Not later than six months after effectiveness	UCG
6	Recruit an external auditor for the UCG	Not later than six months after effectiveness	UCG
7	Train fiduciary staff on World Bank procedures	Not later than one month after effectiveness	UCG

### **Financial Covenants**

22. Financial covenants are the standard FM requirements covered under Section 5.09 of the IDA General Conditions and the DFIL. Additional covenants will be added to the Financing Agreements to reflect actions set out as legal covenants in the FM action plan.

### **Implementation Support Plan**

23. 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 the project maintains a satisfactory FM system throughout the project cycle.





**Table 1.4. Implementation Support Plan**

FM Activity	Frequency
Desk reviews	
IFRs review	Quarterly
Audit report review of the project	Annually
Review of other relevant information such as interim internal control systems reports	Continuous as they become available
On-site visits	
Review of overall operation of the FM system	Semiannual for UCG (implementation support mission)
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	Before implementation and as and when needed

**Procurement**

24. Procurement under this project will be carried out in accordance with the World Bank's 'Procurement Regulations for IPF Borrowers' (Procurement Regulations), dated July 2016 and revised in August 2018 under the 'New Procurement Framework (NPF)', and the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated October 2006 and revised in January 2011 and as of July 1, 2016.

25. The project will be implemented by the PMU at UCG. UCG is under the MULHP and will carry out overall fiduciary responsibility of activities funded by this project. This PMU has been charged with preparing this project and is already staffed with a dedicated procurement specialist who will be responsible for supervising and coordinating all procurement activities. A procurement assistant will be hired during implementation due to the large number and complexity of procurement on the project.

26. In the MULHP, the Department for General Administration and Equipment ("*Direction de l'Administration Générale et de l'Équipement*") handles the procurement activities which are overseen by the Procurement Commission ("*Commission des Marchés*" [CM]). The CM is in charge of bids/proposals opening and contracts award, and a procurement unit, ("*Cellule de passation des Marchés*") is in charge of quality control and procurement planning, under the supervision of the General Secretary of the MULPH. To ensure smooth implementation of procurement activities under the project, and in view of the constraints described in the PPSD, UCG is in discussions with the Government for the possibility to have its own internal procurement unit. Such a unit, if created, could reduce the delays in the procurement process.

27. The project may consider the acquisition of an e-procurement software related to the World Bank to improve efficiency and transparency in procurement process.

28. **Advertisement.** The borrower shall prepare and submit to the World Bank a General Procurement Notice and the World Bank will arrange its publication in United Nations Development Business (UNDB)



online and on the World Bank's external website. The borrower may also publish it in at least one national newspaper.

29. The borrower shall publish the Specific Procurement Notice (SPN) for all goods, works, non-consulting services and Requests for Expressions of Interest on its free-access websites, if available, 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 World Bank arranges for the simultaneous publication of the SPN on its external website.

30. **Procurement documents.** In the event of international competitive procurement of goods, works, non-consulting services, and consulting services, the borrower shall use the applicable World Bank standard procurement documents with minimum changes, acceptable to the World Bank, as necessary to address any project-specific conditions.

31. Procurement information and documentation—filing and database: Procurement information will be recorded and reported as follows:

- (a) Complete procurement documentation for each contract—including bidding documents, advertisements, bids received, bid evaluations, letters of acceptance, contract agreements, securities, and related correspondence—will be maintained at the level of respective ministries in an orderly manner and will be made readily available for audit.
- (b) Contract award information will be promptly recorded, and contract rosters as agreed will be maintained.

32. **PPSD.** As part of project preparation, the borrower (with support from the World Bank) developed a PPSD, which described how fit-for-purpose procurement activities will support project operations for the achievement of PDO and will deliver value for money. The PPSD is linked to the project implementation strategy, 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 government capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues considered included the behaviors, trends, and capabilities of the market (that is, market analysis) to inform the PP.

33. The PP covering the first 18 months of project implementation was prepared and discussed with the World Bank and approved during project negotiation. The PP will be updated by the procuring entity on an annual or as-needed basis to reflect actual project implementation needs and improvements in institutional capacity. Updates of the PP will be submitted to the World Bank for 'no-objection' and the PPSD updated accordingly.

34. Operational costs financed by the project would be incremental expenses, including office supplies, communication costs, rental expenses, utilities expenses, consumables, transport and accommodation, per diem, workshop, supervision costs, and salaries of locally contracted support staff. Such service needs will be procured using the procurement procedures specified in the updated POM, accepted and approved by the World Bank.



**Table 1.5. Key Procurement Activities for the First 18 Months**

Contract	Estimated Total Cost (in US\$) and Risk Level	Review	Market Approach	Selection Methods	Evaluation Methods
Capping and rehabilitation of the Mbeubeuss dumpsite	33,670,000 High	Prior	Open/ International	Request for bids	Qualifying criteria/lowest evaluated cost with prequalification
Dakar infrastructure construction works (CTT Mbeubeuss, CTT Mbao, CTT Diameniadio, CTT Sébikotane, and CIVD Bambilor)	71,735,000 High	Prior	Open/ International	Request for bids	Technical and financial scores combined
Infrastructure construction works (PRN, CRC, CTT, CIVD, and rehabilitation and/or closure of dumpsites) for the Northern agglomeration (Saint Louis and Matam) in 5 lots	27,978,877 High	Prior	Open/ International	Request for bids	Technical and financial scores combined
Infrastructure construction works (PRN, CRC, CIVD, and rehabilitation/closure of dumpsites) in Ziguinchor, Sedhiou, and Kolda in 6 lots	21,522,357 High	Prior	Open/ International	Request for bids	Qualifying criteria/lowest evaluated cost
Infrastructure construction works (PRN, CTT, CRC, and rehabilitation/closure of dumpsites) for Thiès /Mbour/Sallae agglomeration in 7 lots	20,992,827 High	Prior	Open/ International	Request for bids	Qualifying criteria/lowest evaluated cost
Acquisition of primary collection equipment for Grand Dakar	649,066 Low	Post	Open/ National	Request for bids	Qualifying criteria/lowest evaluated cost
Acquisition of primary collection equipment for Casamance and Thiès in 2 lots	1,078,992 Low	Post	Open/ National	Request for bids	Qualifying criteria/lowest evaluated cost
Consulting services (consulting firm) for the organizational audit of the waste sector and support to the implementation of the recommendations	450,000 Low	Post	Open/ international	Selection of consultants  QCBS	Technical and financial scores combined
Legal advice services (consulting firm) to support the PMU in the PPP negotiations during implementation	350,000 Low	Post	Open/ international	Selection of consultants  QCBS	Technical and financial scores combined
Consulting services (consulting firm) to monitor the rehabilitation and capping of the Mbeubeuss dumpsite	2,318,800 Low	Prior	Open/ international	Selection of consultants  QCBS	Technical and financial scores combined
Consulting services (consulting firm) to prepare the initial environmental	1,439,600 Low	Prior	Open/ international	Selection of consultants	Technical and financial scores combined



Contract	Estimated Total Cost (in US\$) and Risk Level	Review	Market Approach	Selection Methods	Evaluation Methods
studies and RAP analyses for the Northern agglomeration				QCBS	
Consulting services (consulting firm) to prepare the initial environmental studies and RAP analyses for the Thiès agglomeration	1,321,600 Low	Prior	Open/ international	Selection of consultants  QCBS	Technical and financial scores combined
Consulting services (consulting firm) to prepare the initial environmental studies and PAR analyses for the Casamance agglomeration	566,400 Low	Post	Open/ international	Selection of consultants  QCBS	Technical and financial scores combined
Consulting services (consulting firm) to carry out the financial audits	120,000 Low	Post	Open/ international	Selection of consultants  Least Cost Selection (LCS)	Technical and financial scores combined

Note: CIVD = Waste Treatment and Disposal Facility (*Centre Intégré de Valorisation des Déchets*); CRC = Recycling Center (*Centre de Regroupement et de Commercialisation*); CTT = Waste Sorting and Transfer Facility (*Centre de Tri et de Transfer*); PRN = Standardized Waste Collection Center (*Point de Regroupement Normalisé*); QCBS = Quality and Cost-Based Selection.

35. **Frequency of procurement reviews and supervision.** The World Bank’s prior and post reviews will be carried out based on thresholds indicated in table 1.7. The World Bank will conduct supervision missions every six months and annual post-procurement reviews; the standard post-procurement reviews by World Bank staff should cover at least 10 percent of contracts subject to post review. Post reviews consist of reviewing technical, financial, and procurement reports on project procurement actions by World Bank staff or consultants selected and hired by the World Bank according to procedures acceptable to the World Bank. Project supervision missions shall include a World Bank procurement specialist or a specialized consultant. The World Bank may also conduct an independent procurement review at any time until two years after the closing date of the project. Table 1.6 summarizes the inherent and control risks and mitigation measures.

**Table 1.6. Procurement Risk Assessment and Mitigation**

Risk Description	Description of Mitigation	Responsibility	Deadline
UCG uses the procurement unit of the MULHP. This can lead to delays in the procurement process.	Meet the procurement unit regularly to update them ahead of time on incoming procurement dossiers. Explore the possibility of setting up a dedicated procurement unit for UCG.	PMU	Immediate
Large number of transactions and complexity of procurement activities	A procurement assistant will be hired to support the procurement specialist.	PMU	Immediate



Risk Description	Description of Mitigation	Responsibility	Deadline
carried out under the project			
The PMU has never implemented a World Bank-financed project.	Capacity building on World Bank procedures	World Bank and PMU	Immediate
The project will be implemented under the NPF.	Train the staff on the NPF.	World Bank and PMU	Immediate
Complexity of procurement activities	Make sure that terms of reference/technical specifications are well written and that a detailed strategy has been developed (PPSD).	PMU	Before launching procedures
Land acquisition/ownership for infrastructure under the project	Ensure availability and clarity on site ownership before launching the procurement procedures; a full-time social specialist in the PMU will ensure that there are no land disputes before launching the works.	PMU	Before launching procedures
Dispersion and large number of sites	Make geographical allotments considering the size of each lot to attract capable consultants and contractors.	PMU	Before launching procedures
Complexity of some of the works	Prequalification can be done where applicable to ensure that the contractors are qualified and experienced to carry out the works before bidding.	PMU	Before launching procedures

36. The procurement risk is rated Substantial. Table 1.7 summarizes the procurement prior review thresholds for ‘substantial risk’. These prior review thresholds can evolve according to the variation of procurement risk during the life of the project. The thresholds for particular market approaches and procurement methods are indicated in table 1.7.



Table 1.7. Prior Review and Procurement Approaches and Methods Thresholds

Category	Prior Threshold Review	Procurement Methods Thresholds				
	Prior Review (US\$ millions)	Open International	Open National	Request for Quotation	Short List of National Consultants	
					Consulting Services	Engineering and Construction Supervision
Works	≥10.0	≥15.0	<15.0	≤0.2	n.a.	n.a.
Goods, IT, and non-consulting services	≥2.0	≥1.0	<1.0	≤0.1	n.a.	n.a.
Consultants (firms)	≥1.0	n.a.	n.a.	n.a.	≤0.3	≤0.5
Individual consultants	≥0.3	n.a.	n.a.	n.a.	n.a.	n.a.

**E&S Safeguards**

37. The purpose of the safeguards approach is to identify and mitigate the E&S risks and impacts of the project. For the different components of this project, the following approach was adopted:

- (a) For Component 1, there are no physical activities, and therefore no mitigation activities are required. The component will only support reforms of the regulatory and institutional framework, improve citizen engagement and public awareness, and develop human capital and strengthen capacity.
- (b) For Subcomponent 2a regarding the rehabilitation of the Mbeubeuss dumpsite, an ESIA with a comprehensive evaluation of the current baseline activities and a RAP for all directly affected persons have been prepared and consulted upon, and an LRP specifically for the waste pickers will be prepared, in strict consultation with the affected waste pickers, no later than ten months after project effectiveness.
- (c) For Subcomponent 2a regarding the long-term sustainable solution for the SWM system in Greater Dakar, an ESIA for Mbaob, a known site for transfer facilities, has been prepared and consulted upon. Additional ESIA's and RAPs will also be prepared, based on the existing ESMF and RPF, for other project sites as they are identified.
- (d) For Subcomponent 2b regarding the integrated SWM system in three secondary agglomerations (Thiès, Casamance, and North), as the sites and the scale of the investments are not known, a framework approach was adopted in which an ESMF and an RPF were prepared, consulted, and disclosed in-country and in the InfoShop on May 7, 2019. Site-specific ESIA's, ESMPs, and RAPs will be prepared as specific sites become known. The ESMF and RPF will be used by UCG and private investors as tools to screen all proposed activities in the secondary municipalities and to prescribe mitigation actions, capacity-building activities, responsibilities, M&E activities, associated costs, and so on, as part of their site-specific ESIA's, ESMPs, and RAPs.

38. The institutional capacity of UCG to manage E&S safeguards of UCG is acceptable in view of its past experience with similar projects. However, given the sensitivity of this project, lessons learned from



waste management initiatives and the administrative and E&S risk management challenges it poses, the project will engage (a) an environmental specialist, (b) a social and community engagement specialist, (c) a resettlement expert, and (d) a communication specialist to ensure the implementation of the safeguard instrument. Safeguards training will be conducted before project implementation and intermittently for the duration of the project.

39. This will need to be dual, involving both (a) a facilitating structure to support the RAP and LRP implementation in social communication, and (b) mediation and complaints management actions.

40. On the World Bank side, it is important to have continuous support from the task team, including frequent supervision missions and ongoing safeguards capacity-building activities with the PMU, municipalities, associated firms, and associate engineers at the regional and local levels.

41. Implementation and monitoring of safeguards must also be strengthened. In Senegal, it is the mission of Department of Environment and Classified Establishments (*Direction de l'Environnement et des Etablissements Classés*, DEEC) to validate all E&S studies of projects and ensure safeguards compliance in project implementation. DEEC has extensive experience in overseeing compliance with E&S safeguards for World Bank projects in Senegal. There are nevertheless several key constraints to the practical implementation of E&S safeguards in Senegal, including (a) administrative delays in the application of laws and regulations, (b) insufficient logistical and human resources for E&S monitoring, and (c) lack of qualified human resources in the multisectoral working group on Environmental Impact Assessment. DEEC will benefit from institutional support and participation in the capacity-building activities of this project, along with other relevant stakeholders.

### **Strategy and Approach for Implementation Support**

42. The strategy and approach for implementation support were developed based on the nature and complexity of the project. Although UCG is already managing several donor-funded SWM projects in the country, the close support of the World Bank on this project is critically needed. The implementation strategy developed considers the following aspects:

- (a) The need to maintain a close interaction with the implementing agency during project implementation to carefully manage grievances associated with the closure of the dumpsites and the construction of the new infrastructure.
- (b) The need to closely support the Government in properly engaging and monitoring the private sector partners responsible for managing the service.
- (c) The low capacity of the local governments that are responsible for the waste management service.
- (d) The technical complexity of some infrastructure including the closure and rehabilitation of the Mbeubeuss dumpsite and the construction of regional landfills requiring close monitoring and supervision.
- (e) The fragility in the Casamance area that is a key part of this project. Although the political risk has substantially been reduced as the political condition stabilizes in Gambia, the Casamance region requires special attention and updates in regular consultation with the Senegal central management unit and supplementary implementation support to the local management unit.

## Implementation Support Plan and Resource Requirements

**Table 1.8. Implementation Support Plan**

Time	Focus	Skills Needed	Resource Estimate (US\$)
Year 1–2	<b>Start-up phase:</b> <ul style="list-style-type: none"> <li>• PPP transaction to select the private sector firms</li> <li>• Preparation of SWM strategies</li> <li>• Technical studies and design of the sanitary landfills</li> <li>• Technical, fiduciary, and safeguards training</li> <li>• Capacity-building activities</li> <li>• Cost optimization/recovery study</li> <li>• Setting up of M&amp;E and grievance mechanisms</li> <li>• Project management, supervision, and coordination</li> <li>• Implementation support and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Task team leader (TTL)</li> <li>• Co-task team leader (co-TTL)</li> <li>• Operations officer</li> <li>• SWM specialist</li> <li>• PPP specialist</li> <li>• Procurement specialist</li> <li>• Municipal finance specialist</li> <li>• Engineer</li> <li>• E&amp;S safeguards</li> <li>• M&amp;E specialist</li> <li>• Fiduciary</li> <li>• Communication</li> <li>• Local social specialist</li> <li>• Local senior engineer</li> <li>• Administrative support</li> </ul>	300,000 per year
Year 3	<b>Midterm review:</b> Project performance review, compliance with Legal Agreement and safeguards, audits and assessments, planning phase II	<ul style="list-style-type: none"> <li>• TTL</li> <li>• Co-TTL</li> <li>• Senior operations officer</li> <li>• SWM specialist</li> <li>• PPP specialist</li> <li>• Procurement specialist</li> <li>• Municipal finance specialist</li> <li>• Engineer</li> <li>• E&amp;S safeguards</li> <li>• M&amp;E specialist</li> <li>• Fiduciary</li> <li>• Local social specialist</li> <li>• Local senior engineer</li> <li>• Administrative support</li> </ul>	350,000 per year
Years 4–6	<b>Implementation support</b> <ul style="list-style-type: none"> <li>• Construction of infrastructure</li> <li>• Project management, supervision, and coordination</li> <li>• Implementation support and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• TTL</li> <li>• Co-TTL</li> <li>• Procurement specialist</li> <li>• Fiduciary</li> <li>• E&amp;S safeguards</li> <li>• Engineer</li> <li>• Local social specialist</li> <li>• Local senior engineer</li> <li>• Communication</li> </ul>	300,000 per year
Closing	<b>Implementation Completion and Results Report</b>	<ul style="list-style-type: none"> <li>• TTL</li> <li>• Economic analysis</li> <li>• M&amp;E</li> </ul>	120,000





**Table 1.9. Skills Mix Required**

Skills Needed	Number of Staff Weeks/Year	Total Number of Trips	Comments
TTL	32	0	Based in Senegal
Co-TTL	16	10	Based in HQ
Procurement specialist	6	0	Based in Senegal
FM specialist	10	0	Based in Senegal
Environmental safeguard	12	0	Based in Senegal
Social safeguard	12	0	Based in Senegal
M&E	4	10	Based in HQ
SWM specialist	10	10	Based in HQ
Engineer	15	5	Based in HQ
PPP specialist	5	8	Based in HQ
Administrative assistant	12	0	Based in Senegal and HQ
Legal	2	1	Based in HQ
Local consultant	12	0	Based in Senegal
Local engineer	32	0	Based in Senegal
Municipal finance specialist	6	0	Based in Senegal

**Table 1.10. Main Development Partners**

Name	Institution/Country	Role and Sector
AECID	Multinational	Donor
AFD	Multinational	Donor



## **ANNEX 2: CLIMATE CHANGE CONSIDERATIONS AND ANALYSIS**

### **COUNTRY: Senegal**

#### **Senegal Municipal Solid Waste Management project**

#### **Climate and Disaster Risks**

1. As mentioned in the project appraisal document, the potential climate risks such as drought, floods, sea-level rise, and coastal erosion pose the greatest threats to three of the four projects locations: Greater Dakar, Saint Louis, and Ziguinchor.
2. The results from the climate screening exercise have determined that the initial levels of exposure the prospective locations of the sanitary landfills and transfer station sites have to the climate and geophysical hazards are moderate to high. Sector-specific climate risk management measures will be integrated into the physical investments and soft components of the project design, to ensure robust and sustainable adaptation and mitigation solutions are adopted.
3. During project implementation, location-specific research and analyses including hydrogeological studies and vulnerability mapping will be conducted to strengthen the opportunities to enhance climate resiliency solutions with the infrastructure, as well as early warning systems and emergency recovery plans.

#### **Analysis Boundary**

- (a) The analysis boundary for the climate change assessment and GHG accounting estimations covers all the project locations: Greater Dakar, Saint. Louis, Ziguinchor, and Thiès.
- (b) As there is only one existing large dumpsite (Mbeubeuss) in the Greater Dakar area, the GHG accounting and SWM activities were analyzed separately from the secondary municipalities locations to allow for more accurate results.
- (c) The SWM activities analyzed in the project scenario cover the improved management of waste through the construction of new sanitary landfills, which will include gas capture and materials recovery facilities.

#### **Methodology**

- (a) The World Bank's Climate and Disaster Risk Screening Tools and the Climate Change Knowledge Portal were two key resources used to assess the climate vulnerability context of the project locations.
- (b) The Climate Action for Urban Sustainability's Climate Action for Urban Sustainability CURB Tool was used to estimate the existing and potential GHG emissions of waste disposal within the project area following the International Panel on Climate Change methodologies.
- (c) The Institute of Global Environmental Strategies GHG Calculator for Solid Waste was used to estimate the GHG emissions reductions with respect to the existing technologies within the



sector, to better account for the climate benefits and resource recovery within the waste life cycle.

**Baseline Scenario for 2018**

- (a) The total waste generated was 2,400,000 tons for a population of 5,800,000 people.
- (b) It is assumed that (i) in Greater Dakar, 5 percent of the waste was openly dumped, 5 percent openly burned, and 90 percent taken to the Mbeubeuss dumpsite; (ii) the existing dumpsite (Mbeubeuss) was not designed and operated as a sanitary landfill, and there is no methane/gas collection system in place; and (iii) in the secondary municipalities, 50 percent of the waste was openly burned and 50 percent of the waste was openly dumped.
- (c) The waste composition assumed is shown in tables 2.1 and 2.2 for each of the locations.

**Table 2.1. Greater Dakar**

Waste Type	Percentage	Waste Type	Percentage	Waste Type	Percentage
Paper/cardboard	6	Plastics	9.5	Wood	2.0
Textiles	5	Metal	2.0	Rubber and Leather	1.5
Organic waste	51	Glass	2.0	Other	21.0

**Table 2.2. Secondary Municipalities**

Waste type	Percentage	Waste type	Percentage	Waste type	Percentage
Paper/cardboard	6	Plastics	10	Wood	1
Textiles	2	Metal	4	Rubber and leather	1
Organic waste	63	Glass	3	Other	1

**Project Scenario**

- (a) It is assumed that due to legislation, regulation, and sensitization there is no longer any waste being openly burned in all the project locations.
- (b) More location-specific, the following can be assumed:
  - Mbeubeuss, the existing landfill in Greater Dakar, will have reclamation efforts and eventually close over a five-year time period.
    - During the capping and eventual closure, the methane recovery rate will be 85 percent.
    - If proven feasible, the methane recovered will be treated for energy recovery.
  - Greater Dakar will have 5.1 percent of waste being diverted for the following elements and 94.9 percent going to the sanitary landfill:
    - 3 percent recycled (plastics, metals, and cardboard)
    - 2.1 percent composted (food and wood waste)
  - The secondary municipalities' project locations will have 5.1 percent of waste being diverted for the following elements and 94.9 percent going to the sanitary landfill:



- 3 percent recycled (plastics, metals, and cardboard)
  - 2.1 percent composted (food and wood waste)
- (c) The methane recovery rate for all the new sanitary landfills is 85 percent, and if proven feasible, the methane recovered will be treated for energy recovery.

**Data Sources**

4. The PMU provided information on the waste composition and disposal data, in addition to up-to-date information on the expected population growth and the location-specific information on the sectors’ transport inventory.

**Key Assumptions**

- (a) The sanitary landfills are expected to have an economic life span of 20 years each.
- (b) The existing dumpsite, Mbeubeuss, will experience remedial measures, including potential gas capture (if shown to be feasible) and eventual capping, closing, and revegetation.
- (c) All the sanitary landfills in both Greater Dakar and the secondary municipalities will include gas capture (harvesting) and materials recovery facilities. Where possible, energy recovery will be pursued.
- (d) In the project scenario, due to legislation, effective regulation, and sensitization, there will be no/limited open burning in all project locations.

**Results**

5. The project will result in a net emissions reduction of -10,845,712 (tCO<sub>2</sub>e). The emissions reduction is primarily driven by the strict enforcement of no more open burning and open dumping, in addition to the sanitary landfills which will include methane gas management systems.

**Table 2.3. Summary**

Factor	Value
Economic lifetime (years)	20
Gross emissions over economic lifetime (tCO <sub>2</sub> e)	40,670,003
Net emissions over economic lifetime (tCO <sub>2</sub> e)	-10,845,712
Average annual emissions (tCO <sub>2</sub> e)	2,033,500



**ANNEX 3: MAP**

**COUNTRY: Senegal**  
**Senegal Municipal Solid Waste Management Project**

