

INTER-AMERICAN DEVELOPMENT BANK



BELIZE

**SOLID WASTE MANAGEMENT PROJECT II
BL-L1021**

ENVIRONMENTAL CATEGORY: B

**ENVIRONMENTAL AND SOCIAL MANAGEMENT REPORT
(ESMR)**

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ABBREVIATIONS

| | |
|-------|--|
| DoC | Drop off Center |
| DOE | Department of the Environment |
| DRA | Disaster Risk Assessment |
| DRMP | Disaster Risk Management Plan |
| EA | Environmental Assessment |
| E&S | Environmental and Social |
| ESA | Environmental and Social Assessment |
| ESDD | Environmental and Social Due Diligence |
| ESHS | Environmental, Social, Health and Safety |
| ESMS | Environmental and Social Management System |
| EIA | Environmental Impact Assessment |
| ESDD | Environmental and Social Due Diligence |
| ESMP | Environmental and Social Management Plan |
| ESMR | Environmental and Social Management Report |
| ESS | Environmental and Social Strategy |
| GOB | Government of Belize |
| H&S | Health and Safety |
| MSW | Municipal Solid Waste |
| SIP | Social Inclusion Plan |
| SWaMA | Solid Waste Management Authority |
| SWM | Solid Waste Management |
| SWMP | Solid Waste Management Program |
| TF | Trust Fund |
| TS | Transfer Station |

I. INTRODUCTION

A. Summary Table

| | |
|------------------------------------|--|
| Country | Belize |
| Sector | Water and Sanitation |
| Project Name | Waste Management Project II (BL-L1021) |
| Borrower | Government of Belize |
| Executing Agency | SWaMA |
| Total Project Cost (in US Dollars) | 10.2 million |
| Environmental Impact Category | B |

B. Executive Summary

- 1.1. This Environmental and Social Management Report (ESMR) presents the findings of the Inter-American Development Bank's (IDB) Environmental and Social Due Diligence (ESDD) activities for the proposed Waste Management Project II (BL-L1021) (the "Project").
- 1.2. The project will finance investments to improve solid waste collection, transport and final disposal in towns and villages in the Northern and Southern Corridor of Belize and in Belmopan. No new landfill will be constructed under this Project. The project will also strengthen overall Central Government capacities to improve municipal solid waste (MSW) management throughout the country. Specifically, the project aims at strengthening Solid Waste Management Authority (SWaMA) as the entity responsible for improving MSW management in Belize.
- 1.3. Given that the project is likely to cause mostly local and short-term negative environmental and social (E&S) impacts and for which appropriate and effective mitigation measures are readily available, an environmental classification of Category B has been assigned for the project. Impacts and risks during construction, operation and decommissioning could occur from: inadequate health and safety (H&S) management; inadequate management of hazardous materials and solid waste; accidental spills, degradation of soil, flora and fauna and impacts on water quality.

II. PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

A. Introduction

- 2.1 Access to MSW collection and final disposal services varies significantly between regions in Belize. Belize's only regional sanitary landfill covers most areas in the central districts. Belize's northern and southern regions dispose of their solid waste in open dumps with little or no environmental or health control. Poor performance

in solid waste management is a risk for the environment, the health of the growing population, and the tourism industry.

- 2.2 **Program Objective.** The objective of the project is to support Belize in its efforts to reduce environmental pollution through the improvement of solid waste management practices in northern and southern Belize. Specifically, the project will finance investments to improve solid waste transport, recovery, and final disposal in towns and villages in the Northern (Orange Walk and Corozal) and Southern (Stann Creek and Toledo) Corridors and in Belmopan, and to strengthen SWaMA as the lead agency in the waste management sector.
- 2.3 **Component 1. Investments to improve solid waste management (US\$8.3 million).** This component aims to improve municipal solid waste transport, recovery, and final disposal in the aforementioned corridors as well as in Belmopan. Using IDB resources, it will finance: (i) closure of six dumpsites including the acquisition of land in those sites where the land is not owned by the Government of Belize; (ii) construction of six transfer stations; (iii) construction of a new cell at Mile 24 Regional Sanitary Landfill; and (iv) engineering designs and supervision of civil works. Dumpsite closure will involve the leveling of the terrain, compaction, leachate management, site drainage works, and adequate cover. In accordance to a site plan to be prepared as part of the final designs of the closures, waste transfer and recycling facilities will be sited in some of the former dumpsites to carry out separation of recyclable and non-recyclable waste. Commingled recyclables in the transfer stations will be separated and compacted, using baler, for preparation for shipping to recyclables' end users and buyers. Municipal solid waste not separated for recycling will be long-hauled to the Mile 24 regional sanitary landfill. Localized pilot composting projects will be conducted in selected areas to assess the potential to reduce the transport and final disposal costs and use the end product (compost) as soil conditioner.
- 2.4 **Component 2. Institutional Strengthening and Capacity Building. (US\$870,000).** This component is aimed at ensuring the cost recovery of the entire system, implementing public education and awareness programs and improving the management of waste streams other than MSW. This operation will address innovation in the solid waste sector in Belize by incorporating activities aimed at avoiding and reducing the generation of MSW and incorporating waste separation at the point of generation. The resources allocated to this component will finance consulting services and activities to strengthen the SWaMA, including: (i) consultancies to support in the design and implementation of a cost recovery mechanism for solid waste transport and disposal, including support to the public consultation process; (ii) consultants and training activities to strengthen the knowledge in landfill and transfer station operations, composting, recycling and management of other waste streams such as hazardous waste, as well as advisory services in areas such as legal support for contracting activities and elaboration of regulatory guidelines; (iii) social communication/public education and awareness activities and materials, including booklets, newspaper/radio/TV, among others; (iv) update and implementation of a Social Inclusion Plan (SIP) for informal recyclers including gender activities for the different sites; and (v) the design and implementation of an Environmental and Social Management System (ESMS) for SWaMA.

- 2.5 **Associated Facilities.** The strategy for MSW collection include the construction of Drop off Centers (DoC), which will not be financed under this project, however will be treated as associated facilities and their E&S impact assessment has been included in the Environmental Assessment (EA). Other associated facilities are e.g. access roads.
- 2.6 **The Borrower.** The Solid Waste Management Authority (SWaMA) will act as the Executing Agency, with the support of the Ministry of Natural Resources and Immigration (MNRI). The creation of SWaMA (under the Solid Waste Management Authority Act of 2000 -SWaMA 2000) has improved the institutional framework for industrial and MSW management, allowing for improvements in collection and disposal throughout the country, better coordination among key actors and better strategic planning to address the challenges faced by the sector.
- 2.7 According to the 2010 Census, over 30% of the population in Belize disposed of MSW in environmentally harmful ways including uncontrolled dumping of waste on land, burning waste, and throwing waste in rivers, seas, or ponds. The IDB financed a first Solid Waste Management Program (SWMP) (BL-L1006), approved in 2009, addressed SWM needs along the Western corridor and the islands of Ambergris and Caye Caulker, specifically: (i) the closure of the open dump site at Mile 3 and construction of a TS; (ii) the construction of a regional sanitary waste disposal facility at Mile 24¹ (operations started in August 2013); (iii) construction of TSs and closure of open dump sites in San Pedro, Caye Caulker and San Ignacio; and (iv) overall contributed to the institutional strengthening of SWaMA. A key result has also been the improvement of the working conditions of informal recyclers who used to work in the dumpsites in Belize City and San Ignacio.
- 2.8 **Project Preparation.** The Bank is supporting this operation with the Technical Cooperation (TC) “Solid Waste Master Plan for Tourist Areas” (BL-T1067), which is financing the necessary studies to decide on the preferred type of MSW management in the northern and southern regions of Belize, including storage at source, collection, transport, treatment and disposal.² These feasibility studies incorporate the preparation of the Environmental Assessment (EA)³ for the project, SIP Framework and Environmental Audit of the Mile 24 Regional Landfill to assess liabilities. The EA / ESMP for the closing of dumpsite and construction of a TS in Belmopan has been conducted under a separate consultancy. The consultant firm will also prepare preliminary designs for the TSs. Final designs are prepared during Project implementation.

1 The EIA for the Regional Landfill Mile 24, financed under BL-11006, is disclosed under: <http://www.iadb.org/en/projects/project-description-title,1303.html?id=BL-L1006>.

2 The final document is expected in May 2016.

3 The Government of Belize refers to both the EA and the ESMP as “Limited Level Environmental Study”.

B. Environmental and Social Setting

- 2.9 **Areas of intervention.** In order to cover all urban and - at a later time⁴ - rural areas in Belize, the project will cover the northern and southern regions of Belize as well as Belmopan. These areas were selected for the following reasons: (i) none of these districts nor Belmopan are served by sanitary landfills, MSW is instead burned or disposed in poorly managed open dumps; (ii) have recently experienced increased tourism growth, adding to the challenges of proper MSW disposal; (iii) most dumpsites are located in areas vulnerable to natural disasters and climate change impacts, and (iv) have significant poverty levels.
- 2.10 **Dumpsites and TSs.** The project will finance the closure of six dumpsites, construction of six TSs in the Northern and Southern Corridor: Corozal, Orange Walk, Belmopan, Dangriga, Placencia/ Independence and Punta Gorda (see Annex 2). The final location of the sites will be confirmed during the preparation of the site specific feasibility studies.^{5,6}
- 2.11 **Belmopan.** As for central Belize, there is a major urban area that was not covered under the first SWMP. Belmopan, Belize's capital, with a 2010 population of 13,931, is the fastest growing town in Belize (its population has increased by 173.8% between 2000 and 2010). The current dump, which opened 6 years ago and is located some 4.5 miles south on the Hummingbird Highway from Belmopan, has deteriorated in recent years and needs to be closed and replaced by a TS in order to reduce its E&S impacts.
- 2.12 **Mile 24 Regional Sanitary Landfill.** The site is located along the Western Highway midway between Belize City and Belmopan in a remote area (the nearest settlement is about 4 km away). The landfill and four TS have been built and are operated by the Contractor PASA. The Design-Build phase of the landfill was completed in February 2015 and a first cell has been active since the beginning of August 2013. The current site is large enough for the construction of an additional cell. Currently, the landfill receives about 67 metric tonnes per month. While the Environmental Audit for Mile 24 found that the Facility is overall well managed, needed improvements include the development of an ESMS (e.g. record keeping, reporting, updating of operational plans, esp. leachate contingency plan).
- 2.13 **Social and Cultural Context - Informal Recyclers.** The first Solid Waste Management Project (SWMP) financed activities to improve the working conditions of thirty eight informal recyclers, which used to perform waste recovery

4 GOB is exploring to receive additional financing from other donors.

5 For one site the legal status has still to be clarified before this site can be included under this Project (some sources show the sites protected as Forest Reserve, some not).

Also, if the materials dumped happened to be acute hazardous and the baseline shows pollution of soil and water from hazardous material, the site will be fenced in order to stop its operation, however the proper closure will be a matter of a different project

6 Landownership – expect of two sites (Placencia, Orange Walk District) the land belongs to the GOB.

activities at the dumpsites. Working conditions have been improved and incomes have remained stable or increased. The grievance mechanisms employed are largely informal, but have been assessed as appropriate given the small number of recyclers. Training events and workshops to improve their organizational skills have been performed and H&S standards (cleanliness of the work space, personal protective equipment, showers and toilets, signage, fire extinguishers, etc.) have been assessed during missions and overall are quite good.

- 2.14 The work with the informal recyclers under the SWMP II will follow the same structure and will incorporate the lessons learned during the implementation of the first SWMP. It has been estimated that about fifty permanent recyclers work at the dumpsites.

C. Alternative Analysis

- 2.15 As part of the Solid Waste Master Plan a least-cost analysis was conducted based on the conceptual designs of the different facilities. Different scenarios for processing the MSW generated in the districts were assessed, with the primary variable being the destination for final disposal of the collected MSW from the two districts in each corridor. The option of transferring the MSW to the already operating landfill in Mile 24 was compared to transporting the waste to the alternative of constructing one or two new regional landfill located in the respective corridor. The former was assessed as the most sustainable.
- 2.16 Also, the TC presented (i) an alternative assessment of the locations for the TSs and designs for closure of open dumps; and (ii) different scenarios for MSW collection, reduction, reuse and recycling.

III. COMPLIANCE STATUS AND PROJECT STANDARDS

A. Environmental and Social Appraisal Process

- 3.1 During project preparation following E&S document the following have been prepared under the SW Masterplan: (i) a draft EA and ESMP for the project; (ii) a SIP Framework; (iii) an Environmental Audit for the Mile 24 Regional Sanitary Landfill to assess liabilities (see Table 1, B.14); and – under a separate consultancy - (iv) an EA/ESMP for Belmopan. The documents have been disclosed at the IDB external website and GOB webpage.⁷ Two consultation events on the scope of the project took place in Corazol (August 12, 2015) and in Toledo (October 6, 2015) (for details please refer to the Project EA, Appendix 3). Further site specific consultations will be held at each site before issuing the bidding documents for

⁷ <http://www.iadb.org/en/projects/project-description-title.1303.html?id=BL-L1021>;
<http://belizeswama.com/publications/solid-waste-management-project-bl-11021-ii/>

works of Component 1 for the construction of the Transfer Stations. The SIP includes site specific consultation activities and the design of a grievance mechanism. Also, the SIP contains different inclusion options for the recyclers to be paired with, according to eligibility criteria. Its implementation consists on activities such as capacity building workshops (on organizational and facility operation related topics) and delivery of equipment which will allow them to perform the recovery of recyclable materials within the sorting facilities at the transfer stations.

B. Consistency with National and IDB Policies and Directives

- 3.2 Given that the project is likely to cause mostly local and short-term negative E&S impacts and for which effective mitigation measures are readily available, an environmental classification of Category B has been assigned for the project.
- 3.3 Table 1 summarizes how the project meets and/or will meet the requirements of the IDB’s Safeguard Policies and Directives.

Table 1 - Compliance Status Table⁸

COMPLIANCE OF PROJECT WITH IDB SAFEGUARD REQUIREMENTS

| Operational Policies / Directives | Aspects (if applicable) | Level of Project Compliance and Rationale | Requirements / Actions ⁹ |
|--|---|--|---|
| I. OP-703 | | | |
| B.1. Bank Policies | See Part II of the table | See Part II of the table | |
| B.2. Country laws and regulations | Preparation of EA | Compliance requirement met – A Project EA, SIP and an EA for Belmopan have been prepared and disclosed on the GOB webpage - see also OP-102 | |
| | Environmental Permit | Compliance requirements expected to be met | Prior to start of work (i) the GOB shall present the corresponding environmental permits; and (ii) submit the final Environmental Compliance Plan (ECP) |
| B.3. Screening and Classification | The Project was screened and classified according to its potential environmental and social impacts | Compliance requirements met Given that the Project is likely to cause mostly local and short-term negative E&S impacts which are minor to moderate an environmental classification of Category B has been assigned | |

⁸ Specific conditions have been put in place to ensure Project compliance (see section V).

⁹ Required in order (i) to maintain compliance; (ii) achieve compliance; or (iii) for time bound compliance.

| Operational Policies / Directives | Aspects (if applicable) | Level of Project Compliance and Rationale | Requirements / Actions ⁹ |
|---|---|--|---|
| B.4. Other Risk Factors | Environmental Governance Capacity | Compliance requirements met Budget for capacity strengthening measures, including the development of an ESMS, has been allocated | |
| B.5 EA Requirements | EA adequately identified and analyzed direct, indirect, cumulative and E&S impacts and risk, including those of associated facilities | Compliance requirements met | See also B. 2 |
| | Project ESMP – budget, implementation arrangements, Monitoring Framework, consultation and participation program | Compliance requirements met Aspects included in the ESMP and SIP Framework | See also B. 2 |
| B.6 Consultation | Consultation | Compliance requirements met Consultation activities implemented during preparation of the Project EA and SIP. See also Section 3.1 | |
| | During execution, affected parties should be kept informed of project-related E&S mitigation measures | Compliance requirement expected to be met Grievance Mechanism and ongoing stakeholder consultation / engagement activities included in project design | |
| B.7. Supervision and Compliance | E&S Safeguard Requirements are included in loan agreement | Compliance requirements expected to be met ESMR includes a section on legal conditions | |
| | Project Monitoring | Compliance requirement expected to be met Reporting requirements included in Loan Agreement | GOB will submit semi-annual Compliance Reports; a social consultant will be hired by SWaMA to supervise the implementation of the SIP Framework |
| B.9 Natural Habitats and Cultural Sites | Conversion of Critical Natural Habitat or Natural Habitat | Compliance requirements met No significant conversion of Critical Natural Habitat | |
| | EA assessed impacts on cultural sites | Compliance requirements met Chance find procedures have been included in the ESMP | |
| B.10. Hazardous Materials | Impacts to the environment, H&S occurring from disposal of hazardous material | Compliance requirements expected to be met A Hazardous Storage Facility has been constructed at Mile 24, however, is not yet operational ¹⁰ | Procedures for handling of hazardous material will be included in the ESMS |
| B.11. Pollution Prevention and Abatement | Source-specific and ambient standards recognized by MFIs | Compliance requirements expected to be met Standards referred to in the EA | |
| B.14. Multiple | ESHS liabilities from previous Bank financed operations | Compliance requirements met An Environmental Audit has been | |

¹⁰ The establishment of a preconditioning treatment system prior disposal for different types of hazardous waste is currently under evaluation by SWAMA.

| Operational Policies / Directives | | Aspects (if applicable) | Level of Project Compliance and Rationale | Requirements / Actions ⁹ |
|---------------------------------------|--|-------------------------|---|---|
| Phase and Repeat Loan | | | performed to assess if there are significant ESHS liabilities remaining from BL-L1006 which financed the construction and operation of the Mile 24 Regional Sanitary Landfill. No significant ESHS liabilities have been identified. As a follow-up on recommendations, budget and a condition for the preparation of an ESMS has been included in this project | |
| B.17. Procurement | Environmentally responsible procurement | | Compliance requirements expected to be met. E&S aspects will be included in bidding documents | |
| PART II | | | | |
| OP-704 | | | | |
| Disaster Risk Management | Disaster Risk Assessment (DRA) and Disaster Risk Management Plan | | Compliance requirements expected to be met DRA included in EA (medium risk); Management Measures included in ESMP | See also B. 2 |
| OP-761 | | | | |
| Gender Equality in Development | Equal job opportunity | | Compliance requirements expected to be met Assessment included in SIP Framework, ongoing consultation included in project design | |
| OP-710 | | | | |
| Involuntary Resettlement | Loss of livelihood of wastepickers | | Compliance requirements met No evidence of permanent dwellings was reported at the dumpsites therefore resettlement is not foreseen. In the case of a need for resettlement OP-710 will be applied. A SIP Framework has been prepared, budget for implementation of the SIPs has been included in project design | Gender considerations to be further included in design SIP activities |
| OP-102 | | | | |
| Access to Information | Disclosure of EAs / ESMPs, SIP Framework | | Compliance requirements met (i) Draft Project EA / ESMP; (ii) EA/ ESMP for Belmopan; (iii) SIP Framework; (iv) Environmental Audit for Mile 24 have been disclosed on GOB's and IDB Webpage | |
| OP-765 | | | | |
| Indigenous Peoples | | | Compliance requirements expected to be met Assessment included in SIP Framework; ongoing consultation included in project design | Indigenous People consideration to be further included in design of inclusion plan activities |

IV. ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS and CONTROL MEASURES

- 4.1 In general terms, better SWM will have a positive impact to the surrounding environment in the respective areas of the project through the proper collection, recovery, treatment and disposal of MSW, presently discharged in open or controlled dumps, and/or burned; and will improve public health and the overall quality of life of local residents.
- 4.2 The project is not expected to have significant and/or irreversible negative impacts on the social or biophysical environment; rather it is expected to have mostly local and short-term impacts that typically result from construction and operation of similar projects. Impacts and risks during construction, operation and decommissioning could occur from: inadequate H&S management; inadequate management of hazardous materials and MSW; accidental spills, degradation of soil, flora and fauna, and impacts on water quality due to leachate discharge. One critical aspect to assure the long term sustainability of MSM in Belize is to develop the cost recovery mechanism which will be addressed under Component II.

A. Key Impacts from Construction and Operation of TSs and the additional Cell at Mile 24

Environmental

- 4.3 **Surface /Groundwater and Air.** (a) During construction: surface and groundwater may be contaminated by spills and leaks of hydrocarbons (fuels and lubricants) from construction equipment. Potential impacts to soils and terrain include erosion of existing bare earth slopes; and slope erosion in the post-closure phase of the sanitary landfill. Particulate matter may be carried off-site in surface runoff, with consequent effects on surface water quality; (b) during operation: potential E&S risks could be linked to inadequate soil, surface and groundwater, air and solid waste pollution control and prevention measures, noise and odors. These risks may be more significant in the event that the facilities are not well operated and/or maintained, resulting in the release of leachate and/or chemicals affecting surface and groundwater resources, smoke and dust from fires.
- 4.4 **Impacts on Biodiversity.** Although some of the sites fall within a Key Biodiversity Area (Belize Coastal and Near Shore Islands - considered as Critical Natural Habitat under B. 9), this Project will not to cause conversion of this area; the Project will be carried out on land that is already been degraded.
- 4.5 **Occupational and Community H&S Risks.** There is a risk of accidents that could result in injuries to workers during construction and operation. H&S risks include those related to exposure to odor, noise and dust, elevated temperatures and physical hazards.

- 4.6 **Traffic.** Disruption of traffic patterns from increased circulation of construction vehicles and transport of MSW to Mile 24. The impact from emissions of air pollutants and greenhouse gases from the vehicles used for waste handling has been assessed as low.
- 4.7 **GHG.** At the new cell at Mile 24 - potential air quality impacts could include the generation of landfill gas (methane, CO₂, VOC's).

Social

- 4.8 It is not expected that people will be resettled as the TSs will be constructed at the place of the former dumpsites.

B. Key Impacts from Closure of Dumpsites

Social

- 4.9 **Loss of Livelihood.** There is a risk of impacting the livelihoods of informal recyclers due to a potential loss of income derived from a lack of access to recyclable materials as dumpsites are closed. Currently, there is an estimated population of 50 full-time informal recyclers that perform recycling activities at the dumpsites and about 60-68 recyclers which work temporary on the dumpsites.
- 4.10 **Gender and Indigenous Peoples.** Over 20% of the informal recyclers are women, some of them on permanent bases and others on irregular intervals. These women are particularly vulnerable to changes in the dumpsites since, in Belize, the burden of poverty falls heavily on women, especially women head of households¹¹, due to low participation in the labor force¹², over-representation in the informal sector and low-paying jobs.¹³ A similar situation may occur to Indigenous Peoples who work as recycler at the dumpsites.

Cumulative and Indirect Impacts/Risks

- 4.11 The E&S management capacity of SWaMA has been assessed as adequate. However, there is a risk associated with the capacity of SWaMA to manage and monitor the construction and operation of several construction projects concurrently (see section 4.14).

11 Female heads of households are more likely to be poor than male heads of households: 30.5% vs 23.6% in 2002, respectively (Poverty Assessment Report – Belize 2002)

12 Less than half of females over 14 years old participate in the labor force compared to 80% of men (Source: National Gender Policy 2013); and unemployment rate is over half of men's: 22% vs 11% in 2012, respectively (Source: David Lindauer (2014). Labor Market Performance in Belize. IDB)

13 UNICEF (2011). The Situation Analysis of Women and Children in Belize

Disaster Risks and Climate Change

4.12 The Belize Country Strategy (2013-2017) mentions that in all sector planning and infrastructural interventions, reduced vulnerability to natural disasters and greater resilience to the effects of climate change will constitute a primary objective. Tropical storms and hurricanes affect Belize on average once every two years. Between 2000 and 2011, seven extreme weather events (hurricanes, tropical storms and floods) affected Belize. Lack of enforcement of natural resource management and land use regulation, environmental degradation, uncontrolled development, construction standards and human settlements also contribute to the sector's increased vulnerability and low adaptive capacity. Key disaster risks for this project are flooding, hurricanes and fires. Disaster Risk for this project is medium.

Control Measures for Construction, Operation and Closure

- 4.13 **E&S Management Plans.** During project preparation following E&S assessments and plans have been developed to manage E&S impacts and risks:
- (i) A Draft Project EA and ESMP - the ESMP includes aspects for emergency response, esp. hurricanes, spill reporting and contingency plan for transportation and the TSs, grievance mechanism, fire management plan for TSs, training plans, etc.;
 - (ii) A site specific ESMP for Belmopan - closing of the dumpsite and construction of a TF;
 - (iii) A SIP Framework; and
 - (iv) An Environmental Audit to assess if there are significant ESHS liabilities remaining from BL-L1006 which financed the construction and operation of the Mile 24 Regional Sanitary Landfill - including E&S management improvement. One key recommendation was to develop an ESMS.
- 4.14 **E&S Management Capacity of SWaMA.** During the course of the implementation of the first solid waste project, SWaMA has demonstrated the ability to effectively manage E&S impacts and risks through strong supervision and the application of internationally accepted practices to protect soil, water and air resources. SWaMA has hired a qualified operator for the Mile 24 Sanitary Landfill and developed a social inclusion program for recyclers. Component 2 includes capacity strengthening measures and budget has been allocated to assist SWaMA for the development an ESMS, stakeholder engagements, communication and consultations activities and consultancies for E&S management, esp. budget to hire social specialists to support the preparation and implementation of the SIPs.
- 4.15 **Monitoring.** A Monitoring Framework has been developed as part of the ESMP and SIP Framework. Elements include for construction, operation and post closure: record keeping, reporting monitoring program, esp. for groundwater, site control, noise levels, leachate, accidents and emergencies. A baseline (e.g. groundwater,

surface water) will be established for the sites. The SIP Framework includes monitoring indicators for the inclusion of informal recyclers.

- 4.16 **IDB Supervision.** The Bank will conduct, as required, environmental and social supervision missions.

C. Positive Impacts

- 4.17 The project will contribute to an improvement of public health and the overall quality of life of local residents. During the implementation of the Solid Waste Management Plan (2019-2040) it is estimated that about 130 direct employment opportunities could be created. At the TFs about 40-50 workers could recover (and commercialize) recyclable materials from the incoming waste stream.

D. Additionality

- 4.18 The project will assist SWaMA to establish an ESMS, especially for operations.

V. ENVIRONMENTAL AND SOCIAL LEGAL REQUIREMENTS

- 5.1 The following conditions shall be included in the Special Conditions and in other environmental and social (E&S) documents governing the execution of the Project, thereby also triggering the E&S provisions of the General Norms and other applicable loan agreement provisions, including, among others: (i) consistency with Bank policies, (ii) notification of noncompliance, government inspections and regulatory reports and action, significant changes, judicial and arbitral claims, (iii) implementation of Corrective Action Plans (CAPs), (iv) supervision arrangements, (v) contractual remedies, and (vi) document modification procedures.
- 5.2 Any substantive changes to any E&S provisions (including any related plans, systems, etc.) in later stages of operation approval and/ or implementation will need to be discussed with, and agreed to, by the ESG specialist assigned to the operation.

A. Prior to First Disbursement of the Loan, the following condition shall be fulfilled in form and substance satisfactory to the Bank:

- 5.3 The Project Operations Manual (POM) shall be approved by the Executing Agency and be in effect, and shall include fiduciary aspects as well as the environmental and social (E&S) requirements described in the ESMR of the Project.

B. Special Conditions of Execution:

Prior to other disbursements of the Loan

- 5.4 **Prior to issuing the bidding documents for works under Component 1:** The Borrower shall present for the Bank’s review and approval the final draft of the Environmental Assessment (EA) and the Environmental and Social Management Plan (ESMP).^{14..}
- 5.5 **Prior to the start of the works under Component 1,** the Borrower shall present to the Bank the Environmental Compliance Plan (ECP), which includes the corresponding environmental permits issued by the Department of the Environment (DOE).
- 5.6 **Prior to starting to close dumpsites,** the Borrower shall present for the Bank’s review and approval the final draft of the Social Inclusion Plan (SIP).
- Other conditions for project execution
- 5.7 Prior to starting operations of the first transfer station constructed with resources of the project, the Borrower shall submit the corresponding Environment and Social Management System (ESMS).

C. Throughout the life of the Loan Agreement the following conditions shall be fulfilled by the Borrower:

- 5.8 (A) Design, construct, operate, maintain and monitor the Project and manage the E&S risks of the Project’s Associated Facilities in accordance with the actions required by the E&S impact studies for the project, the project E&S mitigation and compensation measures and the E&S plans, including the following project E&S plans: the Project Environmental and Social Management Plan (ESMP), the Social Inclusion Plan (SIP), Grievance Management Mechanism, Environmental and Social Management System (ESMS) and any other plan agreed upon with the Bank, and (B) cause contractors and subcontractors in charge of the execution of the project to implement the relevant E&S Requirements, which shall be included in the respective bidding documents and contract and enforced by the Borrower.
- 5.9 Within 30 days of any knowledge of any breach of the E&S Requirements, agree on a Corrective Action Plan (CAP) with the Bank, including the corresponding schedule and budget.
- 5.10 If during the execution of the Project, the Bank or the Borrower become aware of additional risks related to Project activities that: (i) negatively affect land, territory, intellectual property of, or, have significant potential impacts on, indigenous communities, (ii) may result in the resettlement or displacement of any Person or negatively affect subsistence activities of vulnerable groups, or (iii) affect critical biodiversity resources or cultural resources, the Bank and the Borrower shall, before

14 The Government of Belize refers to both the EA and the ESMP as “Limited Level Environmental Study”.

the respective activity can proceed, agree on a mitigation plan in accordance with the Bank's E&S policies, to be implemented according to a schedule that is adequate for the effective management of such risks.

- 5.11 **During the execution of the Project, the Borrower must implement the following supervision, monitoring and reporting measures:**
- 5.12 The Borrower shall as part of the Mid Term Review commission or carry out an independent E&S audit of the Project and its Associated Facilities according to the terms of reference agreed upon with the Bank.
- 5.13 A final evaluation of the Project, after ninety percent (90%) of the Loan resources has been committed. The final evaluation will include an ex post economic evaluation of the project, as well as reporting on the compliance of the environmental and social safeguards.
- 5.14 The Borrower shall provide prompt notification to the Bank of any accidents, spills, fires, discharges of hazardous substances, or other new E&S risks and impacts related to the Project and Associated Facilities, that may affect the E&S aspects of the project and of its Associated Facilities.
- 5.15 The Borrower shall prepare and submit to the Bank - as part of semi-annual progress reports - semi-annually Environmental and Social Compliance Reports (ESCR) which shall include, among other things: (a) the E&S performance of the Project and Associated Facilities, to confirm compliance with the E&S Requirements and to address any E&S impact or liability which has not been adequately mitigated or compensated; (b) the budget and human resources assigned to the E&S management of the project during the preceding period and estimated and committed for the subsequent period; (c) the issues encountered and corrective actions taken; and (d) as applicable, the results of the participatory monitoring and grievance management mechanisms.

D. ANNEXES

Annex 1 – Key E&S Definitions

- **Associated Facilities** means new or additional works and/or infrastructure, irrespective the source of financing, essential for the Project to function.
- **Corrective Action Plan or CAP** means a plan, in form and substance acceptable to IDB, to correct, and to remedy all damage and adverse consequences caused by, any failure by the Project, the Borrower, Executing Agency, or any Environmental Party to comply with any E&S Requirement, or to manage any unmitigated risks related to E&S Matters, which plan shall include: (a) a brief description of such non-compliance, including the extent, magnitude, impact and cause thereof; (b) the proposed actions to correct, and to remedy all damage and adverse consequences caused by, the non-compliance; (c) the assignment of responsibility for implementing such proposed actions; (d) a time schedule for implementing such proposed actions, including the start date, the end date and key milestones; (e) an estimated cost of such proposed actions; (f) the expected results and related indicators; and (g) the proposed actions to prevent similar such non-compliance from occurring in the future.
- **Environmental and Social Compliance Report** means a report prepared by the Borrower, to (i) provide the necessary information required to assess and verify compliance with the E&S Provisions, including compliance with E&S Requirements and the implementation status and results of the E&S Plans; and (ii) to propose any corrective actions, if and to the extent necessary. The report shall include, among other things: (a) the E&S performance of the project and Associated Facilities, to confirm compliance with the E&S Requirements and to address any E&S impact or liability which has not been adequately mitigated or compensated; (b) the budget and human resources assigned to the E&S management of the project during the preceding period and estimated and committed for the subsequent period; (c) the issues encountered and corrective actions taken; and (d) as applicable, the results of the participatory monitoring and grievance management mechanisms.
- **Environmental and Social Management Report or ESMR** means the Environmental and Social Management Report linked to the POD, a copy of which can be found at the IDB external Internet Site.
- **Environmental and Social Requirements** means all requirements, conditions, standards, protections, obligations or performance with respect to E&S Matters required by: (a) any Environmental Law; (b) any Authorization issued by any Authority or otherwise under any Environmental Law; (c) any E&S Plan; (d) the Environmental and Safety Management System; (e) any of the Fundamental Principles and Rights at Work; (f) the IDB Environmental and Social Policies; (g)

the project E&S Standards and Guidelines as agreed upon between the Borrower and the IDB and set forth in the ESMP, the ESMR; and the Operational Manual.

- **Environmental and Social Management System (ESMS)** means in relation to the project, an environmental, health and safety management system, consistent with ISO 14001 (Environmental Management Systems) for the environment and with BS8800 and 18001 (Occupational Health and Safety Management Systems) for health and safety, including policies, procedures, performance indicators, responsibilities, training and periodic audits and inspections with respect to Environmental or Social Matters
- **Fundamental Principles and Rights at Work** means (a) freedom of association and the effective recognition of the right to collective bargaining; (b) prohibition of all forms of forced or compulsory labor; (c) prohibition of child labor, including the prohibition of persons under eighteen (18) years of age from working in hazardous conditions (which includes construction activities), persons under eighteen (18) years of age from working at night, and that persons under eighteen (18) years of age be found fit to work via medical examinations; (d) elimination of discrimination in respect of employment and occupation, where discrimination is defined as any distinction, exclusion or preference based on race, color, sex, religion, political opinion, national extraction or social origin; (e) compliance with all applicable laws relating to labor; and (f) compliance with all International Labor Organization conventions and treaties that have been ratified by Belize.
- **ICIM or Independent Consultation and Investigation Mechanism** means the IDB body established by the IDB's Board of Executive Directors to investigate or address complaints related to the analysis or implementation of IDB-financed operations.
- **IDB Environmental and Social Policies** mean the IDB Safeguard Policies and Directives which are: Directives B.2 (Country laws and regulations), B.3. (Screening and Classification), B.4 (Other Risks), B.5 (Environmental Assessment), B.6 (Consultations); B.7 (Supervision and Compliance) B.9 (Natural Habitats and Cultural Sites), B.10 (Hazardous Materials), and B.11 (Pollution Prevention and Abatement) IDB's Environment and Compliance Safeguards Policy, OP-703 (dated January 2006); Information Disclosure Policy (OP-102), the Disaster Risk Management Policy (OP-704) (February 22, 2007), the Policy on Gender Equality in Development (OP-270) and the Involuntary Resettlement Policy, OP-710 (dated July 1998).
- **Social Inclusion Plan (SIP)** means the document that establishes the viable options that will allow informal recyclers affected by the project to improve their working conditions and maintain or increase their income, establishing activities required to accomplish that improvement (such as trainings, institutional arrangements, acquisition of equipment/gear, etc.). The document is based on a

diagnosis of the situation, the identification of inclusion options, stakeholder feedback, selection of options, and develops the activities, timeline for implementation and budget necessary for its execution.

Annex 2 - Location of Proposed Transfer Stations

Each transfer station serves as a central point for receiving the collected waste¹⁵ from the adjacent town and the villages within a 10 km radius from that population centre.

Description of the proposed Transfer Stations (subject to modifications)

| District | Locality | Brief description of Location |
|----------------------|----------------------|--|
| Corozal District | Corozal Town | Along the Chan Chen Road, 3 km off the Town limits National Land |
| Orange Walk District | Orange Walk District | 2.5 km from the Northern Highway south of Orange Walk Town, present location of the Orange Walk dumpsite. Parcel is owned by ASR-BSI (sugar company) that are willing to hand it over to the GOB |
| Stann Creek District | Dangriga | Along the Southern Highway, 1 km south of the Hummingbird Highway junction. Adjacent to the present Dangriga Dumpsite. Land is owned by the Dangriga Town Council and available for the project |
| Stann Creek District | Placencia | Presently foreseen at the Placencia dumpsite location. A more suitable site closer to the peninsula is currently being sought. Land is privately owned – alternatives are under discussion |
| Stann Creek District | Independence | Along the Southern Highway 1 km south of the Independence Road junction. Present location of the Independence Dumpsite. The site is situated on a marginal part of the Mango Creek Forest Reserve; now de-reserved – however this has to be confirmed. |
| Toledo District | Punta Gorda | Along the Barranco Road, 16 km off the Punta Gorda Town limits. Land owned by SWaMA. |

65-75% of the population live in the rural areas in almost 200 villages located either along the highways or spread-out over the hinterlands of the districts. To attend the populations in these districts the construction of 69 drop-off centres (DOC)¹⁶ is proposed in the Masterplan. At the DOCs the waste is deposited into roll off containers (organic material, recyclables and residual fraction).

In larger villages an additional composting facility might be added at the site of the DOC. Once the roll-off container of residual fraction is full it will be collected and the waste transported to the nearest TS.

¹⁶ Construction of the DOCs will not be included in the initial IDB loan; however they do form a substantial part of the SW Master Plan.