

Report No: AUS0000991

Liberia

Gov Constraints to Service Delivery

SOLID WASTE MANAGEMENT

June 21, 2019

GOV



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LIBERIA SOLID WASTE MANAGEMENT

KEY TAKEAWAYS

- **Citizen centric services of solid waste management in Monrovia need improved communications with greater transparency and accountability** – Even though waste management is a stated government priority, the subsector depends primarily on donor financing and on fees paid by citizens. Citizens trust in service providers however is largely broken and need to be addressed to rebuild the social contract of paying for solid waste collection.
 - **The operational capacity of Monrovia City Corporation (MCC) to ensure accountability need to be strengthened** – The MCC is currently a service provider but has extremely limited resources to effectively undertake this function.
 - **The service delivery model of engaging Community Based Enterprises (CBEs) for primary waste collection needs to be revisited** – the formalization of CBEs has led to additional new challenges in the service delivery model, which requires rethinking the role of value added services, adapting zoning laws to generate competition among CBEs and a more results-based model of financing.
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I CONTEXT

Liberia's urban population has increased by nearly 71 percent since the end of the civil war, as more and more people migrated from the leeward counties to the urban centers, particularly Monrovia and Paynesville. Unfortunately, this urbanization has been met by increasingly poor environmental conditions in urban centers. Solid waste disposal has become an overwhelming task for the municipal authorities that face severe constraints in tackling the mounting waste situation. **In Monrovia, high costs and difficulties in collecting large quantities of waste generated by households and business are critical challenges facing the solid waste sector.** This has resulted in the accumulation of a significant amount of uncollected and haphazardly disposed solid waste in the city. According to the most recent tonnage data, the waste collection rate in the city of Monrovia was approximately 800 tons of domestic solid waste per day, representing approximately 45 % of the total waste generated in the city. The remainder (approximately 55 %) is not covered by the formal solid waste collection system.

The Monrovia City Corporation (MCC) is the lead agency¹ implementing solid waste management (SWM) in the city of Monrovia and in the Greater Monrovia District. The SWM department, housed in the MCC, has divided Monrovia into three sub divisions: Northern Region, Southern Region and Central Region. Each region is headed by a Director, who reports to the Director-General of Program Services (See *Annex 1a*). Each Director has a day and a night supervisor, who in turn have day and night workers respectively, reporting to them (See *Annex 1b*).

The solid waste management (SWM) programs, under the MCC have

¹ While other institutions such as the Paynesville City Corporation (PCC) and counties and districts municipalities, are also involved in SWM, there have been relatively few organized SWM activities led by these institutions. Thus, the focus of this note is on the work accomplished solely by the MCC.

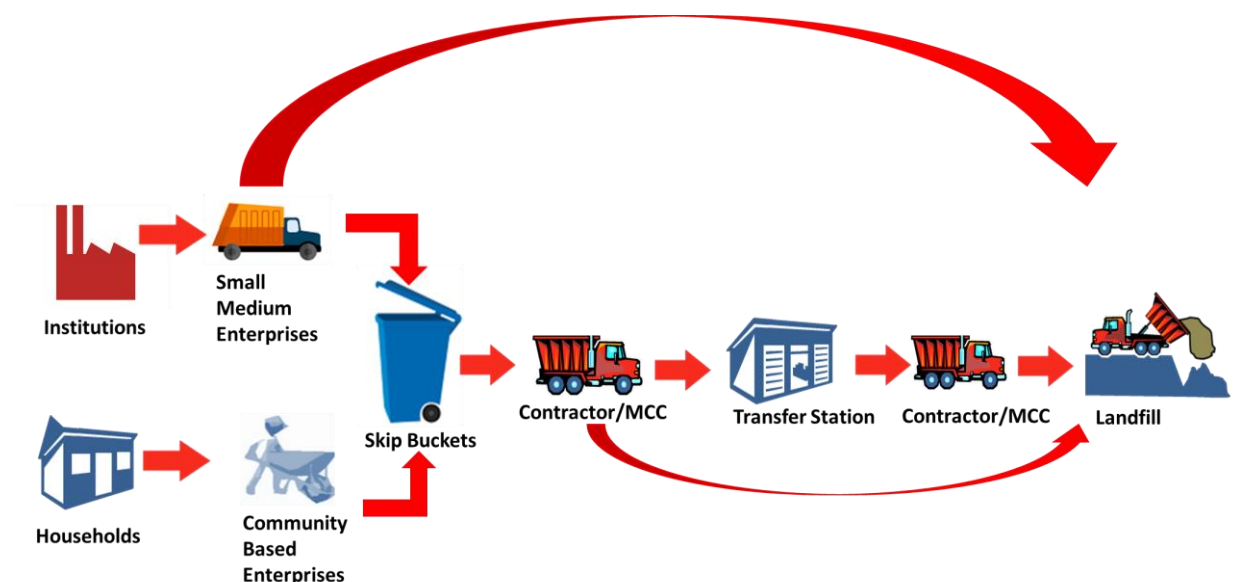
progressed over the recent years with support from Government of Liberia, donors and implementing partners. Between FY 2015-18, there were three major solid waste projects funded by the World Bank and EU: Emergency Monrovia Urban Sanitation project (EMUS), Cheesemanburg Landfill Urban Sanitation (CLUS), and EU Water Facility Project. These projects focused on several activities supporting primary and secondary collection of waste, waste disposal and hygiene promotion in the city of Monrovia and its environs. The infrastructure for solid waste management includes two transfer stations (Stockton Creek and Fiamah), three installed weighbridges (at the landfill and at the two transfer stations), one hundred and twenty communal disposal locations spread over the Greater Monrovia area, and one sanitary landfill (Whein Town Landfill). The Whein Town facility will close in two years and will be replaced by a new landfill in Cheesemanburg as it has almost reached its maximum capacity.

MCC's solid waste management system is designed to provide the following services:

- **Primary Waste Collection**, which involves door-to-door waste collection services in some areas, and communal storage in public dumpsters or skip buckets in other areas.
- **Secondary Waste Collection Services**, which involves a long haul from skip buckets to transfer stations and to final disposal at a sanitary landfill, as well as management of the landfill.

Primary solid waste collection (door-to-door) is conducted through agreements with Community Based Enterprises (CBEs) while secondary waste collection is taken over by private contractors and the City Government (See Figure 1).

Figure 1: Value Chain of Solid Waste Management in Monrovia, Liberia



Source: Developed based on interviews with the MCC

Primary Waste Collection

Primary waste collection involves door to door waste collection services

from households and institutions (restaurants, hotels etc.) to skip buckets or communal dumpsters. While collection from households to skip buckets is conducted through agreements with Community Based Enterprises (CBEs), waste collection from institutions is conducted by small & medium enterprises (SMEs). Each skip location has an attendant who focuses on emptying out the skip bucket, notifies the regional supervisor when a skip bucket is filled, and is familiar with the waste collection schedule.

The CBE model, a contractual agreement between the MCC and the enterprise, has evolved over time with implications that constrain community ownership and competition for accountable service performance. The model was created in 2007 as part of the World Bank's EMUS project. Under this model, CBEs were established by the MCC through a competitive bid process, in which one or two suitable bidders were selected and assigned to a particular zone within which they were required to collect garbage from households to designated collection points. While CBEs were initially informal and unregistered businesses, they were later mandated to register themselves as formal businesses and given more households to serve. Thus, these informalized CBEs became formalized SMEs, but differed from the latter in that they fell under the restrictions of their contractual agreement with the MCC. Unlike SMEs, CBEs are restricted to a particular zone, cannot expand outside their zones and cannot cater to large companies or institutions. On the other hand, CBEs benefit from a perceived monopoly in their respective zones since no other CBEs or organizations are allowed to operate and deliver solid waste services.

By the end of 2016 when the EMUS project closed, over 40 CBEs were responsible for all primary waste collection in Monrovia (Ministry of Public Works, 2018). They charged their clients between \$ 10-100 (Liberia Dollars) per week for solid waste collection services rendered (usually 3-6 times per week) and paid yearly licensing fees to the MCC. From zero households receiving garbage collection services in 2009, the EMUS project ended in December 2016 with over 13,000 households (i.e. 5.3% of the total households in the city) connected to regular primary waste collection and disposal (more than 40% above the planned results) (Ministry of Public Works, 2018).

Secondary Waste Collection

Secondary waste collection begins at the skip buckets where waste is collected and sent to transfer stations and to the landfill for final disposal.

In August 2014, the MCC awarded contracts to two firms, Libra Sanitation and Caspian Holdings, to provide secondary municipal solid waste collection services in the south of Monrovia through the Fiamah Transfer Station and in the north of Monrovia through the Stockton Creek Transfer Station respectively. Though these private contractors were initially hired for the secondary waste collection, attempts under the EMUS project to engage the private sector to manage the waste transfer stations and transport waste to the landfill were ultimately unsuccessful. These contracts were covered directly by the EMUS

project.

Contractors for secondary waste collection significantly failed to achieve their contractual obligations, particularly because they were not hired on a competitive procurement process based on experience and capacity. There were also repeated instances of conflict between the private sector contractors and communities neighboring the secondary transfer stations, especially at Fiamah. This resulted in poor press coverage of the SWM sector and complaints to the city, GoL, MCC and the donor community in Liberia. As a result, a pilot was started, with the MCC staff using rented equipment to manage transfer of waste from the city to the landfill. This pilot was successful and, at the close of the EMUS project, responsibility for SWM was handed over entirely to the MCC. This model has been continued with the CLUS project.

MCC has demonstrated capacity to sustain SWM, though challenges and logistical gaps remain. Over the period from January 2015 to December 2017, the quantity of solid waste hauled and disposed accumulated up to 393,730.65 tons. While in 2015 and 2016, private contractors were used for solid waste management services, in 2017, the MCC through a GoL funded intervention exclusively provided solid waste management services. However, the lack of adequate budgetary support by the Government of Liberia (GoL) has restricted MCC's ability to expand sanitation services.

Revenues and Financing

The MCC receives financial support annually from the GoL to provide basic municipal services in the Greater Monrovia District but budgets earmarked for solid waste management are directly linked to donor financed projects. Currently, solid waste management is grossly underfunded in the national budget. From 2015-18 all budgetary allocation towards solid waste management came solely from counterpart funding linked to the EMUS and CLUS projects. MCC also collects small fees paid by small contractors for tipping at the transfer stations and the landfill, from businesses operating within the city limits, and from CBEs that provide the primary collection services to the residents in Monrovia. These fees are supposed to be directed to an account that is restricted only for purposes of municipal solid waste collection and disposal. The fees are managed by MCC's Project Implementation Unit (PIU) which is backstopped by the World Bank.² Municipal Solid Waste Management and the provision of sanitation services (public latrines) are the core services that are supposed to be supported by budgetary allocations.

Between FY 2015-18, there were three major donor funded solid waste management, water and sanitation projects in the reporting period under review:

- **Emergency Monrovia Urban Sanitation (EMUS) Project:** The World Bank's EMUS Project has been supporting the Government of Liberia, on an emergency basis, to maintain and increase access to solid waste collection service in the capital city of Monrovia from the period of 2009-2016. The total financing provided to the Project over seven years has amounted to US\$ 32.72 million. The EMUS Project closed in December 2016.

² This is supposed to be supplemented by the counterpart funding from the government, not the World Bank. However, since the government fails to pay, the World Bank steps in and backstops the MCC.

- **Cheesemanburg Landfill Urban Sanitation (CLUS):** The Cheesemanburg Landfill Urban Sanitation (CLUS) project is a 5 year US\$ 17.5 million project aimed at improving access to solid waste collection and disposal in Monrovia and its environs. The CLUS project is implemented by the Project Implementation Unit (PIU) at the Monrovia City Corporation (MCC).
- **EU Water Facility Project:** The EU Water Facilitate project was €3.3 million financed by the European Union through the Liberian WASH Consortium with the MCC been the one of the major national partner. The project ran for three years (2012-2015) but ended 2017 due to the Ebola outbreak.

II CHALLENGES

Inefficiencies exist within the Contractual Model with CBEs. Initially, the CBEs were mandated to work only in a particular zone. This was based on the notion that communities within a zone would be incentivized to informally organize themselves and engage in primary waste collection activities. However, over time, in order for the MCC to effectively monitor the CBEs, it was deemed essential to legalize the process by requiring CBEs to register as formal businesses. CBEs essentially became SMEs but were restricted under their contractual agreement with the MCC to expand outside of their allotted zone. Consequently, they are unable to leverage efficiencies of scaling up, but incur huge overhead costs and generate low revenue, since the number of households they serve remains constant. Additionally, households were not required to subscribe to CBEs; thus further reducing potential revenue.

Poor communication with citizens and resulting weak awareness of the distinction between the garbage tax and the garbage fee that CBEs are required to collect undermine service provision. A garbage tax is included in the city's municipal tax that goes towards managing landfills and is levied on institutions, but not on households. However, the prevailing perceptions within households is that the cost of waste collection is already incurred in their taxes and therefore households remain reluctant to pay the fees to the CBEs needed to sustain the business model that CBEs depend upon. Currently, there is no clear communication around the difference between the garbage taxes embedded in municipal taxes and the garbage fee charged by CBEs for actual services rendered.

Most CBEs don't have valid and legal contracts but continue to work without regulation, monitoring or supervision. Further, street cleaners and scavengers tend to illegally collect garbage and get paid from households mandated towards CBEs, thus taking away their business. While Liberia's Environment Protection Agency is supposed to regulate the CBEs, they lack adequate resources. Additionally, the M&E team (See Annex 1a for the new MCC organogram) at the MCC focuses more on internal quality and has extremely low capacity. Moreover, monitoring is focused on secondary rather than primary waste collection.

Low levels of trust between citizens and CBEs are aggravated when bottlenecks in the processing of solid waste effect regular collection. CBEs have a difficult relationship with households who refuse to pay fees when garbage is not collected. However, when skip buckets are full, usually because private contractors or the MCC fail to empty the skip buckets on time, CBEs have no location to dump their loads making it difficult for CBEs to serve houses. Overfilled skip buckets, in turn, lead to CBEs collecting garbage from

households fewer times than what was previously agreed upon. Consequently, households refuse to pay CBEs, resulting in further conflict. This situation is further aggravated in low-income locations and during the rainy season.

Landfill fires have posed a significant danger to the environment.

Institutional systems and processes, including accountability structures, remain currently absent to prevent the reoccurrence of fires at the Whein Town landfill. Additionally, lack of resources poses a huge constraint in hiring a competent waste management firm. Resources need to be prioritized for addressing operation failures (most importantly lack of cover material and compaction) that are increasing the risk of ignition.

Revenues over the last three years have been decreasing. In FY2016 and FY2017, the MCC did not collect any revenues from CBEs. The lack of adequate budgetary allocation by the GoL to SWM activities restricted MCC's ability to expand sanitation services. Further, Liberia's garbage tax is too low to recover costs. Thus, a large percentage of the refuse generated by Monrovia's population remains uncollected and left on the ground in communities. Between 2015-17, budgetary support of approximately US\$ 1.5 million³ per year translated to approximately US\$1 per year per person and was inadequate to provide services and generate revenues to the greater Monrovia population of over 1 million residents. Areas where the MCC can increase potential revenues have been outsourced to CBEs and private providers. Additionally, lack of grant funding during this period further aggravated the issue of cash liquidity constraints, thus curbing the MCC's ability to achieve long term sustainability for sanitation.

III RECOMMENDATIONS

Given the challenges facing the sector, the action plans and timelines summarized below are recommended for primary waste collection and for secondary waste collection.

- **For the subsector, there is a need for a Waste Management Strategy revisiting the contractual agreements by the MCC**, which can be developed to provide clear vision and direction for bringing in donor partners and private capital. A coherent strategy for waste management, revenue collection and incentivizing assistance from the government will go a long way in strengthening the sector. The strategy should aim at fixing the system by ensuring that waste revenue is used for waste management and not for general purposes. Although the government sponsoring a waste management strategy will indicate its commitment and responsibility towards the cleanliness of the capital, it can be expected that resources to support implementation will depend on grants of donor partners and for such the strategy document to incentivize private sector investments.

Primary Waste Collection

Action Plan & Timeline: <12 months

- **MCC should design an improved communications plan** to generate awareness among households on what the garbage tax is used for and who pays for it. Given that street cleaners sometimes illegally take over the role of waste collection from households to earn extra revenue, the MCC should take on a stronger role in promoting CBEs and outlining their role vis-a-vis that of street cleaners and scavengers.
- **MCC's M&E team should be empowered and strengthened** to take on M&E assignments and data collection. Its monitoring arm must be strengthened, including use of simple ICT applications that also incentivize citizen reporting on uncollected waste. This needs to be addressed directly by the Mayor and Director Generals.

³ Taken from interviews and internal documents of the MCC

- **Improve awareness, transparency and accountability of the scheduled days and hours for garbage collection and disposal** which is known to both the service providers and recipients by:
 - Posting timetables enabling residents to be cognizant as users of the services.
 - Fixing schedules for preventive maintenance

Action Plan & Timeline: 12-18 months

- **Establish a policy to enforce mandatory requirement of households to subscribe to CBEs.** This will help CBEs increase their revenue and prevent scavengers from encroaching on their revenue.
- **The MCC should work closely with donors to revamp the CBE model.** Ideally, it should include ways for CBEs to:
 - Generate value added services such as: recycling, composting, and creating mini factories that can recycle plastic waste;
 - Adapt zoning laws to a new context of larger and formalized CBEs;
 - Include street cleaning & other end to end work in the model so that more revenues can be generated;
 - Enhance competition among the CBEs by re-dividing the city in well-defined zones and tendering each zone where CBEs can compete for a price to provide the service.

Action Plan & Timeline >18 months

In the long term, donors must be leveraged to provide more seed capital to CBEs⁴, under the new suggested CBE model, as part of a comprehensive Waste Management Strategy that is the overall immediate priority. With this, the MCC should begin the process of piloting the CBE model in a pre-selected zone.

Secondary Waste Collection

Action Plan & Timeline <12 months

- **Governance systems and processes to be put in place to prevent fires,** which go beyond measures such as fencing (already in process), covering waste with dirt, planting trees, procurement of firefighting equipment & public awareness. This should ideally be integrated into subsequent reform or project design to mitigate the occurrence of fires. Further, a competent firm needs to be hired to better manage the site if resources are available.

Action Plan & Timeline 12-18 months

Currently, the MCC has taken over the implementation of secondary waste management activities. Given that the MCC is extremely financially constrained, it should revisit this model by:

- **Hiring contractors based on experience and capacity** rather than MCC taking over implementation.
- **The supervisory and oversight role of the MCC to enforce accountability strengthened** first as a priority, instead, to prevent the failure of hiring contractors in the past.
- **Enabling structures for contractors to access finance,** including working with CLUS to create such opportunities for contractors to access finance.

⁴ This is already happening under the solid waste management project funded by the EU.

- **Clarity of roles between service provision and financing.** Creating a financial arrangement in which the private contractors focus on service delivery and the MCC monitoring the quality of the services and effectiveness of allocated finances for secondary waste collection. At present, the MCC instead rents out equipment and trucks, without the resources for related maintenance services. The MCC should focus on strengthening its supervisory function while the private contractors are provided with adequate training and incentives to increase their capacity as they take on the function of service delivery providers.

Output-based subsidy model: Given the MCC's current lack of resources, an additional option to explore, as part of the Waste Management Strategy, is to develop an output-based subsidy and engaging with donor partners based on this model. This will help bridge the gap in costs required for delivering effective solid waste management services. For example, in Nepal an output-based subsidy is given to the participating municipalities (Dhankuta, Tansen, Lekhnath, Pokhara, and Lalitpur) to help bridge the gap between the cost (including capital costs, O&M costs, overheads and other expenses) of delivering improved SWM services and the revenues that municipalities collect for SWM services. Payment of the subsidy is linked to improvements in services. The amount of the subsidy is designed to decrease over time, as services improve, and fee collection increases to contribute toward final cost recovery. The institutional and governance structures needed to effectively implement such an output-based subsidy model will need to be assessed.

Financing

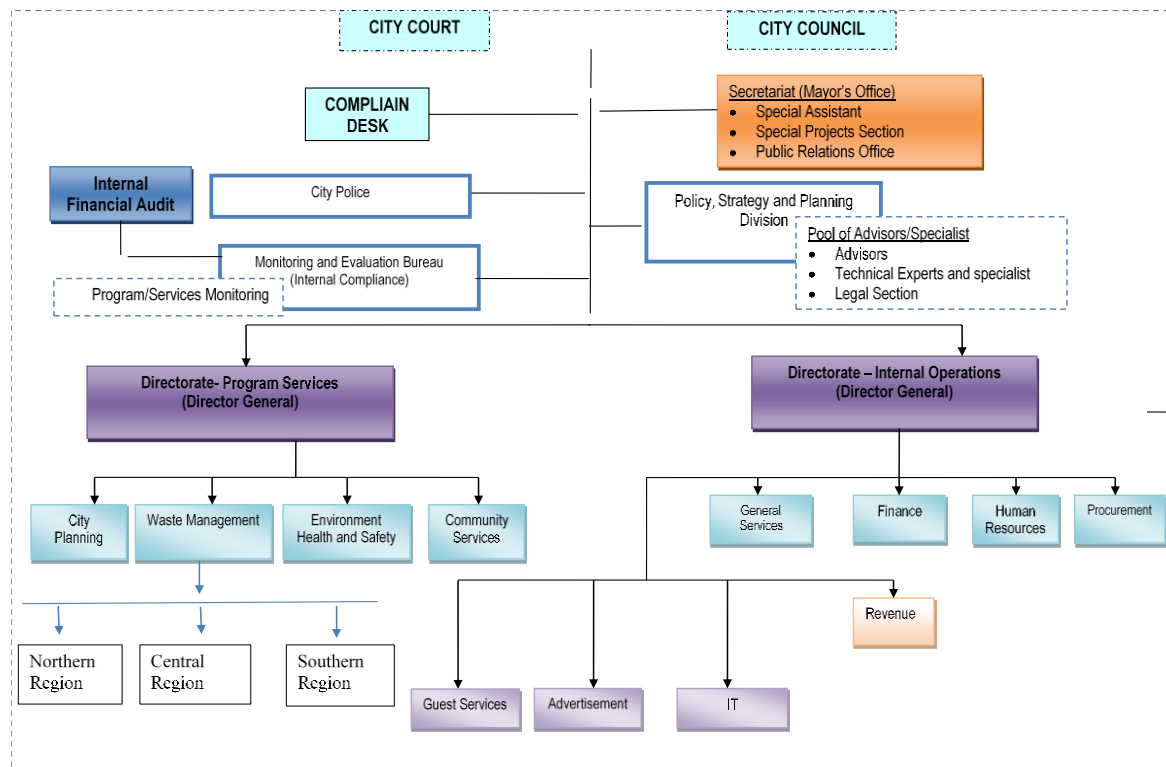
Action Plan & Timeline: <12 months

- **Revenue generated from SWM should be reinvested in the subsector** rather than allocated to other MCC services.
- **Alternatives for revenue generation explored:** Revenue should be increased through continuing to rent out equipment and increasing maintenance services rather than implementation. Moreover, the Government and donor partners can develop a strategy on alternative sources of increasing revenue and cutting service delivery expenses by revisiting the CBE model and the contractor model; revamping its waste management strategy; and rethinking new channels of revenue generation.

IV ANNEX

Annex 1a: Organogram of the Monrovia City Corporation, Liberia

Source: Internal documents from MCC



Annex 1b: Organogram of the Solid Waste Management Department, MCC

Source: Internal Documents from MCC

