

Waste Management Sector Brief

Lahore is a mega city and ranked as the country's second largest metropolis (after Karachi). Globally, it is the fifth largest city in South Asia and the 26th largest city in the world in terms of population. The civic amenities are under tremendous pressure due to rapid increase in population, urbanization and industrialization in all urban centres of Pakistan.

Solid Waste Management (SWM) has long been a neglected sector due to lack of strong commitment on the part of government to introduce institutional reforms to improve waste management on the basis of internationally accepted standards and norms. In Pakistan, local governments are responsible for solid waste management, but magnitude of the problem is beyond their capacity in terms of resources, manpower and capacity. The scale of problem is swelling with every passing day due to increase in population and living standards. This imposes serious risks to human health and environment due to improper management of solid waste.

In the past, the Government of the Punjab carried out a number of studies in collaboration with donor agencies to analyse Solid Waste Management (SWM) practices and systems in urban centres of Punjab. These reports suggest interventions for improvement in major urban centres of Punjab and consistently advocate the need for institutional reforms. Major findings of these reports are;

- i. Inefficient waste collection system resulting in low waste collection efficiency;
- ii. Poor Institutional capacity;
- iii. Poor planning and inefficient operations;
- iv. Un-reliable Data for planning;
- v. Open dumping and not plan for Sanitary landfill site;
- vi. Absence of reliable monitoring tools;
- vii. Outdated Vehicles and Equipment;
- viii. In-efficient Operation and Maintenance System;
- ix. Insufficient Legal and Regulatory Framework;
- x. Lack of Awareness and Education;

The poor SWM system is cause of contamination of soil and water, emission of Green House Gases (GHG), increase in suspended particles thus seriously affecting the environmental resources, economy and health of citizens.

1. Institutional Arrangements:

A number of efforts were made to improve the SWM system in Lahore by injecting more resources like labour, machinery and vehicles, establishment of Project Management Unit (PMU) and hiring of experts and outsourcing of SWM services. However, all these efforts were failed due to weak and ineffective institutional arrangements.

1.1 Formation of Lahore Waste Management Company:

In order to efficiently address SWM issues in Lahore, the City District Government Lahore (CDGL) established Lahore Waste Management Company (LWMC) under section 42 of the Companies Ordinance 1984 on 19th March 2010. The LMWC is governed by a Board of Directors (BODs). The BOD is responsible for the appointing management team and supervises the affairs of the company in accordance with the Articles of Association of the company. The new institutional arrangements enabled

LWMC to gain financial and administrative autonomy for quick decision making, adoption of professional and corporate governance approach with improved human resource management. The major task of LWMC is to provide a waste management program that contributes to maintain the health of the residents by ensuring that waste is removed from the city and disposed of in an environmentally acceptable manner through efficient waste collection, storage, transportation and disposal. The Company intends to provide sustainable, efficient and affordable waste management services for the citizens of Lahore. The vision of LWMC is to;

“Transformation of Lahore as one of the cleanest cities in the world by providing customized solutions in consultation with citizens and private partners to ensure sustainable, safe, clean and green environment”

1.2 Technical assistance by ISTAC:

Turkish model of SWM in Istanbul is replicated in Lahore to further strengthen the centuries old ties between the two brotherly countries. LWMC hired services of Environmental Protection and Waste Materials Recycling Industry and Trade Company (ISTAC) of Istanbul Metropolitan Municipality and signed a consultancy agreement in December 2010. The technical support is being provided in the field of Institutional development, Integrated SWM planning, conducting waste characterization studies, communication and regulatory framework, landfill design, hospital and packaging waste management plans etc.

1.3 Services and Asset Management Agreement (SAAMA):

LWMC and CDGL signed Services and Asset Management Agreement (SAAMA) on 25-06-2011. According to this agreement SWM functions, vehicles & machinery, premises, workshops and designated manpower of SWM department of CDGL and the Tehsil Municipal Administration (TMAs) were transferred to LWMC. The work force of about 10,000 workers handed over to LWMC, some of which was further deployed with international contractors. Currently there is a fleet of 14500 workers working in LWMC.

The budget was also transferred to LWMC with agreed annual incremental increase after every year.

Outsourcing of SWM services:

LWMC in consultation with M/s ISTAC designed the new SWM system for outsourcing. The experts of ISTAC studied existing system, identified the gaps and designed the system for outsourcing to improve the situation. Two Turkish companies were selected through international competitive and transparent bidding process. The total cost of the project is US\$ 320 million for seven years.

1.4 The scope of outsourcing of SWM services includes;

- i. Manual Sweeping;
- ii. Mechanical Sweeping;
- iii. Mechanical Washing;
- iv. Waste Collection;
 - a. Door to Door collection
 - b. Container based collection
- v. Waste Transportation to the Disposal Site

Projects

1. Operation and Maintenance of 1st Engineered Landfill Site at Lakhodair

Lahore Waste Management Company (LWMC) established Pakistan's first engineered landfill site at Lakhodair. The total area for the site is 63 hectares. Amongst which 27 hectares comprise of Landfill. The total landfill is designed on six lots/cells. The design capacity for Lot 1&2 is 1,390,000 cu.m with an approximate life of 1.5 years. LWMC inaugurated its landfill operations on 18th April 2016.

On daily basis 6500tons of waste is collected from Lahore City. LWMC plans to outsource the operation and maintenance of this landfill. In this regard, LWMC has started the outsourcing procedure. The pre-qualification is in process.

2. Construction, Operation and Maintenance of New Landfill Site

In order to cater the increasing waste management demand. Lahore Waste Management Company (LWMC) has carried out several surveys to identify suitable sites for the construction of a new engineered landfill. This landfill will be located in the south of Lahore. It will design to cater 2000TPD of MSW.

Currently LWMC is in the process of conducting the EIA study for the selected site. And after that plans to outsource the construction, operation and maintenance of this new site.

3. Installation/Erection , Operation and Maintenance of New Incinerator

Approximately 17 tertiary level hospitals are located in Lahore. The total hazardous waste generated per day is 5.4tons. As per the request of Punjab Health Department, Lahore Waste Management Company has been entrusted to construct, operate and maintain a new incinerator facility besides Children Hospital incinerator, to deal with this infectious waste and to dispose it of in a safe manner.

For this purpose, LWMC has identified Mehmood Booti as a suitable site for the construction of a new incinerator that shall cater 5 tons/day and will be constructed on a total area of 8 kanal's. Advertisement has been published

4. Rehabilitation of Mehmood Booti:

Mehmood Booti is Lahore's oldest dumpsite. This site was operational since 1996 and was recently closed in 2016 by Lahore Waste Management Company. The total waste dumped in this site is 13.14 million tons. The total area of this site is approximately 40 acres.

LWMC has initiated the process for the Rehabilitation of the dumpsite. Cutting and Levelling of 500,000 cu.ft has been done. LWMC in collaboration with Parks and Horticulture Authority (PHA) are initiating a plantation drive on this levelled land.

5. Material Recovery Facility (MRF)- Sundar:

With the advancement of technology and arising concern from environmentalist, politicians and from other sectors. The world is transforming its approach to "Zero Waste". This initiative has been taken up by Lahore Waste Management Company (LWMC) and it plans to develop a fully automated material recovery facility at Sundar.

The total area for this land is 893 kanals and 6 Marla's. This facility shall comprise of:

1. Segregation of Recyclables
2. Processing of Organic Waste
3. Establishment of RDF
4. Managing C&D Waste
5. Transportation/Disposal of Residual Waste to Landfill

Currently the engineering designs are being prepared for the allied facilities that include access road, office building and weighbridge. This facility will be designed to cater 1200TPD of MSW.

6. C&D recycling unit at Thokar Niaz Baig

Approximately 90-130tons of C&D is being generated and collected by Lahore Waste Management Company (LWMC) on daily basis. This is approximately 15-20% of the total daily waste being generated in Lahore.

In order to cater this waste and to convert it into an useful product, LWMC intends to construct a C&D recycling unit at Thokar Niaz Baig.

Currently EIA of land is under process.

7. WTE Plant at Lakhodair

Lahore Waste Management Company (LWMC) being a pioneer in Pakistan in the field of WTE, with different bio-gas plants under process. LWMC intends to construct a new WTE plant at Lakhodair Landfill site.

This project is planned to generate 40MW of electricity. Currently LWMC is in negotiations with a Chinese company M/S ENFI for the construction of this land. Land lease agreement and waste supply agreements are being drafted.
