

PhD thesis title: Waste Management: A Framework for Intervention

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Abstract

Municipal Solid Waste Management (MSWM) is a complex system wherein a typical waste management process, and intervention includes segregation, collection, processing, and disposal. Moreover, waste management apparatus varies from region to region; therefore, site-specific data and analysis are often required to determine appropriate and region-relevant waste management strategies. The complexities of a waste management system in India are even further complicated due to the involvement of various participants in the decision-making process, such as the government, local municipalities, the informal sector, institutional experts, and on occasions, the general public. Citizens are one of the primary stakeholders and play an important role in the value chain before the waste is collected. At the same time, municipalities and the informal sector are equally important stakeholders, majorly responsible for the collection and processing of the waste. Evidently, the waste management system in India encompasses multiple socio-economic and environmental facets. In a country as diverse as India, there is a need for heterogeneous, context-based, and evidence-driven policies that lead to efficient outcomes. It is important the policies thus designed should also focus on identifying the strengths of a country and leveraging them.

The currently practiced homogenous policy framework for waste management is indeed not working in favor of India. This can be illustrated by the World Bank data, according to which India generates the highest amount of waste worldwide, more than even China. As much as 77 percent of this waste is simply dumped in the open, with all its noxious fumes and toxins. And Delhi is one of the tops in the list of Indian cities with maximum waste generation. Therefore, Delhi has been chosen to demonstrate the need for contextual policies.

There is a clear need to limit the disturbing trend of waste generation and mitigate the consequences. This can only happen if we break the old systems of waste management and build new ones through context-based policy-making, such that we: 1) capture the perception of citizens belonging to different socio-economic categories while simultaneously designing waste management policies contingent on the type of residence, 2) devise ways to make both formal and informal system of waste management work in conjunction and 3) make currently existing waste collection system more efficient. The work in the thesis caters to the three aspects (above mentioned) around which waste management policies should be designed.

Accordingly, the framework and models are developed for Delhi to yield interesting insights. This work suggests possible recommendations that can make waste management more efficient and thus, may enable shifting of policy framework from exclusivity to inclusivity.