



International Conference on Solid Waste Management, 5IconSWM 2015

## Municipal Solid Waste Management in India: A Few Unaddressed Issues

Tapas Kumar Ghatak \*

*Former Director, Environment Cell KMDA, Dept. of UD, GOWB,  
Advisor to GOI and World Bank, ADB, DFID sponsored programme for various ULBs in Indi, Kolkata*

---

### Abstract

Issues related to waste management in the context of Indian Cities still requires a path finder as most of the SWM planners and Executers are still in the dark which part of the SWM rule 2002 needs to be addressed in the primary stage. In fact finding it hard to plan and execute it was thought it may be better to change certain part of the rules which is not even 15 years old. A draft rules awaits approval and most of the people are not actually knows what is being changed and why. In fact this part of the facilities has never been considered as part urban infrastructures neither the citizen's opinion was asked in any stage while framing the rules or while even changing it for betterment.

The present paper generates Certain issues related to Waste management which have been experienced while being involved in various cities in national and International arena and picks up certain unaddressed issues related to Waste management in Indian Cities. The main aim of this paper is to combine the opinion with a learned group of participants and try to evolve an effective pathway for its management. One of the most prominent factors which is missing in the entire process is the role of Community as a stake holder and their inclusion in the entire process.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the organizing committee of 5IconSWM 2015

*Keywords: Waste management , citizen's opinion, unaddressed issues;*

---

### Introduction

Solid waste management (SWM) is a critical problem for developing countries such as India. It is estimated that

---

\* Corresponding author.

*E-mail address: [tk.ghatak@gmail.com](mailto:tk.ghatak@gmail.com)*

India's current population of 1,200 million will continue to grow at the rate of 3-3.5% per annum. With the per capita waste generation increasing by 1.3% per annum, the yearly increase in waste generation is around 5 % annually. The government is under constant pressure to efficiently handle the ever growing amounts of solid waste and make cost effective changes. Added to constrained budget allotments in the solid waste sector, poor administrative management practices have been a focus of increasing concern (ERM, 2004). A review of literature of SWM in India highlights institutional/financial issues as the most important ones limiting improvements in SWM; Hanrahan et al (2006) specifically notes that "There is an urgent need for much improved medium term planning at the municipal and state level so that realistic investment projections can be developed and implemented." New methods for cost planning will support waste managers when faced with difficult decisions (Milke, 2006)

### Cost Analysis of SWM for the Indian Scenario—How much does it currently cost??

To get an insight into the actual costs of SWM services in India, an attempt has been made to analyse the extensive cost data of SWM that was first published in 2005 by the National Institute of Urban

Affairs (NIUA), India in their report entitled "Status of Water Supply, Sanitation and Solid Waste Management in Urban India" and correlate them to the district population of India. After omitting missing values, the dataset used in this paper covers a sampled population of 132 million distributed in 268 cities out of close to a total of 700 districts in India. The sampled cities and towns in turn represent the entire country, i.e., the 28 States and 7 Union Territories.

A municipality's solid waste expenditure can be analyzed most simply by its average costs. Average cost requires that the cost of a service be divided by some metric, usually tons or number of persons. Table 1 could be referred to compare the average costs both in cost per capita and cost per ton over three population ranges (i.e Metropolitan1 , Class I, and Class II cities) using a five-number summary: the median, the 25th and 75th percentiles, and the minimum and maximum observed values, outliers and extreme values if any. Outliers and extreme values are given special attention because with a large dataset such as ours they are bound to exist due to problems such as incorrect data accounting by certain municipalities, population of extended city not taken into account etc, to name a few. Excluding outliers was quite confusing in this study as removing one outlier results in creating another due to the high scatter in the data (Data issues discussed separately in next section). Hence it was decided to retain outliers and all further analysis and model fitting was done using the complete dataset.

The unit costs mentioned here could be of interest not only because they offer a benchmark for comparing average costs internally between different population ranges within India but also because they can also be used to compare unit costs with other developing economies in the world. It also gives a quick measure to monitor costs over time. Through such monitoring, one can identify inefficiencies and set goals for productivity improvements.

Table 1

City with Population	Cost Rs Per capita/Year	Cost Rs Per Tonnage/Year
Metro City	150/-	1100-1200/-
Class I city	110/-	450-500/-
Class II city	70-80/-	700-800/-

Source: NIUA 2005

### Realities and Challenges for an SWM planner

Funds for SWM in India are typically assigned as part of the annual municipal general budget (Zhu et al 2008). Municipalities receive income from various sources, central government, various NGOs, local taxes, with little income directly tied to SWM. They (municipalities) have to manage a number of civic services apart from SWM,

Download English Version:

<https://daneshyari.com/en/article/4401368>

Download Persian Version:

<https://daneshyari.com/article/4401368>

[Daneshyari.com](https://daneshyari.com)