

International Conference on Solid Waste Management, 5IconSWM 2015

Case Study of Mumbai: Decentralised Solid Waste Management

HamsaIyer *

Observer Research Foundation, Mumbai, India

Abstract

Mumbai Metropolitan Region (MMR), spread over 4,355sq. km is home to seven municipal corporations. All Municipal Corporations in India are mandated to look into solid waste management in their functional domains under the 74th Constitutional Amendment. At present, all the seven municipal corporations depend upon centralised means of managing waste which is dumped at assigned landfills post collection. Apart from the corporation, there are multiple players who play a crucial role in managing the waste. Much of this is managed by informal sector and now emerging recyclers who are setting up processes for decentralised waste management.

This paper explores the scale at which different institutions/communities have taken efforts to successfully manage their waste. Most people are unable to achieve 100% decentralized management due to lack of appropriate channels for managing rejects and sanitary waste. More importantly, it is imperative to understand the failure and limitations of the municipal corporation since they are financially dependent on the centre and state for their functioning. But despite all those constraints, it makes sense to gauge energy and material recovery potentials and correlate to municipal waste management. By means of different examples and a technology provider for bio-medical waste, we are able to make an impact towards creating greener, sustainable communities.

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

Keywords: Decentralised waste management, composting, Municipal Corporation, sustainable cities, active citizens, proactive communities;

1. Introduction

The city of Mumbai is spilt into two parts- Greater Mumbai and the region surrounding it. The entire region- called the Mumbai Metropolitan Region (MMR) is governed by a group of Municipal Corporations. The various

* Corresponding author.

E-mail address: hamsaiyer@gmail.com

municipal corporations in MMR are Municipal Corporation of Greater Mumbai (MCGM), Thane Municipal Corporation (TMC), Navi Mumbai Municipal Corporation, Ulhas Nagar Municipal Corporation, Kalyan - Dombivili Municipal Corporation, Bhiwandi-Nizampur Municipal Corporation and Vasai-Virar Municipal Corporation. All municipal corporations look after the basic sanitation facilities provided to the citizens under the 74th Constitutional Amendment that gives municipal corporations these powers. This paper looks at examples from MCGM and TMC. The city interacts with all its stakeholders to manage the waste effectively. The nexus between the government agencies, technology, recyclers, citizens/residents, waste pickers create the circle for effective waste management of the city in a centralised and/or decentralised manner.

Centralised mechanisms have known to fail at scale, largely because of the complexity that this linear system poses. From door-to-door collection to mere dumping of waste in over-flooded landfills leaves very little space for effective management of mixed waste. In simpler terms, the linear system of waste dumping highlights that waste is in fact, mismanaged. This system is also largely characterised by tenders floated for collection and the rising price spent on transportation. MCGM budgets INR 2232 Cr. for waste management in the current FY 2015-2016.

Decentralised systems however run on smaller, but manageable scales. The concept of YIMB Yenables processing and storage of waste thereby increasing its value. The link of such high value waste is noticed with the waste traders or '*Raddiwallahs*' who are seen almost in every nook and corner of our cities. The existing network of such traders and informal workers create an unofficial knowledge pool that assesses the worth of waste.



Fig. 1. Stakeholder Map

2. Methodology:

In this paper, we explore the case study of Mumbai and adjoining area of Thane, where various attempts are made by citizens and organisations to make an effort to manage their waste in a decentralised manner. The sampling of the report has case studies of one active citizen; two housing complexes (that have 25 and 210 flats respectively); a 50 flat apartment complex (that has flourished to growing their own food); an industrial colony (with their own residential space); a college (that efficiently segregates examination papers); and a Bio-Medical Waste Management Plant (that funds sustainability projects). Each of them are lessons to prove that the notion of decentralised waste

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