

Case Study

CHALLENGES AND CORRECTIVE MEASURES FOR IMPROVEMENT : CASE STUDY OF HARIDWAR MUNICIPAL SOLID WASTE MANAGEMENT

¹Ritika Rajand ²*MayankSinghal

¹Urban Planner & Civil Engineer (LEA Associates South Asia Pvt. Ltd.)

²Deputy General manager & Project Performance and Management Specialist (Egis India)

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ABSTRACT

The aim of the study title "Case study of Haridwar Municipal Solid Waste Management (SWM): Challenges and Corrective Measures for Improvement" is to measure the challenges in implementation of solid waste management in Haridwar city and to suggest corrective measure which can be taken for improvement in SWM services for the effective solid waste management. It attempts to analyse the three scenarios of SWM in the city; i.e. before public private partnership (PPP), during PPP and after it. The study assesses the gap and corrective measure to be taken for the effective implementation of SWM in Haridwar. The reason for selection of Haridwar city for SWM study is that Haridwar is an important city of Uttarakhand and was formed on year i.e. November 2000 and also for comparison how much change have been done in the area of SWM after formation of new state in Haridwar.

Keywords: Solid Waste Management, Challenges in implementations, Corrective Measures, Improvement, SWM PPP Model.

INTRODUCTION

Haridwar is a holy city on the bank of river Ganges. Haridwar is one of the first towns where Ganga emerges from the mountains to touch the plains. Due to Haridwar's location on the bank of river Ganga, it has plenty of water resources and almost all kind of food grains are produced here in abundance. Being a place of intense religious significance, Haridwar also hosts several religious festivals throughout the year; popular among them are the KavadMela, Somvati Amavasya Mela, in which around 20- 25 lakhs people take part. Apart from this, there is the KumbhMela which takes place once in every twelve years, when the planet Jupiter (Brahspati) comes to the sign Aquarius (Kumbh). The 1998 MahaKumbhMela saw over 10 million pilgrims visiting this city, to take a dip in the Holy River, Ganga. The total quantity of waste to be handled in normal times by the corporation is approx 200-210 MT and in month of July on peak days the waste can be estimated to the tune of 350-375MT/day.

Uttarakhand State Policy for SWM

Government of Uttarakhand has adopted SWM Rules, 2016, Plastic Waste Management Rules, 2016 to improve the SWM services in the state.

NATIONAL POLICY FOR SWM

Step 1: Policies Programmes & Legal Framework

- Identify National & State Policy
- State/Regional/District Level SWM Strategies/Polices
- Identify overall Goal for ULB
- Role of Central/State & Local Government
- Institution & Stakeholder involvement in MSW planning

Step 2: Assessment in current Situation & Gap Analysis

- Legal & Policy Framework
- Community Participation
- MSW processing treatment & disposal
- Institutional & Financial Setup
- MSW Generation, Transportation & Disposal
- Current Status of Dump site
- Technical aspects
- Availability & Sustainability of land for processing
- Environmental Concerns.

Step 3: Stakeholder consultation for MSWM planning

Step 4: Preparation of DRAFT Master PLAN

- Future projections
- Rules, Regulations & Municipal Bye-laws
- Institutional & Financial structuring
- Storage, collection & transportation
- Identification of land & inclusion in master plan
- Selection of process & Best available for processing & disposal

Step 5: Schedule for implementation

- Timeline
- Manpower Requirement
- Financial viability

Step 6: Stakeholder Consultation & MSWM plan validation

Step 7: Municipal council approval & Plan implementation including PPP

*Corresponding Author: MayankSinghal,

²Deputy General manager & Project Performance and Management Specialist (Egis India).

RESEARCH METHODOLOGY

It was studied that Municipal Corporation of Haridwar had prepared a DPR on solid waste management under JnNURM central sponsored scheme. As per the DPR it was proposed that this scheme is to be implemented in PPP mode. After following all the procedures, Corporation has selected a PPP partner for a concession period of 15 years in which the PPP partner was supposed to establish project facilities in first year and operate the project thereafter for a period of 14 years.

Problem Statement

It was studied that due to non-availability of environment clearance to setup the project facilities, PPP partner failed to establish the project facility in first year. Even after due time, i.e. 7 years, the PPP partner was not able to establish the project facilities, especially compost plant and landfill site. During the study it was also analysed that the Corporation failed to implement this project due to absence of technical capability. The corporation was having only one municipal health engineer and one environment engineer who are looking after the project under the leadership of administrative body. Due to the lack of technical staff in both Corporation and PPP partners, the project was not successfully implemented. Moreover, wrong decision was taken for the initiation of the project like initiation of door to door collection without establishing the complete facilities and this decision was continued till 7 years. Meanwhile Honorable NGT dealt with the pollution caused on account of illegal discharge of untreated sewage and industrial effluents either directly into the River Ganga or its tributaries and connected drains, besides on the issues of dumping of solid waste, directed Municipal Corporation of Haridwar to stop illegal dumping of SWM at ChandiGhat area which is in the vicinity of Holy river Ganga. Due to this Municipal Corporation has taken incorrect decision to start dumping at open plot situated near to Sarai village without any proper planning and preparation. This causes a nuisance in the area and presently the situation is that SWM is openly dumped at the site and sometimes it is also reported that fire breaks in that area causing environment pollution and health issues to nearby villagers. Till now these facilities has not been developed by the Corporation except compost plant, which is also non-functional. The Haridwar city witnessed a sudden increase in population after the declaration of the new state of Uttarakhand in 2000, due to which the city was facing a challenge of providing essential infrastructure to keep pace with population growth. As there is growth in the urban population and in tourist influx, solid waste management is emerging as one of the major challenges being faced by the city. Municipal Corporation has been making continued efforts in improving MSW management from the past few years, but still have not achieved the standard Service level benchmark (SLB) despite the involvement of the PPP partner to manage the SWM services in the city.

RECOMMENDATIONS

Contract: Concession Agreement should be well defined w.r.t.:

1. Scope of work/Key Clauses defining services,
2. Service level and quality standards,
3. Performance monitoring,
4. Penalties and setting of tariff etc.

Segregation, Recycling, User charges: There is the need of public awareness to understand the benefits of waste segregation, recycling and the concept of user charge through Information, Education & Communication (IEC) and Capacity Building. There should be backup support provided by Municipal Corporation in terms of enforcing the suitable act & byelaws to punish offenders who don't pay user charges.

Tipping fees: There should be inflation in tipping fee to match the operating cost.

Treatment & Disposal: Availability and clearances of land are to be ensured for successful implementation of the project.

Monitoring: There should be sanitary inspector at city level and at ward level also. IT/GPS based- vehicle tracking system and OSRT system of monitoring has to be adopted for effective monitoring of service and transparency.

Finance: A basic financial model should be prepared to assess the Financial viability of the project and to adopt it as a model for future project.

Stakeholder involvement: NGOs and RWAs should be involved at different stages of SWM and for monitoring purpose.

Project structure: Considering local condition of the city (i.e. Political influence, consumer awareness, etc.), there should be proper structuring of PPP framework, consisting:

1. Performance Parameters,
2. Technical parameters (design and specification),
3. Commercial and Financial Parameters,

CONCLUSION

Administrative body of Municipal Corporation shall address the ongoing issues immediately and shall establish the dedicated technical cell in order to the compliance of the state as well as national policy for the implementation of Solid Waste Management. Moreover shall achieve the objectives of Swachh Bharat mission, a flagship mission of Government of India.

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