Case Study

Digital interventions in FSSM in Berhampur, Odisha

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Contents

1. Background

Berhampur is the fourth most populous urban city in Odisha with an estimated population of approximately 4 lakh[1]. Of the total population, approximately 26% of the population resides in 163 urban slums in the city. Administratively, the city is divided into 40 wards and governed by the Berhampur Municipal Corporation (BeMC). A sanitation situation assessment reveals the corporation wide prevalence of open defecation to be 11%, which is predominant in the urban slums. 67% of slum population constitutes to the practice of open defecation in the city. Berhampur also has close to 86% of the population with individual household toilets in the household premises (with containment systems). This in turn emphasises the need to adopt safe liquid waste management practices.

Berhampur Municipal Corporation (BeMC) is on the forefronts of implementing central government Swachh Bharat Mission (SBM) to reduce rates of open defecation. This is further complemented by BeMC's interventions to implement sewage and septage management mission through the Atal Mission for Rejuvenation and Urban Transformation (AMRUT). Furthermore, the 2016 Fecal Sludge and Septage Management (FSSM) Policy is facilitating liquid waste management in the corporation. A range of activities across the FSSM value chain that pertains to safe containment, emptying, treatment and disposal of liquid waste is carried out. The activities of the municipal corporation aims to achieve corporation-wide Open Defecation Free (ODF) while improving urban citizen liveability standards. So far, BeMC has executed activities to:

- Build sustainable sanitation infrastructure for safe treatment and disposal of waste through the construction of a Septage Treatment Plant (SeTP).
- Motivate households to construct IHHL besides improving existing infrastructure of shared sanitation (community toilets and public toilets).
- Engage local private sector players for municipality enabled sanitation service delivery. Private sector engagement for cesspool operations is one such example. BeMC currently operates four cesspool vehicles wherein three vehicles are operated by private operators.
- Promote women sanitation entrepreneurs facilitated this through Self Help Groups (SHGs) for operation and maintenance of community toilets.
- Improve household awareness to adopt better containment practices. The communication campaigns are facilitated through Community based organizations (CBOs).

2. The challenge

Despite improving waste management processes in the city, the BeMC faced challenges particularly on the temporary disposal of both solid and the liquid waste. For example, instances of in-discriminate dumping of waste in un-designated waste dumping sites due to the lack of awareness by the waste collectors was observed. Such practices along with the increasing number of grievances received from the public on such indiscriminate waste dumping practices necessitated BeMC's intervention to increase accountability of vehicle operators.

3. The intervention

To address the challenge, BeMC identified technology as an enabler to regulate cesspool operations and increase accountability of vehicle operators (both government and private). For this BeMC

[1] Census 2011

intervened by incorporating digital techniques to effectively monitor, improve service delivery and increase operational transparency of the process. The solutions are outlined below:

1. GPS enabled cesspool vehicles

To enable systematic real-time tracking of the movement of cesspool vehicles, BeMC took the initiative of installing GPS systems in the cesspool vehicles. The solution has been implemented with the buy-in of the private operators. The intent of this intervention is to get live updates on the movement of cesspool vehicles by tracking the kilometres (km) travelled, the turnaround time of the pickup request and most importantly monitor the waste disposal practices (timestamp of request submission vs the timestamp of collection and disposal). The GPS installation is complemented by orienting cesspool operators on the significance of adopting such practices. Currently, the vehicle tracking system tracks every single trip and the municipality has technology enablement to effectively govern (monitor and track) trips both online and offline. In case of violation, a penalty is imposed as a compensation for the violation.

2. CCTV camera monitoring

To capture illegal waste dumping at designated temporary disposal sites, BeMC installed CC TV cameras at the designated temporary waste disposal sites. The of CC TV camera at the disposal sites records dumping practices, which complements real-time tracking of vehicle movement via GPS enablement. So far, reduction in illegal dumping of waste at the temporary disposal sites is observed a positive outcome through the intervention.

3. Interactive Voice Recording (IVR)

BeMC implemented an IVR system in the municipality by providing a toll-free number for citizens to call and avail cesspool services. The intervention aimed to indirectly increase the demand for cesspool operations by improving the cesspool requisition booking experience. A notable indicator to measure the success of the initiative is the comparative increase (monthly) in number of trip increase. For example, June 2018 recorded 169 trips, which is an X% increase in the number of trips recorded for the previous month.

Through this, BeMC has enabled greater transparency and accountability in the cesspool business. The success factors are evident from the:

- Demand increase for cesspool operations subsequently increasing the attractiveness of the business proposition
- Improved operational efficiency of the process, which included increase in turnaround time and reduction in illegal dumping of waste
- Empowerment of BeMC, enabled through accountable private operators with BeMC

As a way forward, BeMC could further improvise service delivery by incorporating online payment gateways for cesspool booking, adopting differential pricing to achieve inclusiveness in service delivery and pave ways to integrate Internet of Things (IoT) in the long term.

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