Chapter 11
Urban Solid Waste Management and Public Awareness in Bhubaneswar

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ABSTRACT

This chapter aims to assess the current state of solid waste management in the city and the residents' awareness and participation levels. A stratified random sampling method was employed to gather 1,447 responses from Bhubaneswar residents. The findings reveal that only 4.35% of households segregate their waste. The primary reasons for non-segregation are that many people are not accustomed to this practice and believe it is futile since municipal workers often mix the waste after collection. On a positive note, many residents sell a significant portion of their solid

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waste to the Kawadiwalas. The study also found a strong relationship between general awareness and willingness to participate in solid waste management (SWM). Interestingly, female respondents were found to have a lower essential awareness of SWM. In contrast, senior citizens and individuals from lower socio-economic groups displayed significantly higher awareness and a greater willingness to engage in SWM practices.

1. INTRODUCTION

India is the world's fastest-growing economy and is the world's second-most populous country. The current yearly volume of solid waste created in Urban areas has risen from 30.6 million tons in 1990 and 58.41 million tons in 2020-21 (Central Pollution Control Board, 2021), and it has been projected to go beyond 165 million tons by the end of 2030 (Government of India, 2016). The gigantic rise in the volume of solid waste is due to changes in the urban population's lifestyle, food preferences, and standard of living (Talyan et al., 2008). According to MSW categorisation, the waste contains 30–45 per cent organic matter, 6 to 10 per cent recyclables, and the remainder is inert stuff (Kumar et al., 2009). The municipalities are primarily responsible for waste collection in the Indian cities. On the other hand, many municipalities have contracted with private parties to collect and transport garbage to disposal sites in different locations. In many Indian cities, the residents have been charged a collection fee by the municipality (Mohan & Yadav, 2019; Raj & Chutima, 2018), NGOs and other private organisations who have been appointed to segregate and collect waste from the urban households (Basu & Punjabi, 2020; Fredrick et al., 2018). In most Indian towns, the community bin or a standard dustbin has been placed on the roadsides with two to three bins in a kilometre radius where the residents have to put the garbage(Deswal & Laura, 2018; Rohit et al., 2018; Saha et al., 2017). This system is a very cost-effective way of collecting community or household waste, which is, in turn, transported by the municipality vehicles to the disposal site (Kumar et al., 2009).

The residents of Bhubaneswar generate about 300 tons of solid waste per day (Mohanty et al., 2014) which is expected to increase up to 1,000 tons per day by 2030. Roughly 50–70% of produced Waste is being collected, with the remaining discarded in drainage channels in city streets. About 10-20% of the collected waste has been treated using composting, the only treatment available. In contrast, the remaining garbage has been disposed of in open dumping sites on the outskirts of town. Many recycling facilities are currently not performing to their full potential. There is no doubt that these dumping sites are polluting the groundwater as well as causing air pollution in the city due to the unavailability of the waste disposal