

Integrated Municipal Solid Waste Management System (IMSWMS)



Problem Statement: Solid waste is produced from every household, commercial and industrial activity. However, in India, the collection, transportation and disposal of municipal solid waste (MSW) are unscientific and chaotic. Uncontrolled dumping of garbage on the outskirts of towns and cities has created overflowing landfills, which are not only impossible to reclaim because of the haphazard manner of dumping, but also have profound environmental implications in terms of groundwater pollution and contribution to global warming. The problem requires an efficient system for handling and management of solid wastes. Researchers at IIT Bombay have devised an integrated municipal solid waste management system to address this need.

Uniqueness of the Solution: An integrated waste management plan has been formulated to deal with fresh solid waste generated daily. According to this,

the trash needs to be segregated. The segregated waste is divided into dry, inert, and organic waste. The segregated dry waste is compacted and sent out for recycling. The segregated inert waste is repurposed as a filling material. The segregated organic waste is taken through a process of bio-stabilisation to realise it as a soil enhancer. The bio-stabilised organic waste can act as a very good bio-manure. Through effective implementation of these, municipal waste can be efficiently managed. However, a critical component is to ensure that waste segregation takes place during collection.

Current Status of Technology: The IMSWMS system has been successfully implemented by Mira Bhayandar Municipal Corporation (MBMC) in 2017 and by Naya Raipur Development Authority (NRDA) in 2018.

Societal Impact: Better solid waste collection and management, thereby reducing the problems due to solid waste.

Patent(s): Nil

Relevant Industries: Cities, Towns, Urban Local Bodies, Municipalities.

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