



**SUSTAINABLE WASTE MANAGEMENT & RESOURCE RECOVERY FOR CLEAN  
AND HEALTHY VILLAGE  
(SATHYA NAGAR & PARERI, SINGAPERUMAL KOILPANCHAYAT)**

**CSR Project Funded by  
M/s Technip FMC, Chennai**

**Executed by  
IIT Madras**

**Project Coordinators  
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## **Introduction**

Waste management has been a major problem in India, although our country has made quite a lot of progress over the years in other sectors. Human health and well-being are closely dependent on hygiene and sanitation, and hence there is an urgent need for improving the hygiene and sanitation conditions through sustainable waste management practices. Innovative and sustainable waste management practices can be adopted for improving the hygiene and sanitation conditions and there by improve the health and also reuse the recovered resources. The Swatch Bharath Campaign launched by the Honourable Prime Minister of India also emphasizes the importance of cleanliness, for the overall development of the nation.

Indian Institute of Technology, Madras, has undertaken a project on the above lines, titled, "Sustainable Waste Management and Resource Recovery for Healthy and Clean Village" with funding from M/s Technip FMC, Chennai, for the implementation of this project as part of their Corporate Social Responsibility (CSR) activities. As part of this project, two villages - SATHYA NAGAR & PARERI of SINGAPERUMAL KOIL PANCHAYAT, have been adopted as a pilot for demonstrating the management and resource recovery concepts.

## **OBJECTIVES**

- To implement integrated municipal solid waste management by collection, segregation, transportation, reduce and reuse of waste;
- To demonstrate complete resource recovery from inorganic waste (through reusing, recycling waste, etc.,) and organic waste (composting) by involving locally trained human resources.

## **BACKGROUND INFORMATION**

Singaperumal Koil (Panchayat) is a census town located near Chengalpet, Kancheepuram District, Tamilnadu. Sathya Nagar and Pareri are part of Singaperumal Koil Panchayat and were selected for sustainable waste management and resource recovery. Sathya Nagar and Pareri consist of 12 streets with 300 concrete houses.

### **Waste Management System in SathyaNagar and Pareri before Intervention**

As shown in the Fig. 1, there are common pits in the street corners to dispose of the waste. All the waste generated in the houses is dumped into these pits and collected. Organic waste decomposes in these pits, over time while the non-biodegradable waste remains as such.



**Fig. 1: Solid Waste Dumping in Sathya Nagar Prior to Intervention**

## PROJECT IMPLEMENTATION

Step 1: Awareness campaign was conducted for the villagers on source segregation. 2 different colour bins, stickers and write-ups were distributed.



**Pic1: Awareness programme**



**Pic 2: Trolley for waste collection**



**Pic 3: Dustbins for waste segregation at source**

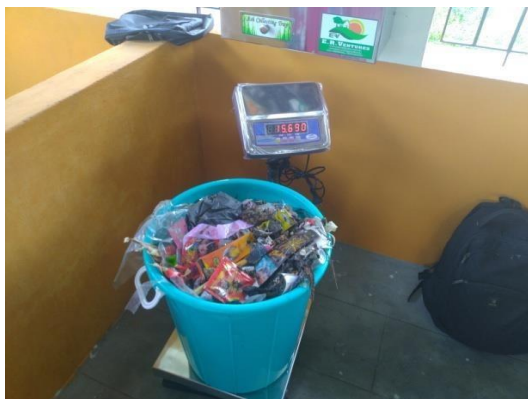
Step 2: IIT Madras designed and constructed the dry waste segregation (400 Sqft) & 150 Kg/day composting yard (1320 Sqft).

Step 4: Door to door collection of waste by categorizing the waste into 3 different types, i.e., wet waste, sanitary waste, mixed waste and dry waste (Inorganic Recyclable waste), segregated at the source i.e. households.



**Pic 4: Waste collection**

Step 5: Inorganic waste is further segregated into different types and stored in the storage yard, which is being sold to recyclers later. Organic waste is being composted, processed and packaged for selling in the local market. Mixed waste (mostly inorganic construction debris) is disposed of to the existing common bins once they are filled and will be sent to landfill. Sanitary wastes are collected separately and incinerated in the facility provided in compost yard.



**Pic 5: Waste segregation in compost yard**

Step 6: A training program on scientific composting was conducted for the staff employed from the village



**Pic 6: Training Program on Composting Process**