RECOVERY OF RECYCLEABLE MATERIALS FROM MUNICIPAL SOLIDWASTE IN STADIUM AREA-WESTERN ZONE (AHMEDABAD)

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Abstract- *The solid waste management in countries like India needs improvement. The paper shows the recovery of recyclable materials from municipal solid waste. Which includes different data collection like questionnaire of public survey, Ahmedabad Municipal Corporation data on existing wastage collection system? The segregation of dry waste and wet waste and further segregation of recyclable waste from dry wastage. By collecting data the percentage amount of different dry wastes the amount of available possible recyclable wastage can segregate.*

Keywords- Ahmedabad Municipal Corporaton (AMC), Drywaste, Municipalsolidwaste (MSW), Questionnaire, Recycling, Solidwaste (SW)

I. INTRODUCTION

The annual waste generation increases in proportion to the rise in population and urbanization, and issues related to disposal have become challenging as more land is needed for the ultimate disposal. Increasing population levels, rapid economic growth and rise in community living standards will accelerate the future MSW generation rate within Indian cities.

Municipal waste collection method includes:

Majority of waste is generated from households (57%), followed by 24% from street sweeping, while only (2 %) waste is generated by kitchens of hotels and restaurants.

Approximately 106,000 to 110,000 MT (around 98%) of waste is collected monthly by AMC from various stream or sources of generation including: Door/gate to dump system (includes residences, hostels, commercial establishments, offices, institutes, etc.), Street sweeping, Hotels and restaurants' kitchen waste, Construction & Demolition (C&D) waste. Waste from special markets (including slaughter house, meat / fish / vegetable markets), Lifting of dead animals. D. AMC dumps nearly 97,500 MT/month at Pirana by open dumping in 84 acre of open area. Dumpers dispose solid waste including restaurant and hotel solid waste over 800 times a day at Pirana.

The total quantity of MSW has been reported as 30 ton/day, and the average generation rate of MSW has been estimated at 0.29 kg/capita/day. On an average 70% of waste collection is observed and 30% of remaining is mixed up and lost in urban environment. Out of the total waste collected, only 12.45% waste is scientifically processed and rest is disposed in open dumps.

II. STUDY AREA AND DATA COLLECTION

This study deals with providing proper solid waste management and awareness towards reuse and recycling of solid wastes in Stadium Area stated in Western Zone in Ahmedabad city. The study shows the data collection by different sources and surveys. And the data analysis takes place by segregation of solid waste in different manner.

Collection And Transfer Of Msw Collected From Different Sources: 1.Hospital waste: The SW are collected from particular hospitals and laboratories by Gujarat Pollution Control Board(GPCB).The alternative treatments are generally used to render the medical waste non-infectious then the waste can be disposed of as solid waste in landfills or incinerators. Many states have regulations requiring medical waste treatment technologies to be certified, licensed or regulated. 2. Garden or agricultural waste: AMC (Ahmedabad Municipal Corporation) collects the agricultural wastes separately by garden department. They reused as fertilizers by some recycling centres i.e. NEPRA.3.Demolition wastes are collected and uses to make blocks, etc.4.Dead animals are used as fertilizers by AMC.

III. METHODOLOGY

The collection of existing data was collected by AMC.The following methods of collection of different data takes place during survey.

Collect information about the solid waste management activities in area through:

a. Questionnaire with staff for SWM

b. Questionnaire with residing peoples, and
c. Individual field visit

Sample collection and examine the waste by:

d. Visual method
e. Sort and weigh method

IV. SAMPLE COLLECTION AND ANALYSIS

The sample collection of Ganshyam nagar society of Stadium area of 1 block with 13 numbers of houses for a week tested. They segregate the household waste in different bucketsorbags for 1 week and then weight them each. After that the collected dry waste further segregate in recyclable materials. The total wastage was collected as 1.41 kilogram. From that dry wastage is 8.87kg.The types of dry wastage collected were paper, plastic, glass, rubber and cardboards.Pecentage amount of paper waste were 20%and plastic were 17.4%.For further use or reuse of recyclable materials the wastage was sold to recycling centre named NEPRA.

V. NEPRA: A RECYCLING CENTRE

Let's Recycle is an initiative of this waste management recycling company. The valuable chain of recycling dry wastes from all over India has been started to improve the improper management and wastage of recyclables by NEPRA.

The journey had started in year 2011.They started from 100kg to now almost 25tons per day recycling of recyclables products.NEPRA was started way before initiatives of SWATCHH BHARAT takes place. It increases the awareness of public toward cleanliness and recycling. They work like:

Collection :They collects the wastage on schedule basis from their all suppliers .As the wastage are collected from each suppliers the registration is done by monitoring.by sending messages , emails the costumers are connected and informed by the organization. Then the weight of wastage is noted.

Material Recovery Facilities: The operations of products are depending upon the requirement of recyclables. They segregate and supply the waste to the recyclers.

Impact: NEPRA works with over 1550 plus waste pickers. The different organizations are aware and indicate to reuse the wastage by them.

VI. CONCLUSION AND SUGGESTIONS

With the public survey by questionnaire results that public Awareness towards recycling of wastage and willingness to Use recyclable product is better .But the existing Collection method of MSW does not segregate the solid Waste which increases the amount of dumping of waste On Pirana dumping site. With the method of segregation Of wastage and selling to recycling centre will be Beneficial to societies and offices and also to the street Pickers.

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