



Assessment of Municipal Solid Waste generation in Aruppukottai town

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Abstract

Aruppukottai generates 27.5 MT of solid waste per day out of this nearly 27 MT of the solid waste being collected, transported and disposed daily, which works to per capita generation of 300 gms/day. Hence, Aruppukottai town municipal compost yard is purchased to the extent 14.77 infrastructure developmental activities such as road, weigh bridge, waste segregation platform, mechanical sewer and security room. The present status of municipal solid waste management exhibits that the waste is segregated into biodegradable (other than plastics) and non-biodegradable (plastics) waste.

Keywords: Solid Waste, Aruppukottai, Management

Introduction

Aruppukottai town lies 50 km south of Madurai city and 20 km east of Virudhunagar town on the Tuticorin - Madurai national highway road extension no.49B, being a first grade municipality with an area of 14.96 sq.km. The town is well connected, by the N.H.49B, (Thiruchendur-Tuticorin) with Madurai city and an important district road with Virudhunagar, Aruppukottai, Paramakudi and Rameswaram town. The maximum temperature range during summer is 34°C and during winter it is 25°C. The minimum temperature range varies from 26°C to 32°C. The

mean humidity is 80.2%, which varies from 74% to 85.8%. The seasonal climate conditions are moderate and the weather is uniformly salubrious. The major group of soils that are found in the town are black and clay varieties. The clay soil constitutes 90% while black soil only 10%. Population density of Aruppukottai has more than doubled in the past three decades. 27.19 sq.km town has a density of 4200 persons/sq.km. With rapid growth of population, the density rose to 6000 persons/sq.km. in 1981 and to 8600 persons/sq.km by 1991.

Solid Waste Management

Aruppukottai town generates 27.5 MT of municipal solid waste per day out of this nearly 27 MT of the solid waste being collected, transported and disposed daily, which works to per capita generation of 300 gms/day. The efficiency of the present mechanism can able to collect 9% of the total waste generated in the town. The urban local body also carries out weekly mass waste cleaning programme to clear the left out wastes by utilizing extra vehicles trips in the town. The total garbage collected constitutes 55% of the domestic wastes, 40% commercial wastes and 5% of construction wastes. The details of solid waste composition and collection efficiency are shown in the Table-1.

Table: 1 Details of Aruppukottai Municipal Solid Waste Production and Management

Description of Services	Status
Total solid waste generation / day (in MT)	27.5
Total solid waste collection / day (in MT)	27
% of coverage	98.1 %
Frequency of waste collection	Daily
Number of dustbins provided in the town	Dumber 18 Numbers
Per capita waste generation (Grams)	300 grams / day / Person
Per capita waste collection (Grams)	288 grams / day / Person

Solid Waste Disposal

At now, compost yard facility is available for solid waste processing. Municipal compost yard to the extent of 3.94 acres is available at sukilanatham road which has no space for dumping. Hence new compost yard is purchased to the extent 14.77 infrastructure developmental activities such as road, weigh bridge, waste segregation platform, mechanical sewer and security room. It is proposed to provide all infrastructure facilities in the new compost yard.

Table: 2 Details of Aruppukottai Municipal Waste Composition

Waste Composition	Quantity (MT)	% Generation
Households, petty Shops and establishments	15.35	55 %
Vegetable, Fruit, Flower Market	9.87	36.5 %
Meat, Fish and Slaughter House	0.50	1.85 %
Construction	1.78	6.59 %
TOTAL	27.50	99.94
General Hospital Waste	50 kg/day	

Ward wise Details

The present status of municipal solid waste management exhibits that the waste is segregated into biodegradable (other than plastics) and non-biodegradable (plastics) waste. Due to constraints involved in getting approval from the pollution control board there is no production of manure is take place at the compost yard site. Vermicompost is being produced in the municipal office complex.

Each and every household person is instructed by the Urban Local Body to maintain separate baskets for segregation of waste as degradable and non-degradable. The residents are using separate baskets for segregating the waste and keep the baskets in front of their houses for easy handling of the conservancy worker.

Creating awareness among the public

To create awareness among the public and to realize the importance of segregation of garbage, however the response among the public is not satisfactory. The Aruppukottai municipality with an area of 14.96 Sq.Km. The Total No. of house holds is 22,800 and the daily garbage generated in the town is 27.50 MT. Primary collection is being done with the sanitary workers and the garbage is transported to sub-depot by tricycle and pushcarts. From sub-depots the garbage is transported to the compost yard by lorries and by dumber placers.

Manufacture of Compost/Manure

At present dumping site is not fully improved to carry out any composting activities. Therefore the municipal authorities are trying to solve the problem. Vermicompost is being produced in the municipal office premises.

Primary Collection

1	Push Cart	82 Nos
2	Tricycle	17 Nos

It is proposed to purchase additional 40 Nos. of tricycles for primary collection for the old carts.

Secondary Collection

1	Tipper Lorry	3 Nos
2	(Mini Lorry) - Dumber placer	1 No
3	Lorry - Dumber placer	1 No

It is proposed to purchase, 30 No. of containers bins and to provide fitting devices in two existing vehicles.

Conclusion

Vermicompost is the best and good remediation for the recycling the municipal solid waste. It is fully useful to maintain the soil fertile forever.

Acknowledgements

The authors thankful express gratitude Lord Shiva for priceless love and care.

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