

Assessment of Individual Household Waste Generation Quantity in Different Areas of Salem

U. Indirapriyadharshini, M. Adhiyaman, R. Santhosh Kumar and S. Venkatesan

Abstract--- Around the world as countries are struggling to arrive at an effective regulatory regime to manage the Municipal Solid Waste of Individual Household into their ecosystem. Considering that Individual Household comply with environmental regulations based on the level of enforcement and their ability to spend for Municipal Solid Waste Management, this project endeavours to sketch probable Municipal Solid Waste Management scenarios under various market-enforcement conditions and proposes possible strategies for effective regulatory regime in Salem. A manual survey was conducted through a questionnaire in 15 different areas of Salem district representing different taluks of Salem to account the primary household waste disposal strategy. A structured questionnaire is prepared which interrogates about types of waste generated, amount of waste generated in a home per day and disposal methods, whether compost pit exist or not. In all the 15 areas at different locations around a sample 10 houses were surveyed. The collected data were analyzed thoroughly and profound existing strategies in all the 15 places were found out. This survey is taken for 15 different areas of Salem which are Pannangkattur, R.E.Quarters, Neethipuram, K.Pudur, Sauripalayam, Avarangapalayam, Kannangkurichi, Mullaivadi, Allikuttai, Suramangalam, Udayapatti, Alagapuram, Shevapet, Jagairammapalayam and Narayanapuram.

Index Term--- Manual Survey, Structured Questionnaire, Surveyed Places, Quantity of Waste Generated

I. INTRODUCTION

SALEM is located in the southern part of India at 11.669427°N, 140865°E at an average elevation of 278m (912ft). Salem is located about 340 kilometers (210 miles) southwest of Tamil Nadu.

Salem is one of the municipal corporations and the fifth largest city in Tamil Nadu in terms of population. The area of Salem City is 134 Sq.km. 829,267 is the present population of Salem City.

With such a vast land area population, it is becoming tougher to provide basic facilities in hygienic manner to people and also Environmental issues in Salem Corporation

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are getting increased day by day.

Around 350tonnes of Municipal Solid Waste is generated per day in Salem City.

II. SALEM DISTRICT

Salem district has nine taluks. They are Mettur, Omalur, Salem, Attur, Edappadi, Sankari, Yercaud, Gangavalli, and Vazhapadi. Salem Municipal Corporation consists of 60 wards with an extent of 91.34 sq. km. Dumper bins are placed at suitable locations for collection of garbage. The garbage is collected and transported through the fleet of vehicles for disposal. Under the 60 wards around 21 divisions are privatized for primary collection and transportation of the garbage. The garbage is processed scientifically in the newly constructed, solid waste processing plant on BOOT basis in Chettichavadi as per the Solid waste management rules, 2000.

About 350 tones of wastes generated by the Salem City Municipal Corporation every day is being processed and converted into reusable materials. The processes involved in waste management are Tipping, Auto segregation, Separate processing of materials (Refused derived fuel, Remoulded plastics, Bio-composting), Sanitary land filling.

The existing solid waste management system in Salem serves as an example of steer solid waste management system in a technical manner.

The concept of solid waste management should originate truly right from the point of waste generation. To encounter the waste generation and disposal strategy we went on to a manual survey to different places of Salem with the questionnaire.

The questionnaire reveals information about generation and disposal strategy in different parts of Salem. The survey is conducted in 15 different places of Salem to know the primary household waste disposal strategy. The rate of waste generation varies from area to area and based on population, standard of living etc.,



Fig. 1: Salem Taluk Map

III. METHODOLOGY

1. Manual Survey

A manual survey was conducted through a questionnaire in 15 different areas of Salem district representing different taluks of Salem to account the primary household waste disposal strategy. In all the 15 areas at different locations around a sample 10 houses were surveyed. The collected data was analyzed thoroughly and profound existing strategies in all the 15 places were found out.

2. Questionnaire

Present Disposal and Management of Solid Waste Strategy in Rural Areas of Salem

Taluk:

Name of the village:

Name of the resident:

Number of persons in your home:

Address:

Amount of waste generated per day in your home:

Solid waste (kg)

Types of solid waste

Disposal strategy:

Incineration/Burying/Dumping/Composting

Whether compost pit exist or not - yes or no



Fig. 2: Compost Pits in Omalur



Fig. 3: Survey in Suramangalam

3. Individual Household Waste Generation Quantity Calculation

Calculation of Average Waste Generation in an Area: (Direct Reply from the Residents)

Quantity of solid waste generated in their home every day was accounted in (Kg)/10

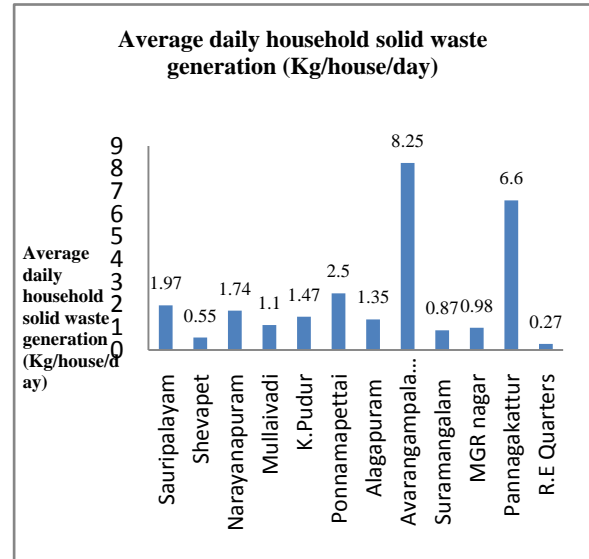


Fig. 4: Average Daily Household Solid Waste Generation (Kg/house/day)

Calculation of Per Capita Solid Waste Generation Per Day: (Direct Reply from the Residents)

Quantity of waste generated per day in individual home / No. of persons in their home.

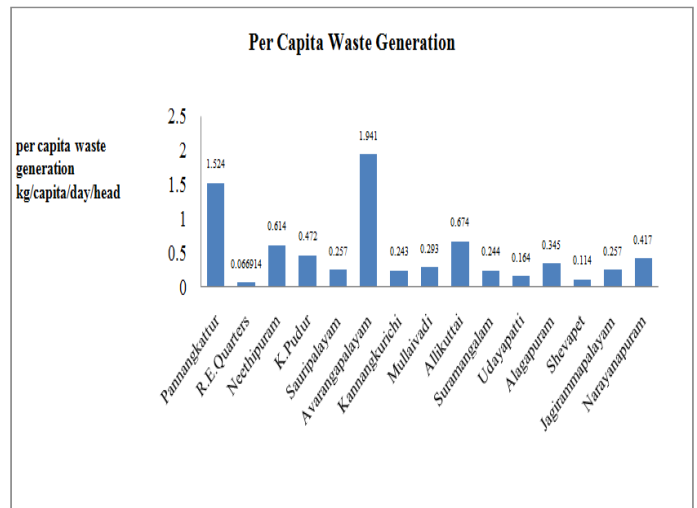


Fig. 5: Per Capita Waste Generation kg/capita/day/head

Calculation of Average Per Capita Demand in an Area

Sum of per capita solid waste generation/10.

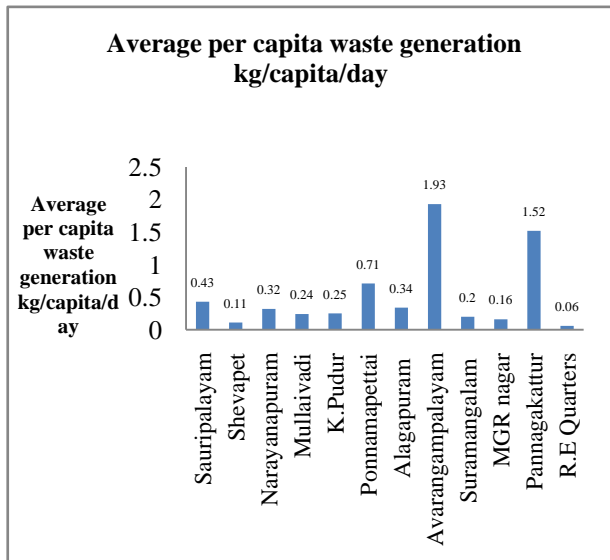


Fig. 6: Average Per Capita Waste Generation kg/capita/day

IV. RESULTS & DISCUSSION

Types of waste: Direct reply from the residents regarding the different types of solid waste arising out daily from their home is accounted.

The Average Daily Household Solid Waste Generation in Salem (including all the considered places) is 2.30 kg/house/day.

The Per Capita Waste generation in Salem (including all the considered places) is 0.505 kg/house/day/head.

The average per capita solid waste generation in Salem (including all the considered places) is 0.7611 kg/house/day.

Name of the Places where Survey is Conducted

Table 1: Surveyed Places

S.NO	TALUK	AREA
1	Omalar	Pannangakattur
2	Mettur	R.E.Quarters Neethipuram
3	Edappadi	K.Pudur Sauripalayam
4	Sankari	Avarangapalayam
5	Yercaud	Kannangkurichi
7	Salem	Allikuttai Suramangalam Udayapatti Alagapuram Shevapat Jagairammalayam
8	Gangavalli	Narayanapuram

V. CONCLUSION

The results of this study show that it is feasible to provide proper Solid waste disposal techniques to control the environmental degradation. The prediction we made from the above analysis is the individual household per capita municipal solid waste generation quantity in different areas of

Salem has been determined analytically with the help of manual survey. Out of 15 places Avarangapalayam (Sankari Taluk) and Pannangakattur (Omalar Taluk) is the areas maximum amount of municipal solid waste generated. There are different policies like rapid composting, recycling machine, and treatment plant. If these techniques are properly implemented and managed then the negative impacts due to waste generation can be considerably reduced. If these techniques integrated to the whole Salem district, then the future development of Salem as a metropolitan city will cause very minor effect to the environment and tends to be a safest development unlike other metropolitans.

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