

## HOUSEHOLD SOLID WASTE MANAGEMENT IN TIRUNELVELI CORPORATION, TIRUNELVELI DISTRICT

**N.Thangammal.**, Ph.D, Research Scholar (Reg No. 12228), P.G.Department of Economics & Research Centre, Pope's College, Sawyerpuram - 628251.

**Dr. (Lt. Cdr)D.Jeyasingh**, M.A.,M.Phil.,Ph.D.,

Associate Professor (Ret.), Research Guide, P.G. Department of

Economics & Research Centre, Pope's College, Sawyerpuram - 628251.

Affiliated to ManonmaniamSundaranar University, Tirunelveli-12, Tamil Nadu, India.

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### Abstract

*Household Waste, also known as domestic Waste or residential waste, is disposable materials generated by households. This waste can be comprised of non-Hazardous waste and hazardous waste. Non-hazardous waste can include food scraps, paper, bottles, etc. Domestic Wastes include food waste, paper, glass, metals, plastics, textiles, etc. A large part of domestic consists of plant and animal waste such as vegetables, fruit peel, bone and meat waste, and chicken and fish waste, which are considered as wet wastes.*

Keywords: Household Solid Waste Management, Tirunelveli Corporation.

### Introduction

Household Waste means any waste material, including garbage, trash, and sanitary wastes in septic tanks, derived from households, including single-family and multiple-family residences, hotels and motels, bunk house, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. .

The goalsof household solid waste management can be summarized as follows

- To protect environmental health
- To promote the quality of the urban environment
- To support the efficiency and productivity of the economy
- To generate employment and income

To achieve the above goals, it is necessary to establish sustainable system of

solid waste management. The principal of sustainable waste management strategies are

to :

- Minimize waste generation
- Maximize waste recycling and reuse
- Ensure the safe and environmentally sound disposal of waste

### Review of Literature

Balasubramanian, M. (2015) has pointed out that, rapid urbanization and population growth increased solid waste generation in the past decade. Inadequate solid

waste management policy and the absence of appropriate guidelines led to serious health and environmental problems all over India. In India, Municipal agencies spent about 5% - 25% of their budgets on solid waste management. Although, most local governments manage MSW collection and disposal in many parts of Indian states, many states had inefficient construction and operation of MSW landfills and incinerators. A review of recent literature on solid waste management in India point out that institutional and financial issues are the most important ones which had shown improvements in solid waste management. Public attention to solid waste and recycling has increased in India. In response, economists have developed models to help policy makers choose an efficient mix of policy levelers to regulate solid waste management and recycling activities.

Usha and Raghupathi studied the aspects of solid waste management is such as its status and factors determining improvement in MSW management is selected Indian cities. The Municipal solid waste generation has been increasing in urban India due to population growth, economic development and increasing incomes. The respective municipal acts have assigned responsibility to municipal bodies to keep the city clean and to remove wastes from the areas within their jurisdiction.

### **Objectives of the study**

- To study the solid waste management systems in Tirunelveli Corporation.
- To suggests policies for the better management of solid waste in urban area of Tirunelveli Corporation.

### **Methodology**

474 respondents were selected as sample from five zones of Tirunelveli corporation under the stratified random sampling method. The study is on primary data. The primary data has been directly collected from the respondents through structural interview questionnaire.

**Data Analysis and Interpretation**

**Table 1 - Classification of the agents involved in the process of SW collection**

S.No	Particulars	Frequency	Percentage
1.	Municipal Corporation	465	98.1
2.	Urban Local Government (ULG)	8	1.7
3.	Private Organization	1	0.2
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that majority 98.1 percent of the respondent opinion that municipal corporation involved in the process of solid waste collection, 1.7 percent of the respondent opinion that urban local Government involved in the process of solid waste collection and remaining 0.2 percent of the respondents opinion that private organization involved in the process of solid waste collection. Majority of the respondent opinion that municipal corporation involved in the process of solid waste collection because the objectives of municipal corporation includes improve public health of the people, improve the environment, and maintain public cleanliness in order to keep public places aesthetically acceptable; by ensuring the proper storage, collection, transportation, safe treatment and disposal of solid waste.

**Table 2- Classification of vehicles used for to carry out the solid waste**

S.No	Particulars	Frequency	Percentage
1.	One	430	90.7
2.	Two	40	8.4
3.	Three and above	4	0.8
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that vehicles used for to carry out the solid waste. Majority 90.7 percent of the respondent said that one vehicle used for to carry out the solid waste, 8.4 percent of the respondent said that two vehicles used for to carry out the solid waste and remaining 0.8 percent of the respondents are said that three and

above vehicles used for to carry out the solid waste. Majority of the respondents are said that one vehicle used for to carry out the solid waste.

**Table 3 - Classification of the times to carry out the solid waste**

S.No	Particulars	Frequency	Percentage
1.	Once in a day	253	53.4
2.	Once in two days	150	31.6
3.	Once in a week	71	15
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that the times to carry out the solid waste. Majority 53.4 percent of the respondents said that once in a day to carry out the solid waste, 31.6 percent of the respondents said that once in two days to carry out the solid waste and remaining 15 percent of the respondents are said that once in a week to carry out the solid waste. Majority of the respondents said that once in a day to carry out the solid waste because they do their work at regularly.

**Table 4 - Classification of SWM system and delivery for final disposal**

S.No	Particulars	Frequency	Percentage
1.	Collection by plant itself and disposal – bury/burn	300	63.3
2.	Collection by private contractor and disposal off site-bury burn	6	1.3
3.	Collection by local Government and disposal of corporation owned or leased facilities	168	35.4
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that classification of solid waste management system and delivery for final disposal. Majority 63.3 percent of the respondents said that solid waste collection by plant itself and on site disposal through bury/burn; 35.4 percent of the respondents - said that solid waste collection by private contractors and disposal off

site through bury/burn and remaining 1.3 percent of the respondents said that solid waste collection by a local Government and disposal of corporation owned or leased facilities.

**Table 5-Classification of importance of solid waste management**

S.No	Particulars	Frequency	Percentage
1.	Protect nature	70	14.8
2.	Protect human health	214	45.1
3.	Protect natural resources	23	4.9
4.	Protect environment and improve sustainable development	167	35.2
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that importance of solid waste management. Majority 45.1 percent of the respondents are said that to protect human health, 35.2 percent of the respondents are says that to protect environment and improve sustainable development, 14.8 percent of the respondents are says that to protect nature and remaining 4.9 percent of the respondents are said that to protect natural resources. Majority of the respondents are said that to protect human health because healthy lifestyle can help prevent chronic diseases and long-term illnesses.

**Table 6- Classification of best institute to handle solid waste management (SWM)**

S.No	Particulars	Frequency	Percentage
1.	Municipal Corporation	470	99.2
2.	Urban Local Government (ULG)	3	0.6
3.	Private Organization	1	0.2
	<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table explains that best institute to handle solid waste management (SWM). Majority 99.2 percent of the respondents have municipal corporation is the best institute to handle solid waste management, 0.6 percent of the respondents have

urban local Government is the best institute to handle solid waste management and remaining 0.2 percent of the respondents have private organization is the best institute to handle solid waste management. Majority of the respondents have municipal corporation is the best institute to handle solid waste management (SWM) because the main target of the municipal corporation is to protect the population health, promote environmental quality, develop sustainability and provide support economic productivity.

**Table 7- Classification of aware of sustainable development**

S.No.		Particulars	Frequency	Percentage
1.		Yes	105	22.2
2.		No	369	77.8
		<b>Total</b>	<b>474</b>	<b>100</b>

Source: Primary Data

The above table shows that classification of aware of sustainable development.

Majority 77.8 percent of the respondents are not aware of sustainable development and remaining 22.2 percent of the respondents are aware of sustainable development. The respondents contribution for a sustainable development by the way of reduce the material intensity of goods and services, reduce the energy intensity of goods and services, reduce toxic dispersion, enhance material recyclability, maximize sustainable use of renewable resources, remove plastic and polythene materials, segregation of solid waste, to promote environmental quality and human health.

**Findings**

- Majority 98.1 percent of the respondents opinion that municipal corporation involved in the process of solid waste collection.
- Majority 90.7 percent of the respondent said that one vehicle used for to carry out the solid waste.
- Majority 53.4 percent of the respondents said that once in a day to carry out the solid waste.

- Majority 63.3 percent of the respondents said that solid waste collection by plant itself and on site disposal through bury/burn.
- Majority 45.1 percent of the respondents are said that to protect human health,
- Majority 99.2 percent of the respondents have municipal corporation is the best institute to handle solid waste management.
- Majority 77.8 percent of the respondents are not aware of sustainable development.

### Suggestions

- Reduce, reuse and recycle to minimize waste and reduce carbon dioxide emissions.
- Organic farming is the production of food without the use of synthetic chemicals or genetically modified components.
- People should make alternatives such as paper or canvas bags, cans, paper boxes, etc., to avoid plastic bags need.
- Don't use disposable plates and cutlery management processes.
- Public awareness is the key to on the to successful waste management.

### Conclusion

Household waste management is extremely important in our community mainly because it will prevent our household from experiencing the hazardous outcomes of solid waste material. By getting rid of most of these waste matter properly, we can actually protect our loved ones along with the environment. The concern towards the management of solid waste as an integral part of sustainable development has increased.

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