

## A Study on solid waste in developing suburban area

Er.T.Kavimani

M.E, Assistant Professor in Department of Civil Engineering, Annamalai University.

E-mail: [tkavimani@gmail.com](mailto:tkavimani@gmail.com)

### Abstract:

Heterogeneous disposal of solid waste in dump yards located within urban areas has proved to be a problem to nearby inhabitants in most developing localities in the world. Migration from the rural areas to the urban areas has resulted in unplanned settlements in suburban areas accommodating about 60% of the urban population on only 5% urban land area. The rural economy needs to be improved if rural-urban migration is to be managed. Involvement of stakeholders is important to achieve any meaningful and sustainable MSWM. The role of the informal sector through community-based organizations (CBOs), Non-Governmental Organizations (NGOs) and the private sector in offering solutions towards improvement of MSWM also is explored.

**Keywords:** Health issues, Dumpsite, Municipal Solid Waste (MSW)

### Introduction

Solid wastes could be defined as non-liquid and nongaseous products of human activities, regarded as being useless. It could take the forms of refuse, garbage and sludge (Leton and Omotosho, 2004). Open dumpsite approach as solid waste disposal method is a primitive stage of solid waste management in many parts of the world. It is one of the most poorly rendered services by municipal authorities in developing countries as the systems applied are unscientific, outdated and ineffective. Solid waste disposal sites are found both within and on the outskirts of developing urban areas. The knowledge of the current status of waste disposal options and level of awareness of solid waste management will help the government and sectors involved in waste management to take action to establish and reinforce appropriate waste collection and disposal option and environmental education and awareness on waste management.

### Materials and methods

The study was conducted in suburban areas in Chidambaram and surrounding areas. Household residents in the surroundings of the dumpsite were also interviewed. The questions were designed based on solid waste disposal. Information obtained was used to update the data collected during the desk study; finally structured questionnaires (both close and open ended designed questions) were administered to 50 households which enabled us to obtain solid information.

### Sample Size

In this study, questionnaires were administered. 50 samples were collected from the solid waste disposal. The study area consists of 50 households. Out of the 50 households, 60% consisting of nearby residents and 40% faraway residents were selected to be part of the study. 65% sample size was the representative population which was easy to manage and came up with good results. This method enabled us to make sure that there was no bias in the selection of the population who were part of the sample.

### 3. Results and Discussion

#### Solid waste disposal methods

The disposal methods of solid waste used by residents in the study area are very unsatisfactory. The preference of educated people to adopt better methods of waste disposal could be higher than illiterates (Table 1). It is obvious from the table that most of the people who throw refuse on land and open drains are uneducated. Those who keep waste in bins or burn it are most likely those with higher education. In general, majority of the respondents either throw their waste on land or open drains or streets (Figure 1). Only a small proportion (21%) of the respondents deposits their waste in bins where they can be transferred to the designated points for ultimate disposal.

Table 1: Disposal methods used by respondents.

Mode of Waste Disposal	Nearby residents		Far away resident	
	Frequency	%	Frequency	%
Street Bins	6	20	4	20
Dumpsite	12	40	8	40
Bury & Burn in pits	6	20	3	15
In open Drains & streets	6	20	5	25
Total	30	100	20	100

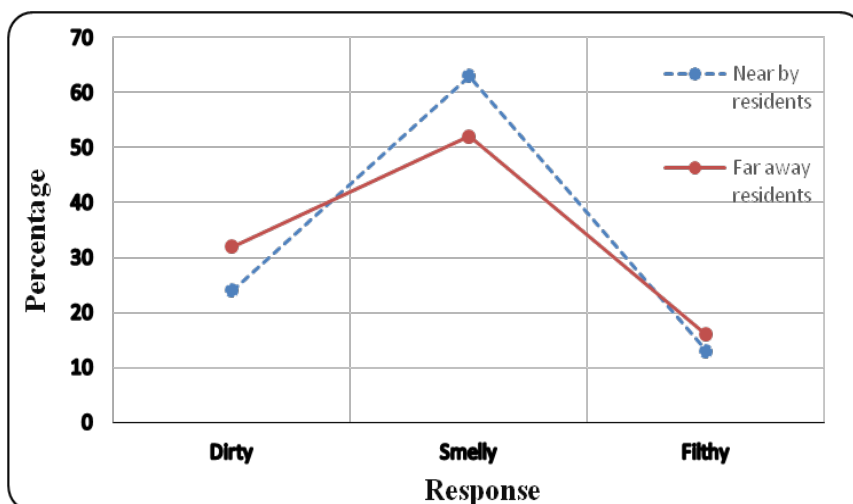


Figure 1:

**Conclusion**

Though the level of awareness of waste collection services and waste management regulations were relatively high in Chidambaram area. This study examined the solid waste in Chidambaram and surrounding areas. Results from the analysis of data revealed that both nearby residents and far away residents suffered from related diseases due to the location of the dumpsite closer to their settlements. It was discovered that residents less than sixty to seventy metres from the dumpsite were most affected by the dumpsite. They were victims of malaria, diarrhea, cholera/ irritation of the skin, nose and eyes. This state of health of respondents in this study can be linked to pollution from the dumpsite. People need to be educated by health motivators about the effects of dump sites on their health. To prevent serious environmental disaster, priority should be given to waste management

**REFERENCES**

1. R. A. Frosch, "Toward the End of Waste: Reflections on a New Ecology for Industry," *Daedalus*, Vol. 125, No. 3, 1996, pp. 199-212.

2. D. Sood, "Solid Waste Management Study for Freetown (Component Design for World Bank, Draft Report Project No. P078389)," Great Falls, Virginia, 2004.
3. K. O. Boardi and M. Kuitunen, "Environmental and Health Impacts of Household Solid Waste Handling and Disposal Practices in the Third World Cities: The Case of Accra Metropolitan Area, Ghana," *Journal of Environmental Health*, Vol. 68, No. 4, 2005, pp. 34-36.
4. United Nations Environment Program Agency (UNEP), "Informal Solid Waste Management," 2006.
5. N. Gouveia and R. R. do Prado, "Health Risks in Areas Close to Urban Solid Waste Landfill Sites," *Revista de SaudePública*, Vol. 44, No. 5, 2009, pp. 1-8.
6. M. Aatamila, et al., "Odor Annoyance near Waste Treatment Centres: A Population-Based Study in Finland," *Journal of Air and Waste Management Association*, Vol. 60, No. 4, 2010, pp. 412-418. doi:10.3155/1047-3289.60.4.41