



IMPACT OF HOUSEHOLD SOLID WASTE ON ENVIRONMENT: A SOCIOLOGICAL STUDY IN TIRUNELVELI DISTRICT OF TAMIL NADU

N.Sofia¹ and Dr. T. Rajendran²

¹ Ph.D, Research Scholar ,
Department of Sociology, The Gandhigram
Rural Institute-Deemed University,
Gandhigram, Dindigul District,
Tamil Nadu.

²Professor, Department of Sociology,
The Gandhigram Rural Institute-Deemed
University, Gandhigram, Dindigul District,
Tamil Nadu.

ABSTRACT :

Solid waste is one of the major environmental and health issues in the developing countries. It is also a big challenge for sustainable development of the nation. Solid waste is a broad term, which includes all kinds of waste such as municipal solid waste (MSW), industrial waste, hazardous waste, bio-medical and electronic waste

(E-waste) depending on their values and sources. The present study is confined to study about impact of improper disposal of household waste on environment. Descriptive research design is applied in the present study. The researchers collected the data from 439 rural women through interview schedule. The researchers adopted proportionate sampling method in the present research. The study shows that majority of the women respondents in the study area have felt the emissions of the odour from the dumpsite and half of them state that the emissions from dumpsite is felt frequently. Moreover, the household solid waste collection service is not followed regularly in the study area. The study reveals that the environment of the residential areas of the women respondents and health of people living in such environment are affected due to the solid waste dumped in the dumpsite.

KEY WORDS: *Household Solid Waste, Disposal Methods, Environmental Degradation.*

INTRODUCTION

Solid waste is one of the major environmental and health issues in the developing countries. It is also a big challenge for sustainable development of the nation. Improper collection and disposal of household solid waste cause health hazards to inhabitants. It also leads to intolerable conditions and spreads communicable diseases. Solid waste blocks drains, creating stagnant water for insect breeding and floods during rainy seasons. Growing urbanization, density of population and industrial growth are leading severe problems of waste generation and disposal in Indian cities. Waste



generation is a problem not only in urban areas but also in rural areas. It leads to unhygienic conditions and affects human health. The quantity of waste generated by the people will differ according to their socio-economic conditions, population and commercial activities. In the present time, the solid waste problem includes improper waste collection system, open dumping, inadequate equipments and other forms of improper disposing of waste.¹

REVIEW OF RELATED LITERATURE

Mahar et al.,(2007) state that solid waste management is one of the major reasons of environmental degradation in Pakistan. The study reveals that the environmental and sanitary conditions have become more serious year by year, and people are suffering from living in such conditions.² Abul (2010) has focused on environmental and health impact of solid waste disposal at Mangwaneni dumpsite of Manzini city, Swaziland. The researcher observes that those who are located more than 200 meters from the dumpsite are also affected by bad smell spreading from the dumpsite.³ Mane and Hemalatha (2012) have described an existing situation of solid waste management in Pune city, India. It is observed that the study area of Mantarwadi generates many environmental as well as health hazards within surrounding area. The study also demonstrates that open dumping of solid waste affect surrounding area of the disposal site. It also produces the bad smell at the time of decomposition process.⁴ Butu et al., (2013) have looked at municipal solid waste generation, disposal and consequent environmental impacts in Karu, Nasarawa State, Nigeria, which reveals that roadside disposal of Municipal solid wastes have serious impact on the environment.⁵ John et al., (2014) have attempted to observe the existence of pollution in ground water quality and its ill effects on human beings who settled near the dump site at Dehradun Municipal Corporation of Uttarkhand. The study clearly indicates that landfills in densely populated cities have been monitored on regular basis.⁶

METHODS AND TECHNIQUES

The investigator adopted the descriptive research design in the present research. Moreover, the study population consists of 439 rural women coming under the age group of 18- 59 years in Cheranmahadevi block of Tirunelveli District in Tamil Nadu. For the purpose of the present study, five per cent of the rural households each from every study village Panchayat are selected through proportionate sampling. A structured interview schedule is administered by the researcher for data collection. For the purpose of data analysis, Anomie theory and planned behaviour theory are applied in the present study.

OBJECTIVES OF THE STUDY

1. To study about the socio- economic profile of the women respondents in the study area.
2. To study about the impact of improper disposal of household solid waste on environment in the study area.

RESULTS AND DISCUSSION

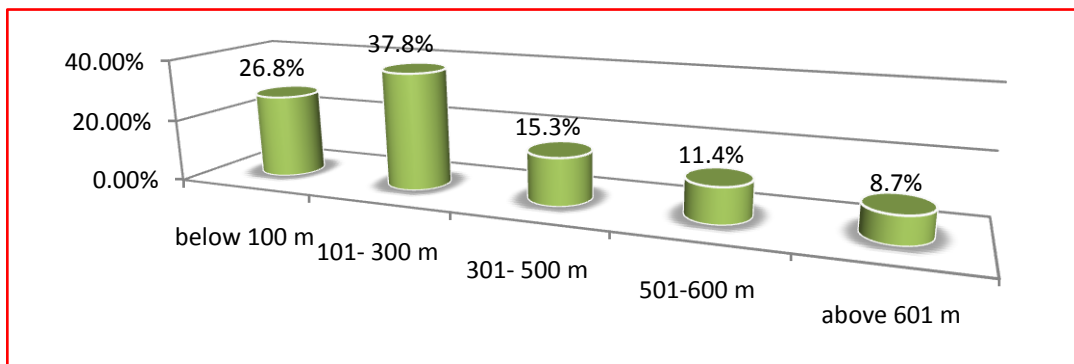
Socio-Economic conditions of the women respondents

It is found that 63.1 per cent of the women belong to the Hindu religion. About forty three per cent of them are hailing from backward community. Regarding the marital status, more number (72%) of them are married. Predominant numbers (82.2%) of women are educated ranging from primary to professional degrees. Twenty five per cent of the rural women are earning through Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP). Mean age is 41.96 years. About 38 per cent of the women respondents' family size is three to four members.

Influence of Socio-Economic Conditions of Respondents in Generating and Disposing of Household Solid Waste

Concerning the major components of household solid waste is kitchen waste (45.8%) in the study area. Best parts (63.8%) of the rural women use dustbin for collecting their domestic solid waste. Among the dustbin users, most of them (39%) keep plastic dustbin in their home. Among the dustbin users, less number (26.4%) of them use separate dustbin for bio-degradable and non-bio degradable household solid waste. More number of the women (56.5%) state that they have household solid waste collection service in their residential areas. Greater portions (65.3%) of them report that sanitary workers engage in the household solid waste collection service. Thirty two per cent of them say that waste is collected once in two days in their premises. Regarding the street bin availability, majority (73%) of the women respondents opine that they have the street bins in their premises for disposing of their household solid waste. About 28 per cent of them have pointed out that the collection of household solid waste from the street bins almost emptied once in four weeks.

Figure 1



It is seen from the above figure-1 that 37.8 per cent of the women respondents selected for the study report that the distance between residential area and dumpsite ranges from 101-300 Metres followed by below 100 Metres (26.8%), 301- 500 Metres (15.3%), 501 - 600 Metres (11.4%) and only in the case of 8.7 per cent of the women respondents, the distance is above 601 Metres away from their residential areas.

Table 1

Variable	Frequency	Per cent
Environmental problems		
Dumping of greater quantity of solid waste in the dumpsite and irregular treatment of the solid waste dumped.	430	97.9
Contamination of water sources (due to dumping of waste)	425	96.8
Open air defecation and improper treatment of human excreta	410	93.3
Spreads of odour emitted from dumping of waste	405	92.2
Improper disposal of waste in the street	400	91.1
Drainage clogs	395	89.9
	N=439	100*

Source: Field data *Multiple answers

Out of the total number of women respondents selected for the study, 97.9 per cent of them have referred to dumping of greater quantity of household solid waste in the dumpsite and irregular treatment of the solid waste dumped as one of the major environmental problems confronted by them in their residential areas followed by contamination of water sources (96.8%), open air defecation and improper treatment of human excreta (93.3%), spread of odour emitted from dumpsite (92.2%) and improper disposal of household solid waste in the street (91.1%). It is understood from the Table.1 that the environment of the residential areas of the women respondents and health of people living in such environment are affected due to the solid waste dumped in the dumpsite.

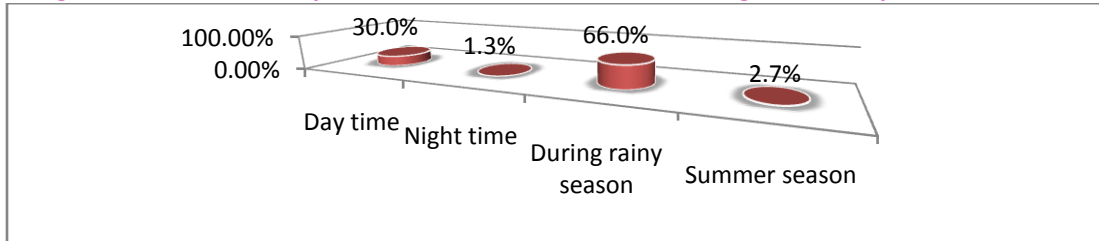
Table 2: Frequency distribution of women respondents by the emissions of odour and the frequency of spread of odour from the dumpsite.

Table Number	Variable	Frequency	Per cent
2.1	Emissions of odour from dumpsite		
	Yes	287	65.4
	No	152	34.6
	Total	439	100.0
2.2	Frequency of spread of odour from dumpsite		
	Frequently	144	50.6
	Sometimes	63	21.6
	Always	53	18.5
	Rarely	27	9.3
	Total	287	100.00

Source: Field Data

Among those who have stated the positive remarks regarding the emissions of the odour from the dumpsite, just half of them report that emission of odour is felt by them frequently followed by sometimes on certain occasion due rain, burning, clearing, being mud shelter for village pigs and grazing by the cattle (32.8%), always (12.0%) and rarely (6.2%). It is inferred from the Table 2.2 that majority of the women respondents in the study area have felt the emissions of the odour from the dumpsite and half of them state that the emissions from dumpsite is felt frequently i.e many times at short intervals. Thus, the Table shows that the environment, in which the women respondents and their family members live is filled with odour emitting from dumpsite and to that extent, the health of the people living in the study areas is getting affected in course of time.

The researcher has probed to find out when the women respondents feel stench from the dumpsite intolerable. Their answers are shown in the following figure-2.

Figure-2: When the respondents feel the stench emanating from dumpsite intolerable

The above figure reveals that among those who have reported the time and season of emissions of odour from dumpsite, which is intolerable, about 50 per cent of them refer to 'rainy season' to the emissions of stench from dumpsite followed by 'day time' (38.0%) 'summer season' (10.4%) and 'night time' (1.3%). It is inferred from above figure-2 that during rainy season and day time, the stench emitting from dumpsite is intolerable for about half and more numbers of women respectively. So, the figure implies that people in the study area are affected due to the emission of stench from the dumpsite during rainy season and day time and the environment, in which people live, in the study area, is also affected. So, this requires that the proper steps are to be taken in this regard by the Panchayati Raj institutions, Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs).

CONCLUSION

The study highlights the risk on the health of the people living in the areas near to dumpsite. Infections giving rise to cough, cold, fever and skin allergies are found to be common among the majority of the women and children of those living near the dumpsite. River bank, nearness of pond, village panchayats roads and waste land of the village are used as dumpsite. The adverse effects on the health of the families due to the contaminated drinking water sources, smog and pollution resulting from burning of waste, breeding of flies, insects and rodents because of unscientific and improper dumping of household solid waste with little medical facility and less health insurance coverage emphasizes on the requirement of the local bodies and the government to bring about stringent measures to enforce proper waste collection and service using the modern technology for proper household waste disposal.

REFERENCES

- Anji Reddy, M. (2012). *Environmental Science*. Hyderabad: BS Publication.
- Aman Mahar, Riffat Naseem Malik, Abdul Qadir, Tahira Ahmed, Zahiruddin Khan, & Mauzam Ali Khan. (2007). Review and analysis of current solid waste management situation in urban areas of Pakistan. *Proceedings of the International Conference on Sustainable Solid Waste Management* in Chennai, India.
- Salam Abul. (2010). Environmental and Health impact of Solid Waste Disposal at Mangwaeni Dumpsite in Manzini: Swaziland. *Journal of Sustainable Development in Africa*, 12 (7), 64-78.
- Mane, T.T., & Hingane Hemalata, N. (2012). Existing situation of solid waste management in Pune city, India. *Research Journal of Recent Sciences*, 1(1), 348-351.
- Butu, A.W., Ageda, B.R., & Bichi, A.A. (2013). Environmental impact of roadside disposal of Municipal Solid Wastes in KARU, Nasarawa State, Nigeria. *International Journal of Environment and Pollution Research*, 1(1), 1-19.
- Gawsia John, Harendr Sharma, k., & Vikas Vatsa. (2014). Impact of Municipal Solid Waste dump on ground water quality at Danda lokhand landfill site in Dehradun City, India. *International Journal of Environmental Sciences*, 5(3), 664-674.