

# Impact of Socio Cultural Challenges in Solid Waste Management

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**Abstract**—Solid waste is the unwanted or useless solid materials generated from combined residential, industrial and commercial activities in a given area. By observation we can find that people's behavior is based on social and cultural world around them. Through this paper we are trying to explore the relationship of the socio-cultural attributes in generation of solid waste. These identified attributes are also the challenges for the society while handling solid waste .To identify these attributes, we have followed a two stage design, first stage being exploratory research to explore the socio-cultural attributes followed by descriptive research to understand the influence of these attributes in generation of solid waste. The analysis of these attributes will help in framing polices for solid waste management by Urban Local Bodies and also in educating and training pourakarmikas, educational institutions and Common man about solid waste and its management.

**Keywords**—Solid Waste Management, Socio cultural Challenges , Urban Local Bodies , Pourakarmikas

## I. INTRODUCTION

This Solid waste was a problem even before water and air pollution issues attracted the notice of human civilization. Problems associated with solid wastes can be dated back to prehistoric days. Due to the invention of new products, technologies and services, the quantity and quality of waste have changed over the years[7].

Excessive quantities of waste are generated from a society from inefficient production processes, and low durability of goods as well as unsustainable consumption of resources.<sup>a1</sup>

Solid Waste Management is one of the important obligatory functions of ULB in India. This service falls far short of desired levels, resulting in problems of health, sanitation and environmental degradation[2].

## II. OBJECTIVES:

1. Identify key socio-cultural issues of Solid waste management.
2. To recognize the impact of these socio-cultural issues on solid waste management.

## III. METHODOLOGY:

By observation we can find that people based on their experience of the social and cultural world around them generate solid waste. Through this paper we have tried to explore the relationship of the socio cultural attributes in generation of solid waste. Identification of the socio cultural

attributes from the Indian context is a challenge and very important for multi cultural country with many religions and regional cultural differences like India.

To achieve our goal , we have followed a two stage design, first stage being exploratory research to explore the socio cultural attributes followed by descriptive research to understand the influence of these attributes in generation of solid waste. The analysis of these attributes will help us in educating and training the stakeholders about solid waste and its management.

Using both primary and secondary data we have conducted an exploratory research and found that Gender, education, age, festivals, work / occupation are the most important key factors contributing for the generation and composition of solid waste. Second, we have tried to find the impact of these factors in our society through descriptive research, considering random sampling technique with a sample size of 50 respondents across Bengaluru.

The key attributes identified in our research are discussed in detail below:

### A. Gender

A study among men and women were conducted to understand their perceptions about waste and its generation. Due to the involvement of females in household activities, females understand waste and its management better than men as shown in Fig.1. and Table I. Hence, if the females of the society are well educated about segregation of waste at the source, then much of the solid waste management related problems can be avoided.

On the otherhand , educating males about waste and its management is also very important which could enhance the SWM process at the household and office level. Hence a collective understanding of both males and females will solve the SWM problem at ease.

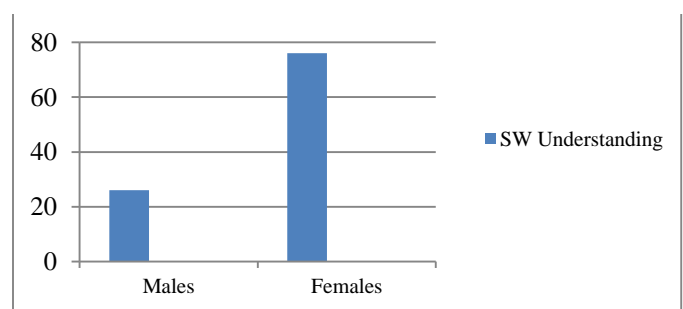


Fig. 1. Gender wise understanding of Solid Waste

Table I

Gender	Percentage (%)
Male	26
Female	74

**B. Education**

Education is also one of the key attribute identified during this research. From Fig.2. and Table II we can observe that the understanding of solid waste in the minds of a School and Degree students are almost the half of the HE holders. This is the pain point to be solved by policy makers of the Government by introducing waste management as a part of their syllabus at both school and university level. It also becomes the duty of the Schools and colleges to conduct awareness and training programmes for the students regarding waste management. By doing so, the future generations would take waste management to the next level.

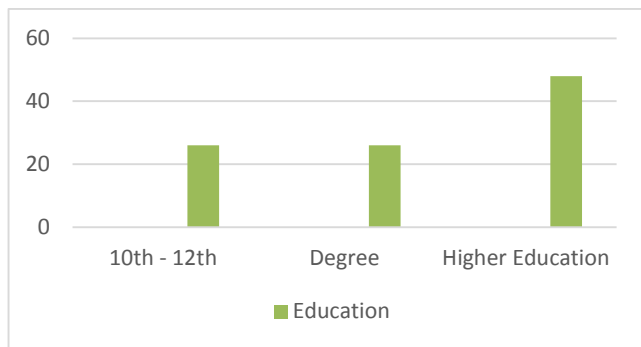


Fig.2. Education wise Understanding of Solid Waste

Table II

Education	Percentage (%)
10 <sup>th</sup> – 12 <sup>th</sup> Standard	26
Degree	26
Higher Education	48

**C. Age**

Age is also a very important attribute which plays a major role in the management of waste. Identification of the age group contributing for generation of waste is very important because, the root cause for the problem in SWM can be eliminated at the earlier stage. Fig.3. and Table III shows our research findings where people with the age group from 25 – 34 and 35 – 44 contribute more in generating solid waste. Hence, it becomes easy to conclude that the age group 25 to 45 years are responsible for generation of solid waste, followed by the age group 15 – 24 years. This indirectly indicates, the working people and the student categories involvement in generation of SW.

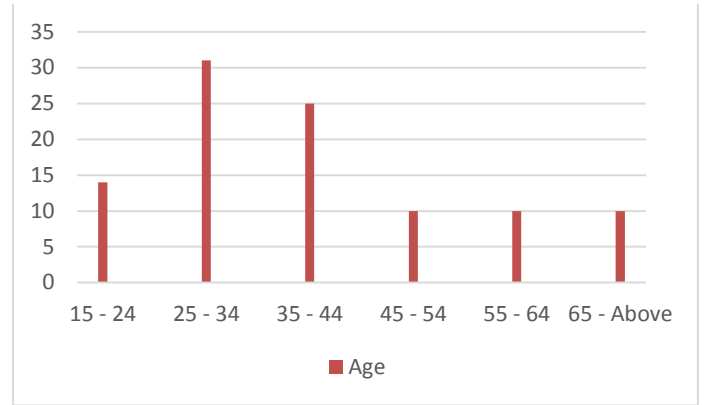


Fig.3. Age wise contributing to the generation of Solid Waste

Table III

Age	Percentage
15 - 24	14
25 - 34	31
35 - 44	25
45 - 54	10
55 - 64	10
65 - Above	10

**D. Festivals in India**

Fig.4 and Table IV depicts that majority of the festivals in India is from the month July to December where October to December being the peak, contributing for most of Solid waste generation. List of major festivals are below:

- **April – June:** Sriramanavami, Ugadi and Good Friday.
- **July – Sept:** Ramzaan, Varamahalakshmi Vratha, Independence Day, Krishna Janmastami, Gowri and Ganesha festival
- **Oct – Dec :** Gandhi Jayanthi, Ayodh pooja, Vijay Dashami, Naraka Chaturthi ( Dewali ), Kannada Rajyothsava, Moharam, Christmas
- **Jan – March :** New Year, Id Milad, Shankranthi, Maha Shivarathi, Holi

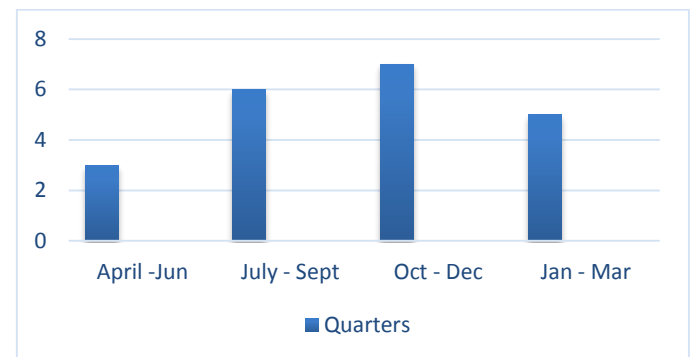


Fig.4. Festivals generating more Solid Waste

Table IV

Months	No. of Major Festivals in India
April - June	3
July - Sept	6
Oct - Dec	7
Jan - Mar	5

We can also observe that July to December being the rainy and cold season in India, it becomes very difficult to manage SW. This is a clear indication that, there must be two different types of solid waste management model for any city in India i.e., One solid waste management model from Jan – June ( Cold and Summer season ) and another model from July – December ( Rainy and Cold Season ).

*E. Work and Occupation*

Fig.5. and Table V through our research shows that, the housewives are not segregating the solid wastes. House wives need to be trained, through workshops to teach them how to segregate wastes. It is important because Kitchen is the source point for household solid waste generation in most of the cases. Schools and colleges must create awareness and training programme to teach their students about how to segregate wastes.

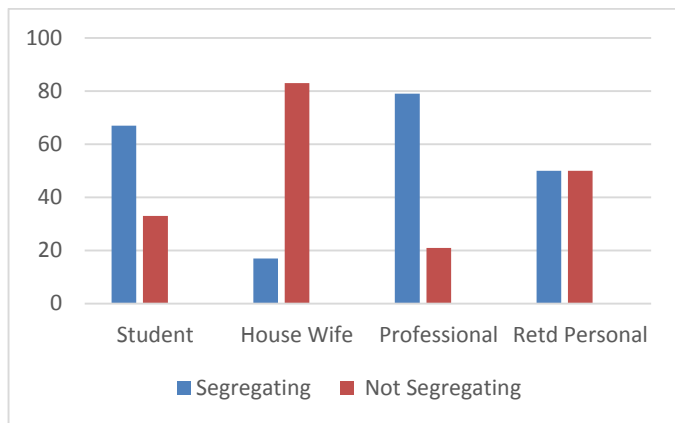


Fig.5. Work & Occupation wise Understanding of Solid Waste

Table V

(%)	Segregating	Not Segregating
Student	67	33
House Wife	17	83
Professional	79	21
Retired Personal	50	50

*Abbreviations and Acronyms*

- SW – Solid Waste
- SWM – Solid Waste Management
- ULB – Urban Local Bodies
- Pourakarmikas – ULB field workers
- HE – Higher Education

IV. CONCLUSION:

Results of this study found the socio-cultural attributes like festivals, age, education, work and occupations of people contribute in generation of solid waste. This paper also shows that educated people are also not segregating waste. A thought needs to be given in educating learned people about the importance in SWM. The findings shown through this paper are very much practical and can be used as a reference material in any part of India to understand the reality in society about solid waste management in Indian context.

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