

## ENVIRONMENTAL PROTECTION THROUGH SOLID WASTE MANAGEMENT: CITIZEN'S AWARENESS IN TADIPATRI MUNICIPALITY OF ANANTHAPURAMU DISTRICT

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### **ABSTRACT**

*Tadipatri Town is having a population of 1, 08249 as per 2011 Census with 34 wards and 2 Sanitary Divisions. The total area of Municipality is 7.50 Sq. KMs. There are 64 permanent workers out of 70 posts sanctioned, working in this Municipality and engaged 156 Nos. of Contract workers for Sanitation purpose. Secondly, this Municipality is having 5 Nos. of Tractors intended for the purpose of lifting and transportation of Garbage generated in the town to the compost yard and having 17 Nos. of Autos and mini trucks for Door-to-Door Garbage Collection. There is 1 No. of TATA HITACHI-70 being used for leveling of Compost Yard and other works such as leveling road margins and digging of Kutcha drains wherever required. The present paper evaluates the awareness of citizens regarding the environmental protection in Tadipatri Municipality.*

### **INTRODUCTION**

Tadipatri is located at 14.92<sup>0</sup> N and 78.02<sup>0</sup> E. Its average elevation is 223 metres or 731 feet. Tadipatri lies on the southern bank of Pennar river. Due to mid Pennar Dam constructed upstream, the section of river in Tadipatri is usually dry throughout the year. Tadipatri is rich in cement grade limestone deposits. The lime stone reserves are extending in a triangle from Tadipatri in Anantapur district to Kamalapuram in Kadapa district and Bethamcherla in Kurnool district.

### **CIVIC ADMINISTRATION**

Tadipatri Municipality is the civic body of the city. It is a First grade Municipality, constituted in the year 1920 and is spread over an area of 7.46 km<sup>2</sup> (2.88 sq m) and has 34 election wards. The Municipality of the town

oversees the civic needs like, water supply, sewage, garbage collection etc. It also implements strict ban on the use of plastic.

Citizens of this industrial town have set an example to the entire State by strictly adhering to the ban on use of plastic (polythene) carry bags and tea cups and drinking water tumblers imposed by the Municipal Council. The ban has been practically in force from January 26, 2006. A penalty of Rs 2500 would be imposed if one were found either selling or using the plastic carry bags or tea cups. Residents as well as shopkeepers, prefer to use recycled paper or cloth bags for normal use. Garbage collection van spotted going on its daily rounds. The Municipality of Tadipatri purchased 15 vehicles with financial aid from donors and municipal funds to collect garbage at the doorstep of residents. This program came into existence from January 1, 2009. These vehicles collect about 50 tonnes of garbage being generated per day in the town.

## RESULTS AND DISCUSSIONS

In this paper an attempt is made to assess the knowledge and awareness of sample respondents on various aspects of environmental protection through solid waste management were discussed. Hence, the researcher has gathered the related information from the selected sample respondent citizen in Tadipatri Municipality and presented in the following tables.

### Knowledge on Solid Waste Management

The knowledge of sample respondents on solid waste management is presented in table 1.

**Table - 1**  
**Sample Respondents Knowledge on Solid waste Management**

Responses	Frequencies	Percentage
Yes	267	78
No	73	22
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

It is evident from table 1 that nearly 78 per cent of sample respondents stated that they have heard about solid waste management and its various components. On the other hand around 22 per cent of sample respondents declared that they have no knowledge of solid waste management.

## Agents of Awareness

The respondents who declared that they are aware of solid waste management were further asked to give the agents of such awareness. Table 2 gives the agents of awareness as declared by sample respondents in the municipality.

**Table - 2**  
**Agents of Awareness on Solid Waste Management**

Agents	Frequencies	Percentage
Radio	86	32
Over Television	70	26
In Public Meeting	87	33
In School	17	06
Through Poster	07	03
<b>Total</b>	<b>267</b>	<b>100</b>

Source: Field Survey

It is evident from table 2 that 33 per cent of sample respondents became aware about solid waste management through public meetings. Radio is the agent of awareness of solid waste management for 32 per cent of sample respondents. About 26 per cent of sample respondent citizens of Tadipatri Municipality came to know about solid waste management though Television. School is the another agent to create awareness among the citizens. Nearly 6 per cent of sample citizens to know about solid waste management through schools. Wall posters are the agents for creating awareness for 3 per cent of sample respondents of Tadipatri Municipality.

## Awareness about Waste Disposal

Table 3 gives the details of sample respondents on proper awareness on waste disposal in the Tadipatri Municipality.

**Table - 3**  
**Awareness of sample respondents on proper waste disposal by the Municipality**

Responses	Frequencies	Percentage
Yes	236	69
No	104	31
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

As per table 3, nearly 69 per cent of sample respondents have been educated by the civic body about proper waste disposal. The role of municipality in educating the citizen to create awareness on proper waste disposal is denied by 31 per cent of sample.

### Type of Solid Waste from Households

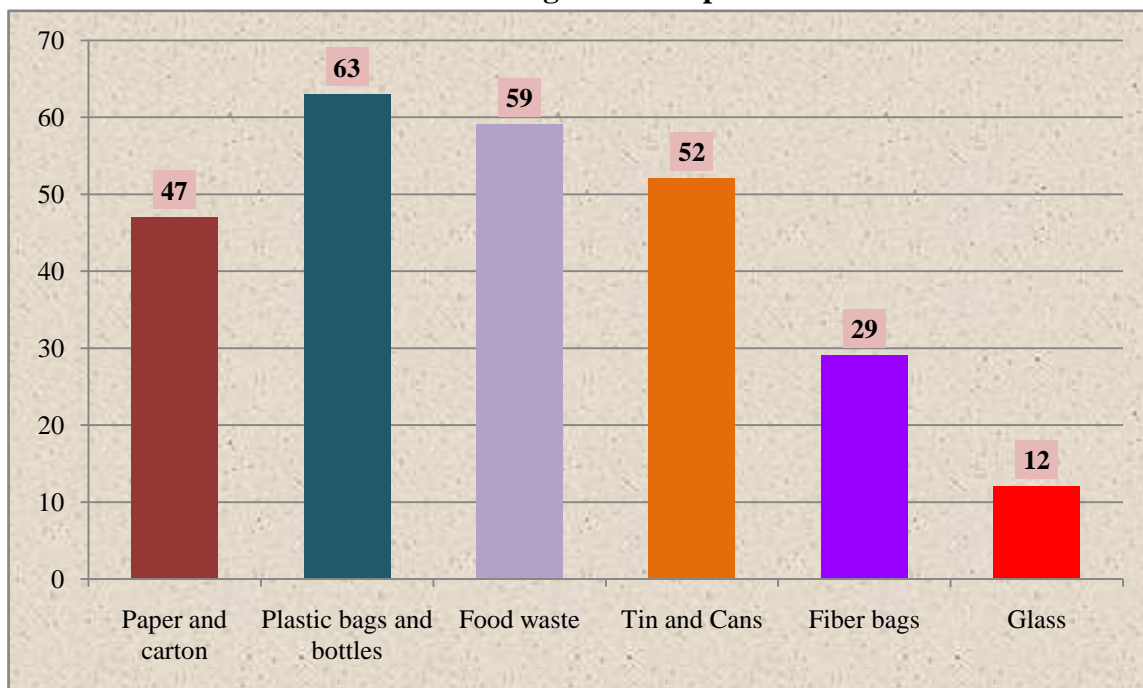
Households are the main cause of solid waste in urban areas. Table 4 furnishes the particulars of waste coming from the households of sample respondents.

**Table - 4**  
**Type of solid waste comes out from sample households**  
**(Multiple Responses)**

Type of solid waste comes out from your household	Frequencies	Percentage
Paper and carton	161	47
Plastic bags and bottles	214	63
Food waste	201	59
Tin and Cans	176	52
Fiber bags	97	29
Glass	42	12

Source: Field Survey

**Figure1**  
**Solid Waste Collecting from Sample Households**



It is clear from table 4 that the most important solid waste that come from sample households is plastic bags and bottles (63 per cent). The second important solid waste coming from sample households is food waste (59 per cent) it includes vegetable waste, rather food waste, etc. Paper and carton waste coming from 47 per cent of sample households. The third important solid waste coming from (52 per cent) of sample household is Tins and Cans (59 per cent). Along 29 per cent of respondents reported that fiber bags is the waste disposed from their houses. Nearly 12 per cent of sample respondents stated that glass is one of the waste coming from that households.

### Waste collection containers using by sample households

The type of waste collection containers using by sample households for waste collection is presented in table 5.

**Table - 5**  
**Types of containers used by sample households to collect waste**

Types of container	Frequencies	Percentage
Carton	84	25
Waste Basket	135	40
Old Bucket	66	19
Plastic Bag	33	10
Tin/Can	22	06
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

Table 5 reveals that around 40 per cent of sample households are using waste baskets to collect the waste. Carton is the container used for collection of waste by 25 per cent of sample households. Old/damaged bucket is using by 19 per cent of households for the collection of waste. Plastic bag with 50 mm density is using by 10 per cent of sample households for collection of the waste. Around 10 per cent of sample respondents declared that they used tin/can for collections of waste in the house.

### Frequency of emptying Waste Container

The frequency of emptying waste container is most important factor, which influence the sanitation of a household. Regular emptying of waste container avoid environment pollution. The details with regard to frequency of emptying waste containers by sample households are presented in table 6.

**Table - 6****Frequency of Emptying Waste Container by Sample Households**

<b>Waste container emptied</b>	<b>Frequencies</b>	<b>Percentage</b>
Once a day	190	56
Once in two days	94	28
Once in three days	31	09
Once in a week	19	05
Now and than	06	02
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

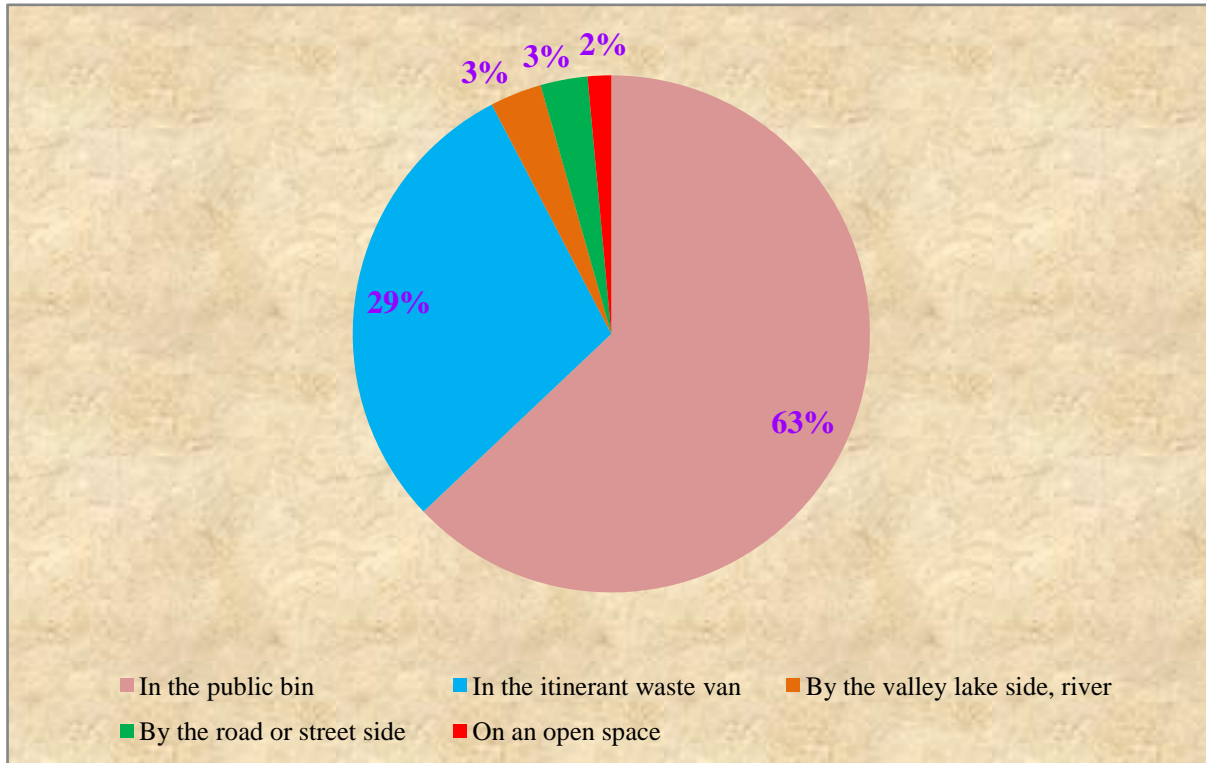
As per table 6 nearly 56 per cent of sample respondents stated that they will empty the waste containers once in a day. It means that they are disposing the waste from the household every day. Around 28 per cent of sample respondents declared that they will empty the waste containers on alternative days. In case of 9 per cent of households waste containers is emptied once in 3 days. About 5 per cent of sample households declared that they will be emptied their waste containers once in a week. With regard to 2 per cent of households waste is disposed, whenever the container fills.

**Table - 7****Source for Disposing of Collected Waste by Sample Households**

<b>Sources</b>	<b>Frequencies</b>	<b>Percentage</b>
In the public bin	40	12
In the itinerant waste van	225	84
By the Valley lake side, river side	00	00
By the road or street side	10	03
On an open space	05	02
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

**Figure 2**  
**Type of Waste Containers in Sample Households**



It is evident from the table 7 shows that a preponderant majority i.e. 84 per cent of sample respondents declared that they dispose the collected waste in to the itinerant waste van running by the Tadipatri Municipality. It is regretting to note that even today 3 per cent and 2 per cent are into open space. The collected waste was thrown on the road side. Nearly 16 per cent of the sample household declared that they dispose the collected waste into the public bins.

**Awareness on Recycling of Waste**

The solid waste becomes environment friendly only when it is properly recycled. The awareness of sample respondents on such recycling process is presented in table 8.

**Table - 8**  
**Citizens Awareness on Recycling Process**

Responses	Frequencies	Percentage
Aware	253	74
Not Aware	87	26
<b>Total</b>	<b>340</b>	<b>100</b>

Source: Field Survey

It can be inferred from table 8 that nearly 74 per cent of sample respondents declared that they are quite aware of recycling process of solid waste. On the other hand, 26 per cent of sample citizens of Tadipatri Municipality stated that they are not aware of recycling process of solid wastes.

## CONCLUSION

In this paper analyzed the knowledge of sample respondents on solid waste management, agents of awareness on solid waste management , proper waste disposal by the municipality, type of solid waste, types of containers , frequency of emptying waste container, source for disposing of collected waste, availability of public dust bins nearer to the home of sample respondents, frequency of emptying public bins, the state of the public bin near respondents houses, waste disposal, the state of solid waste collection from sample houses, citizen's knowledge about the waste management centre in Tadipatri municipality.