



## Solid Waste Management in Sikar (Raj.)

Garima Kumari Chaumal<sup>1</sup>, Dr. Rashmi Sharma<sup>2</sup>, Dr. Ashok Sharma<sup>3</sup>, Amit Sharma<sup>4</sup>

<sup>1,4</sup>Research Scholar, <sup>2</sup>Associate Professor Zoology, SPCGCA, Ajmer, MDS University, Ajmer-305001

### ABSTRACT

Solid waste management is a major problem for all over the world. This world wide problem is also predominating in Sikar. Sikar is located in the north-eastern side of Rajasthan. At present the population of the city is approximately 26,77,737 according to the census 2011. It is the sixth most populous city of Rajasthan. The present study was done regarding collection, transportation, handling, storage, disposal and treatment of solid waste generated in the Sikar city. The data related solid waste management was collected through different site visits.

**Keywords**-Solid waste management, Solid waste, Municipal Solid waste management.

### INTRODUCTION

As population increased rapidly urbanization, industrialization and solid waste management are the major problem we are facing today. Waste is generated continuously in every single way from our daily activities. Solid waste are generated from domestic, agriculture, commercial and industrial activity in the city. A large amount of wastes are dumped openly, around homes, market places, by the road side and on any piece of open land. These waste find their way into drainage system and other water sources and this has resulted a serious pollution in the city. Solid waste management and disposal is a pressing issue facing us today, 90% of waste currently disposed of by open dumping. According to the CAG report, the Govt. of Rajasthan released Rs.

292.81 crores for SBM (Swachh Bharat Mission) in Rajasthan to ULB(Urban Local Bodies) in 2015-17 but ULB could use only 21% of it and the rest was unused.

## **MATERIAL AND METHOD**

Solid waste of various areas were collected, then mixed it and 1 kg sample was prepared by using quartering method. After this every constituent percentage calculated. Secondary data were collected from Sikar Municipal Corporation.

## **RESULTS AND DISCUSSION**

In Sikar most of the people does not store the waste at the proper source. The people disposes the waste into the garbage bins, roads, open areas, drainage pipes etc. Most of recyclable material is also disposed with domestic and other wastes. So the most recyclable waste found mixed. No door-to-door collection of waste is available in the city.

**Classifications of Wastes:** The major types of wastes are as follows

- 1.Municipal Waste, 2.Domestic and Residential Waste, 3.Commercial Waste,
- 4.Construction and Demolition Wastes, 5.Garbage, 6. Institutional Waste, 7.Medical Wastes, 8.Street Sweeping, 9.Dead Animals, 10.Industrial Wastes, 11.Hazardous Wastes, 12. Sewage Wastes, 13.Plastics,
- 14.Rubbish, 15.Bulky Wastes, 16.Ashes and Residuals.

**Collection of Solid Waste in the city:-** The entire solid waste management can be divided in following steps-

- 1.Generation of Solid waste
- 2.Collection of Solid waste at primary source in street cleansing
- 3.Transportation of solid waste to the secondary/locality storage/community bins
- 4.Storage of solid waste at locality level
- 5.Transport of solid waste to dumping sites and treatment plans

6. Treatment and dumping of solid waste

7. Traditional approaches of dealing with solid waste

**Waste Generation:-** According to SMC (Sikar Municipal Corporation), near about 530 TPD (Tons Per Day)

SW generated in the city.

**Table No. 1: Sources of Solid Waste generation in the Sikar**

S. No.	Sources of Solid Waste Generation	WG per day (TPD)
1.	House Holds	160
2.	Grain and vegetable markets	50
3.	Shops and Commercial Establishment	35
4.	Industrial Waste	70
5.	Institutional and Medical Waste	60
6.	Construction and Demolition Waste	40
7.	Slum Areas	75
8.	Hotels and Restaurants	40
	<b>Total</b>	<b>530</b>

Source: Reports Sikar Municipal Corporation

**Table No. 2: Composition of Solid Waste in Sikar**

S. No.	Constituent	Share (in %)
1.	Plastics	7.15
2.	Food waste	46.40
3.	Paper products	9.13
4.	Wood	1.14
5.	Rubbers	1.26
6.	Foliage	5.78
7.	Textiles	5.75
8.	Inert Material	23.39
<b>Total</b>		<b>100.00</b>

**Waste Storage and Collection:-** Sikar zone is divided into total 49 wards. Main system of Primary collection of waste is street sweeping. Sweepers clean the roads and drain and transfer the all wastes into bins. After this all wastes transfer to the collection points through different transport sources.

**Transportation of wastes:-** All solid wastes of the city transported by various type of vehicles like open tractors, trucks. Near about 40-50 vehicles are use for this purpose.

**Disposal of Wastes:-** The all wastes of the city is dispose outside of the town near railway station and near Palwas road.

## CONCLUSION

Based on the observation, it can be concluded that 530 TPD SW generated by the people of Sikar. The present work reveals that there is no proper way for the management of SW in the city. No procedure used for the segregation of solid waste. When the waste is not separated properly it leads to less recycling because it is not easy to remove materials later for recycling. All the SW dumped at open dumping ground by open dumping method. Bio-medical waste and municipal waste dumped together. Which is a very serious health hazard. Bio-medical waste needs to be collected and treated separately. There is no scientific method adopted during the handling of SW. The authorities should monitor the whole process and take necessary steps to streamline it so that it can be used to generate electricity.

## REFERENCES

1. Amit Singh “Municipal Solid Waste Management in current Status and way” 2011.
2. Board, C.P. (2008). Status of MSW Collection, Treatment & Disposal in and around Ajmer city.
3. Central Pollution Control Board “Consolidated Annual Review Report on Implementation of Solid Wastes Management Rules, 2016.” (2017).
4. Chang, K.T., 2010: Introduction to Geographic Information System, 5<sup>th</sup> Ed. Mc Graw-Hill International Edition.
5. Department of Environment, G. O. (2010). Rajasthan State Environment Policy. Jaipur: Department of Environment, Government of Rajasthan.
6. Garg, R. K. (2002) National Solid Waste Association of India (NSWAI) Newsletter, Vol. 6, pp. 1.
7. Ministry of Housing & Urban Affairs (2017), ‘Guidelines for Swachh Bharat Mission (Urban)’.
8. Ministry of Environment and Forests. “Municipal Solid Wastes” (Management and Handling) Rules, 2000.” Accessible at: moef.nic.in

9. Rao, G.K., “Recycle and Reuse of Municipal Solid Waste: An Economic proposition for a developing Nation India”, *Journal of Environmental Protection*, 8(1):57-59, 1998.
10. Rashmi Sharma (2008) *Municipal Solid Waste Management in Ajmer City, Rajasthan: An Overview*, Vol.7, pp. 639-642.
11. Schafer, B.M., “Disposing of the Municipal Solid Waste by pyrolysis process”, *Environmental Science & Technology*, 9(2): 71-78, 1976.
12. Sharholly M., et al. “Municipal solid waste management in Indian cities- A review.” *Waste management* 28.2 (2008): 459-467.
13. *Solid Waste Management Rules*, Ministry of Environment, Forest and Climate Change, Govt. of India, 2016.
14. The World Bank. 2000. *Municipal solid waste incineration. World Bank Technical Guidance Report*.

