



Solid Waste Management - Case Study

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ABSTRACT:

Solid waste is the purposeless, undesirable and discarded material generated from day to day activities in the community. Municipal solid waste commonly known as trash or garbage. Solid waste management may be defined as the detailed procedure associated with the control of generation, storage, collection, transfer, processing and disposal of solid waste.

The present paper based on the study carried out on solid waste management by shopian municipal corporation.

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I. INTRODUCTION

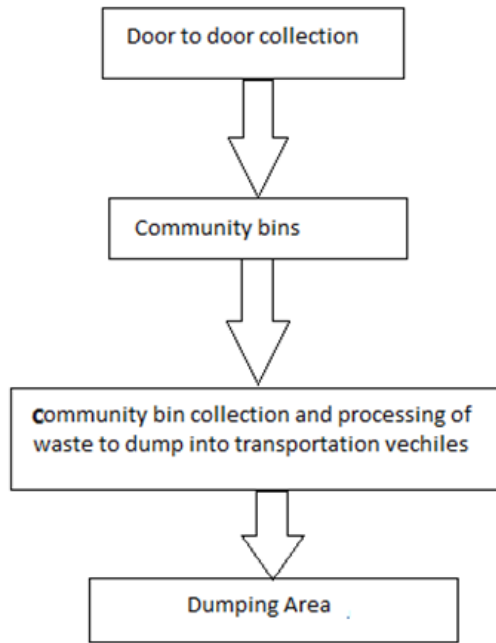
Shopian or Shupiyan is a hill district with its administrative division in Shopian located at 33.7594° N, 74.8039° E, in the Indian union territory of Jammu and Kashmir. Area of Shopian town is 18.5 sqkms. As per the data of Shopian municipal corporation there are 4349 houses and a population of 26884. The district has a population density of 852 inhabitants per square kilometre (2,210/sq mi).

- Total solid waste generation is 20 tonne/day in Shopian town and 36 to 40 metric tonne of waste generates per year. From that solid waste generation per person is approximately 170gm/capita/day.
- Shopian district is called as apple town, around 272000 tons of apples were produced in 2018-2019. For packing of apples, boxes, paper and grass are used which contribute a lot in total waste generated.

The process associated with the management of municipal solid waste from the generation to disposal can be grouped into following categories.

- Waste generation
- Dumping
- Collection
- Transportation
- Segregation & Processing
- Disposal

COLLECTION OF SOLIDWASTE



Flow chart showing collection of solid waste in fig.1

- Whole town is divided into 17 wards and each ward has separate dumping area.

There are various types of municipal solid waste such as commercial waste, food waste, institutional waste, industrial waste, sanitation waste, street waste. Recyclable waste such as (paper, glass, metal and plastic etc.), toxic substances (pesticides, paints, hospital waste, medicines used batteries etc.) Compostable organic matter (vegetable and fruit peels, food waste), solid waste (sanitary napkins, baby drypers etc.)

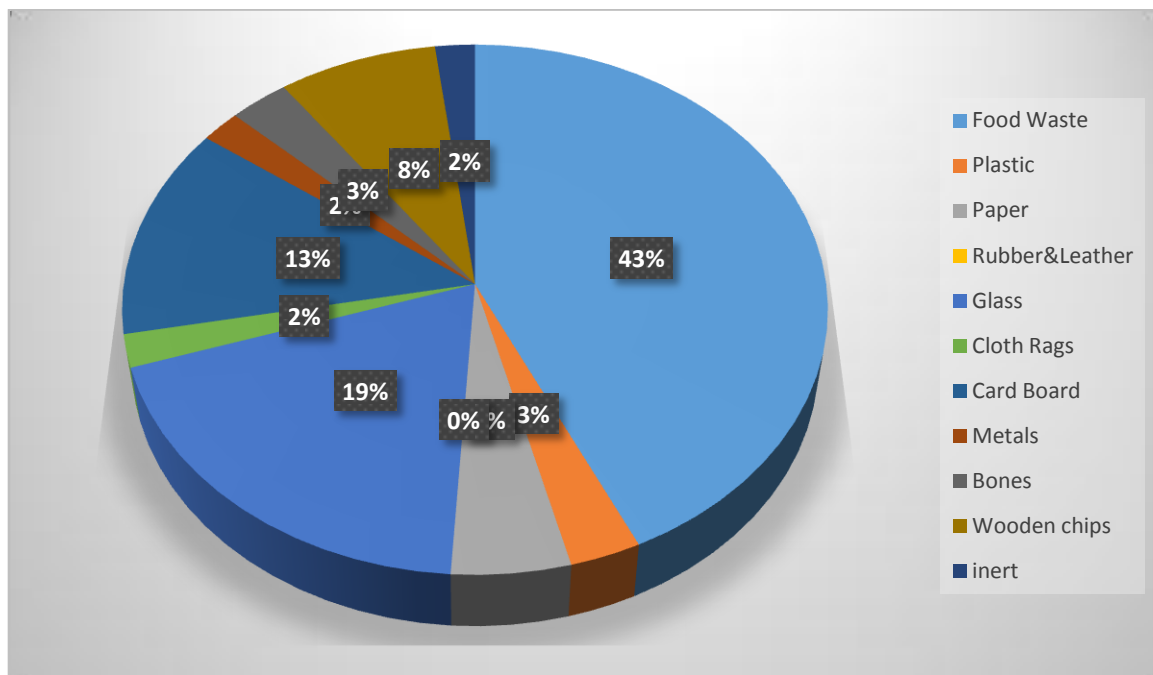


FIG.2- COMPOSITION SOLID WASTE IN AN INDIAN CITY

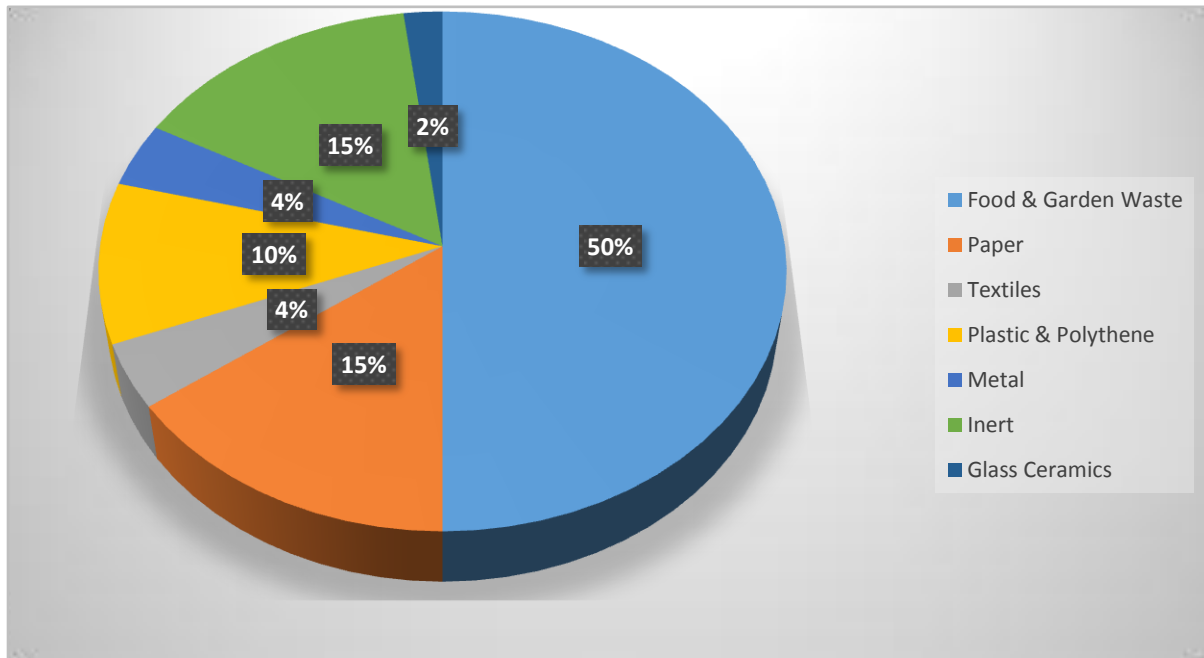


FIG.3-COMPOSITION OF MUNICIPAL SOLID WASTE IN SHOPAIN TOWN

II. DISPOSAL OF SOLIDWASTE

- There is a site for the municipal solid waste management at Arhama village situated at 3km from the Shopain town. Disposal of solid waste is done by following methods.
- Landfill:waste which cannot be reused or recycled are seperated in a thin layer and a layer of soil is added on it.
- Sanitary landfilling:this is simple effective method a trench of 3-5 metre is excavated waste is laid in layers and compacted.
- All inorganic material is placed for the land filling and dumping.

III. CONCLUSION

- The collected waste shows that the maximum proportion of refuse is food and garden wastes,gaden waste can be used to create compost or mulch which can be used as soil conditioner to minimise the waste.
- Provision of bins at public places should be made and there should be compulsory segregation of waste at all thesources.It should be habit of every individual to separate out all items that are recycleable.
- As the disposal site is 5 km away and smaller vehicle is used for the transportation of solid waste, it would be best to set up transfer station to minimise the expenditure on the transportation.
- Percentage of polythene carry bags was higher reusable bags should be used instead of polythene bags.
- People have a moral obligation to protect environment and promote the sustainable development.Public awareness and participation are essential for reducing the amount the of waste generated at source level.
- The transportation of wastes collected accounts about 80 percent of total expindeture.As whole municipal area is divided into 17 zones there is lack of transport which is very problematic for management of solid waste which are as follows:

Sucker=1
 Loader=1
 Dumper placer=1

Jcb=1

Tractor=1

- workers,working in the processing and disposal sites are exposed to environmental healths and accidental risks there should be proper health and safety provisions at all stages of wastehandling.
- There is dearth of workers only 41 safaikaramcharis are working in whole municipal area

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