



Management of solid waste generated in Akhnoor town, Jammu- A case Study

KEYWORDS

disposal, management, municipal, public health, solid waste

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ABSTRACT *The collection and disposal of municipal solid waste is one of the pressing problems of city life which has assumed great importance in the recent past. With the growing urbanization as a result of planned economic growth and industrialization, problems are becoming acute and call for immediate and concerted action. The proper disposal of urban waste is not only absolutely necessary for the preservation and improvement of public health but it has an immense potential for resource recovery. The present study deals with the generation, collection, transportation and final disposal of solid waste in the Akhnoor town. A comparison has also been made among the share of various types of waste generated in the study area. An effort has also been made to make an assessment of the various management techniques being followed in the study area.*

Introduction

Solid waste management is a part of public health and sanitation. Solid waste management calls for motivation and documentation, education and communication to create willingness on the part of community to believe in a team or shared responsibility. Rotting organic refuse is not only aesthetically unpleasant but attracts predators, and carried by these bacteria which thrive in warm, moist, rotting garbage spreading malaria, viral fever (dengue), plague etc. The incident of plague in Oct, 1994 in Surat city pressed everyone to think over solid waste problem. Thus, the proper disposal of solid waste derived from any source is dependent on management practices. A management practice system must be developed and described, that incorporates many diverse factors. These factors may include economics, engineering, land use ordinances, environmental regulations, geography and sociology.

Solid waste management involves interplay of six functional elements-generation of wastes, storage, collection, transfer and transport, processing, recovery and disposal. Solid waste management process consists of at least four steps; collection, transportation, treatment and ultimate disposal. The present study was carried out in Akhnoor town, Jammu. A comparison was made regarding the solid waste generation in the study area. An estimation of management practices used in the study area was also made in order to make a record of types of methods of applied in the final disposal of the solid waste in the study area and suggest some remedial measures.

Materials and Methods

A sample of 60 houses which formed about 33% of the houses was randomly selected for the purpose of study. The data was collected with the help of field experiment over a period of two months (March and April, 2008) where solid waste generated per house during 24 hours was collected, segregated and weighed according to its availability. The waste which was collected from the study area contained biodegradable waste, non-biodegradable waste, and inert material. Biodegradable waste contained kitchen waste, plant waste, textile waste. Non-biodegradable waste included plastics, metals and glass and inert material contained hair and ash. The various constituents

of waste collected were weighed with the help of digital balance. For tracing out the management practices used in the study area a general survey was conducted throughout the town.

Results and Discussion

A comparison was made for the overall generation of solid waste in the study area. On comparison it was found that in each of the study areas biodegradable fraction shared the maximum fraction followed by non- biodegradable fraction and inert material (Table 1). A look at table 2 reveals the comparison of various components of solid waste in different areas where it was found that kitchen waste was reported to be maximum in all the cases including the study area. The probable reason behind the maximum generation of kitchen waste seems to be the more consumption of fruits and vegetables among the habitants of the study area.

Table 1: Overall comparison of solid waste in different areas

S.No.	Biodegradable (%)	Non-Biodegradable (%)	Inert(%)	Study Area	Study
1	71.20	12.1	16	Coimbatore	Sundarajan (1997)
2	58.60	39.9	1.5	Rehari, Jammu	Bhawana (2001)
3	74.70	19.7	5.3	Rajpura, Jammu	Seema (2006)
4	73.47	9.50	17.01	Coimbatore and Salem	Jeyapriya and Saseetharan (2007)
5	83.49	16.50	0.34	Akhnoor, Jammu	Present Study

Table 2: Comparison of various components of solid waste in different areas

S.No.	Paper (%)	Plant (%)	Kitchen (%)	Textile (%)	Plastics (%)	Glass (%)	Metal (%)	Other (%)	Study
1	2.52	6.27	54.00	8.41	5.70	2.50	4.60	16.00	Sundarajan (1997)
2	5.69	6.73	56.50	4.54	8.69	0.39	0.42	17.01	Jeyapriya and Saseetharan (2007)
3	26.89	9.71	45.40	1.33	7.13	5.69	3.33	0.34	Present study

Management of the solid waste is concerned with the collection, transportation and its final disposal. During the study period it was found that the method of collection in the town was restricted to sweepers carrying away the waste either manually in baskets or wheel barrows. As far as transportation is concerned the waste is carried away by the municipality trucks but not so regularly. The final disposal methods which were applied in the study area were not satisfactory.

Various methods of disposal which were followed in the study area are:

Open dumps: Waste generated in the study area was mostly thrown open at some specific locations. e.g. road-sides.

Municipal bins: Municipal bins had been installed but waste was generally found to be lying outside the bins.

Composting: This method of waste disposal was followed by one of the families of the area at their own level.

Burning: Heaps of wastes were burned which not only cause air pollution but also degrades the land.

Dumping in the river: A major portion of the waste from the area was thrown into the river Chenab flowing near the town.

Methods of solid waste disposal in the study area were unsatisfactory in almost every respect. The most pressing problem in the field of solid waste disposal exists in the study area and other small Indian cities where the population has rural habits also because there are no other possibilities. A careful analysis of present status of solid waste management in the study area lead to the conclusion that by the well planned allocation of available resources and the application of proper technology and better sanitation standards, high level of environmental protection for the community can be achieved through:

a) Appropriate design for the community containers, transport vehicle, primary collection, transfer location and disposal facilities.

b) Cooperation between municipal corporation and NGO's and coordination between various regulatory agencies involved in multimedia campaign to create awareness which may play a crucial role by people's participation.

c) An awareness campaign among the people can play a vital role.

d) More and more dustbins should be placed at appropriate locations.

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