Research Paper Managment

Solid Waste Management – A Case Study of Kurukshetra District

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ABSTRACT

Solid waste management has emerged as one of the greatest challenges facing environmental protection agencies in developing countries. Solid waste management is a worldwide phenomenon. Improper management of solid waste (SW) causes hazards to inhabitants. Therefore the present study was taken to find out the problems of solid waste in Kurukshetra district. This study tries to show the household behavior of Kurukshetra residents towards solid waste management. The current study focuses on the household's attitudes, perception and knowledge of solid waste management in Kurukshetra district (Haryana). The present study introduces the concept of solid waste management. For this study, primary data was collected using structured questionnaires. A survey was administered to 100 households selected randomly from Kurukshetra district. To attain the objective of the study, use of statistical techniques such as means and standard deviation. The results indicate that, although the public is aware of solid waste management concept, yet the desire results are to be achieved. The results also indicate that participation in solid waste depends on the awareness level, household income, educational level and gender.

KEYWORDS | Solid Waste Management, Household Behaviour, Awareness.

Introduction

Solid waste management is one of the components of clean development mechanism identified under Kyoto protocol to abate global warming. Every day, urban India generates 188,500 tonnes of Solid Waste (68.8 million tonnes per year) and waste generation increases by 50% every decade (Ranjith, 2011). In order to manage such a huge waste generation, a national policy and legislation for solid waste management, titled "Solid Waste Management and Handling Rules" were notified in 2000 and it came into effect from January 2011. Solid waste generation is a continually growing problem at global, regional and local levels. Solid wastes are those organic and inorganic waste materials produced by various activities of the society, which have lost their value to the first user. Improper disposal of solid wastes pollutes all the vital components of the living environment (i.e., air, land and water) at local and global levels. Solid waste management includes all administrative, financial, legal, planning, and engineering functions (Ramachandra, 2006; Ramachandra and Varghese, 2003). The government of India has taken many initiatives and implemented new technologies and methods by giving loans for setting up composting plants to encourage proper management of solid waste since the 1960s (Ministry of Environment and Forests, 2005).

Solid Waste Management

Solid waste management has become a major challenge in many cities in the developing world where hitherto waste management had been the sole responsibility of central government. The problems of solid waste in these countries have been worsened with rapid urbanization and growing numbers of slums resulting in major problems relating to public health, environmental pollution and aesthetic nuisance (Katusiimeh et al, 2012). Solid waste are unwanted materials disposed of by man, which can neither flow into streams nor escape immediately into the atmosphere. These non-gaseous and non-liquid residues result from various human activities. These cause pollution in water, soil and air (Misra and Mani, 1993). In any material process, by product recovery or recycling can substantially alter waste quantity and quality, but all processes eventually produce some waste (Swarup et al., 1992). Solid waste in urban areas is generated by domestic sources, street sweeping, and hospitals, commercial and industrial activities (Reed B 2002). Solid waste management involves interplay of six functional elements – generation of wastes, storage, collection, transfer and transport, processing, recovery and disposal (Bhide and Sundaresan, 1983).

Review of Literature:

Wahid et al (2012) analyzed the relationship between knowledge, attitude, and behaviour of the urban poor households concerning solid waste management systems and monthly household income and education. It was found that the urban poor communities with low income and education have been proven to behave in ways matching with and conducive to environment-friendly solid waste management, for instance, by practicing recycling and waste source reduction.

Awopetu et al (2013) focused on public attitudes towards reducing, reusing and recycling solid waste in the Makurdi Metropolitan area of Nigeria. They researcher found that local authority strategy towards a sustainable hierarchy and federal government funding be forthcoming to make necessary infrastructure improvements and embrace public attitudes to solid waste reduction, reuse and recycling.

Banga & margerat (2013) examined household knowledge, attitudes and practices on the separation and recycling of solid waste in Kampala, (Uganda). The results indicate that although the public is aware of solid waste separation and recycling practices, yet not participated in such initiatives.

Czajkowski et al (2014) explored the two major ways in which solid waste can be sorted and recycled at the household level, when household are required to sort waste into a given number of categories, or in specialised sorting facilities. They also found that indicate that most respondents preferred to sort waste themselves if given the choice.

Objectives of the Study:

The study was done with the following objectives:

1. To know people's perception regarding solid waste management.

2. To study the attitudinal level of people regarding waste management

3. To determine the level of solid waste management adopted at

household level.

Methodology:

The present study primarily is exploratory cum descriptive in nature as it seeks to study the solid waste management. The primary data which has been collected with the help of a structured questionnaire relating to different factors like age, sex, education, occupation, marital status and residential status etc. The 100 respondents of Kurukshetra district of Haryana has been taken into consideration for the study. The judgment sampling method was used for identifying the sample households. The household has been treated as the sampling units and the information was gathered from head of the (Family) household. The questionnaire used for the study was designed on the basis of five point scales. Scores of 5, 4, 3, 2, and 1 were assigned respectively to always generally, sometimes, rarely and never. Similarly the scale of strongly agree, agree, indifferent, disagree and strongly disagree was also assigned scores ranging from 1 to 5 respectively. In case of yes/no question, scores of 1 for yes and 2 for no and cannot says for 3 were given. The data have been analyzed with the help of statistical techniques like percentage, means, standard deviations etc.

RESULTS AND DISCUSSION

(1.1) People Perception and Opinion about Solid Waste Management:

Table 1.1

People 's perception	Yes (%)	No (%)	Can't say (%)
Knowledge about waste mgt.	80	10	10
Facility to Compose waste in home	25	63	12
Reuse waste items	47	43	10
Pay some extra money to purchase recyclable product	66	26	8
Waste is a resources	53	32	15

Source: Primary Data

Regarding to the questionnaire survey, majority (80%) of respondents have knowledge about solid waste management. The main problem at the study is solid waste problem followed by (63%) respondents' state that no facilities use to compose waste in home. 47% respondents reuse waste items and 66% respondents are ready to pay some extra money to purchase recyclable products. This may be concluded that most of the people are aware about solid waste management.

2. Attitudinal level of People Regarding Waste Management:

Table 2.1

Occupation		Second hand goods are better	Production process involves unjustified exploitations of Natural resources	Use of Recyclable Packages	Non-availability of Alternatives
Working Respondents	Mean S.D.	3.375 1.351	3.916 0.996	3.95 0.837	2.208 1.471
Student	Mean S.D.	4.43 1.033	3.52 1.317	4.171 0.977	3.61 1.053
Total	Mean S.D.	4.18 1.072	3.62 1.261	4.12 0.947	3.28 1.211

S.D. = Standard Deviation, Source: Primary Data

The tabulated data reveals that the second hand goods are better as reflected by its highest mean 4.43. Solid waste management has become seriously matter with in the residential, from the questionnaire survey, it also revealed that the attitude level of the students are most concerned about solid waste as compared to working respondents.

Opinion of evaluation:

Table 3.1

Occupation		Contact municipal committee	Contact factory owner	Contact legal advisor	Contact any NGO	Contact welfare association
Working Respondents	Mean S.D.	4.12 1.268	3.29 0.996	1.50 1.079	2.125 1.053	2.375 0.978
Student	Mean S.D.	3.828 1.269	3.421 1.386	2.710 1.345	3.184 1.357	3.315 1.380
Total	Mean S.D.	3.90 1.276	3.39 1.322	2.42 1.345	2.93 1.357	3.09 1.331

Source: Primary Data

The finding of the present study also reveals that, all the respondents show similar tendency to contact municipal committee, factory owner, legal advisor, NGO and residential welfare association. Municipal committee comes out to be the most preferred option with highest total mean of 3.90. After committee people would contact the factory owner (Mean 3.39) followed by Resident's welfare association (Mean 3.09).

Conclusion:

It can be concluded that most of the people are aware about solid waste management. The overall aim of research how waste is being managed at household level. Despite the present concerns of individuals about solid waste management, Kurukshetra is still faced with serious solid waste management problems. The findings of this study show that mostly respondents are ready to pay some extra money to purchase recyclable product. Most of the people prefer to contact municipal committee to protect the environment from the harmful effect of manufacturing process in the residential area. By conducting this research, it can increase the knowledge, awareness of residents towards solid waste management. Government, non government and environment society need launching more campaign to educate the rural and urban area on the important of protected the environment. The study will lead to the application of the new concept with a wider application practically by upgrading the current practices of solid domestic waste management. The outcome of this research will lead to many future studies in the area of waste management.

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