

To study 3 R's (Reuse, reduce and recycling) pattern of household waste

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■ **ABSTRACT :** Household waste refers to waste material usually generated in the residential environment. Indiscriminate dumping, irregular collection, poor storage and inadequate resources are the main problems associated with improper handling of household waste. This leads to various health related problems like cholera, dysentery, typhoid etc. and also have a negative impact on the environment by polluting land, air and water. So there is a need to manage the domestic household waste in such a way that it will lead to a safe and healthy environment. A descriptive research design was chosen for the study. A pre-coded interview schedule, knowledge and awareness scales was used to gather the required information. The collected data was tabulated and analyzed with the help of descriptive and statistical analysis.

■ **KEY WORDS:** Waste disposed, Solid waste management

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In recent times domestic solid waste management has become a major problem in town. Indiscriminate dumping, irregular collection, poor storage and inadequate resources are the main problem faced by the management of domestic solid waste in the town. Solid waste management has become a demanding problem in recent times. It is therefore very important that the district assembly, waste management institutes, corporate bodies, non- governmental organizations and individuals alike find a lasting remedy to the problem. It is very much essential to increase awareness among the people about the solid waste and its effect, water pollution etc. in order to conserve or protect the environment.

Waste whether it is simply household waste or waste from manufacturing and industry. The ways in which

we dispose of waste are not sustainable. Changing lifestyle such as use of canned soft drinks, mobile phones, and disposable diapers movement towards a “consumer society” in general. Improper solid waste management leads to substantial negative environmental impacts (for pollution of air and water, and generation of greenhouse gases from landfills), and health and safety problem (such as diseases spread by insects and rodents attracted by garbage heaps, and disease associated with different forms of pollution. The most obvious environmental damage caused by solid waste is aesthetic, *i.e.* waste that litter public area is ugly and smelly. A more serious risk is the transfer of pollution to ground water and land as well as the pollution of air from improper burning of waste. Many waste activities generate greenhouse

gasses, e.g. landfills generate methane and refuse fleets are significant sources of carbon dioxide and nitrous oxide. Open burning dumpsites produce volatilized heavy metals (e.g. mercury and lead), dioxins, and furan. If waste is not managed, it interferes with human life in many ways creating more problems. Waste enters our waters like rivers and groundwater and pollutants them threading our drinking water sources.

RESEARCH METHODS

The research design is the specification of methods and procedure used for accruing information needed for the study. A research design is the arrangement of conditions for collection and analyzing data with the aim to combine relevance to the research purpose with economy in procedure. In fact the research design is the conceptual structure within which research was conducted and is needed because it facilitates the smooth sailings of various research operations in a symmetric manner. Descriptive research was chosen in the study, for the hypothesis formulation, its testing analysis of the relationship between the variable and generalization. The study is limited to choose the sample design only Almora district respondents was choose through purposive sampling.

RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Disposing household waste :

Daily :

The most of the respondents *i.e.* 98.33 per cent dispose their wet waste daily while 38.33 per cent of the respondents dispose their dry waste on daily basis, E-waste was also disposed daily by 14.16 per cent of the

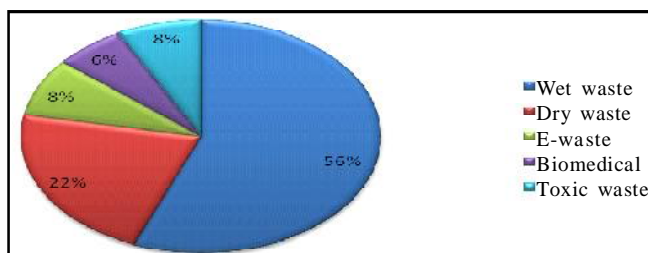


Fig. 1 : Percentage distribution based on frequency of disposing household waste daily

respondents, 13.33 per cent of the respondents also dispose their toxic waste and 11.66 per cent of the respondents also dispose their biomedical waste regularly.

Twice in a week :

Only 1.66 per cent of the respondents dispose their wet waste twice in a week, more than half of the respondents (51.66 %) dispose their dry waste twice in a week, 9.16 per cent, 4.16 per cent and 5.83 per cent of the respondents dispose their E- waste, toxic waste and biomedical waste twice in a week, respectively.

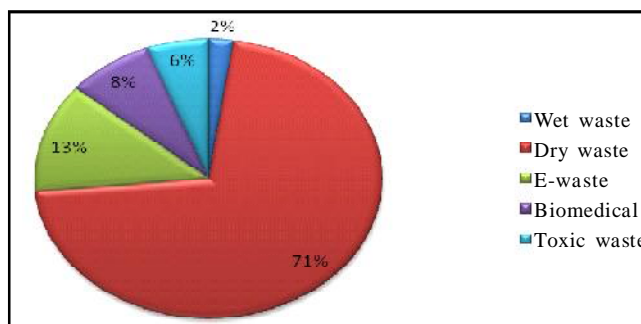


Fig. 2 : Percentage distribution based on frequency of disposing household waste twice in a week

Weekly :

From the data it was revealed that 10 per cent of the respondents dispose their dry waste weekly where as 35 per cent, 58.33 per cent and 50.83 per cent of the respondents dispose their E-waste, toxic waste and biomedical waste on the weekly basis.

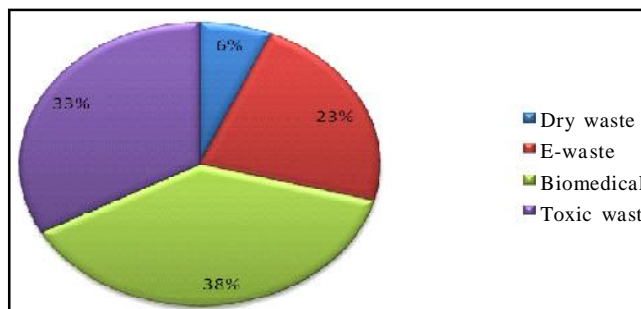


Fig. 3 : Percentage distribution based on frequency of disposing household waste weekly

3 R'S For household waste minimization (Reduce, reuse and recycling) :

The household waste minimization practices adopted by the respondents. The responses of the respondents was analyzed and it revealed that about 83.33 per cent of the respondents take their own carrying bag instead

of using new from the shop while only few respondents (19.16 %) of the respondents does not carry their own bags. The practices of carrying their own bags are also because the polythene bags were banned by the government in of the market of Almora. It is revealed that only 26.66 per cent of the respondents try to buy items which have a lot of packaging while 74.34 per cent of the respondents do not buy these items. The data envisaged that maximum of the respondents (89.16 %) try to reuse plastic bottles such as water bottles whereas 10.83 per cent of the respondents were not reusing plastic bottles. But these practices should be avoided as it has harmful effect on human health.

Maximum of the respondents *i.e.* 70 per cent favor products which have high recycled content whereas 30 per cent does not favor these items. It can be inferred from that 90 per cent of the respondents choose rechargeable batteries and long-life bulbs. The remaining 10 per cent of the respondents revealed not choosing rechargeable and long-life bulbs.

It was found that 72.5 per cent of the respondents buy recycled paper, bathroom tissue, napkins and kitchen towels whereas 27.5 per cent of the respondents does not buy these items. Nearly 90 per cent of the respondents that waste reuse are appropriate for managing waste while only 9.16 per cent of the respondents did not agree about it.

Most of the respondents 83.44 per cent buy and use refills whereas 16.66 does not buy and use refills. Only 15 per cent of the respondents over by food and

have to throw away some while 85 per cent of the respondents does not over buy. It revealed that 77.5 per cent of the respondent's claims that lack of opportunities prevent them from recycling while 22.5 per cent of the respondents not agree with it. Maximum (71.66 %) of the respondents said that lack of places to store items prevents them from recycling whereas 28.34 per cent of the respondents lack enough information about recycling whereas 33.34 per cent of the respondents have enough information about it.

Data also envisaged that 70.84 per cent of the respondents said that waste was collected by the municipal authority while 29.16 per cent of the respondents were not agreeing with it. More than 80 per cent of the respondents said waste was collected by the rag-pickers or raddi- vales whereas 17.5 per cent of the respondents do not sell their waste to them. Similar work related to the present investigation was also carried out by Ashalakshmi and Arunachalam (2010); Barnardo (2008); Chavan and Zambare (2014); Kesarwani (2013); Mallak *et al.* (2014) and Mukui (2013).

Conclusion :

The household for management practices, the study conclude that the respondents always use dustbins at their household, majority of the respondents throw away their household waste in the dustbins properly, more than half of the respondents always keep their dustbins in the house covered with lids, and nearly half of the respondents always wrap their leftover food tightly and throw away,

Table 1 : Frequency and percentage of the respondents regarding 3R's for household waste minimization (reduce, reuse and recycling)

Sr. No.	Statements	Yes	No.
1.	Take your own carrier bag instead of using new ones from the shop.	97 (83.33)	23 (19.16)
2.	Try to buy items which have a lot of packaging on them.	32 (26.66)	88 (73.34)
3.	Try to reuse plastic bottles such as water bottles.	107 (89.16)	13 (10.83)
4.	Favor products which have high recycled content.	84 (70)	36 (30)
5.	Choose rechargeable batteries and long- life bulbs.	108 (90)	12 (10)
6.	Buy recycled paper, bathroom tissue, napkins and kitchen towels.	87 (72.5)	33 (27.5)
7.	Waste reuse is appropriate for managing waste.	109 (90.84)	11 (9.16)
8.	Buy and use refills.	100 (83.44)	20 (16.66)
9.	Over by food and have to throw some away.	18 (15)	102 (85)
10.	Lack of opportunities prevents you from recycling.	93 (77.5)	27 (22.5)
11.	Lack of place to store items prevents you from recycling	86 (71.66)	34 (28.34)
12.	Lack of enough information about recycling.	80 (66.66)	40 (33.34)
13.	Waste collected by municipal authority	85 (70.84)	35 (29.16)
14.	Waste collected by rag-pickers or raddi- vales	99 (82.5)	21 (17.5)

Note: Figures in parenthesis indicate the percentages of total respondents in this category.

the respondents segregate waste before disposal, one third of the total population always disposed their kitchen waste safely to avoid unhygienic conditions. Out of total population 87.5 per cent of the respondents wash their hand before eating, preparing food, after defecation and after cleaning. The respondents always give advice to their family members about household waste management.

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