

Garbage Disposal: A Study on the Awareness and Behaviour Regarding Waste Segregation

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Abstract

The topic of environmental protection has attained importance in the present era globally. But, simple practices like proper waste disposal are often neglected, as a result of which, today one of the most important concerns and worries of the community is the disposal of solid waste. Public participation has a direct bearing on effective and efficient solid waste management. People all around the globe are aware of the impact of improper waste disposal practices, but improper techniques of implementation give rise to chaotic situations. To find out the practicality of implementation of waste segregation from households, this survey was carried out to obtain information on awareness of waste management practices and the attitude of people towards household waste disposal. The research method for the study on the views of disposing of garbage segregated into green and blue dustbins is based on in-depth interviews conducted in Delhi. A door-to-door interview was conducted of people in Delhi with a sample size of 25. Sampling done was random sampling. The questions were semi structured. The analysis gave insights into to how people separate the garbage, whether they were aware of waste segregation as well as their knowledge about the different types (colours) of dustbins, facility for garbage vehicles available in their area. The outcome indicates that the awareness among people to dispose of garbage segregated into green and blue dustbins in Delhi is low. There are efforts to increase awareness and promote proper waste segregation, but are either not substantial or are not very effective. The South Delhi Municipal Corporation (SDMC) has been carrying out a door-to-door campaign for the segregation of waste but visible outcome is not evident. This research study on waste segregation conducted in Delhi reveals that lack of awareness and loosely implemented laws, which are some of the challenges to proper waste segregation and disposal. The study also reveals the necessity for giving mass awareness regarding the segregation of household waste and managing them properly through PSA (Public Service Announcement), T.V commercials, cinema commercials, publicity at community places, advertisements, etc.

Objective:

- To study the awareness of people of Delhi regarding waste/ garbage segregation.
- To study of awareness of people regarding green and blue dustbins.
- To study attitude and user behaviour of people of Delhi regarding garbage disposal in terms of segregation of garbage into green and blue dustbins.

Method

An in-depth interview method was adopted in this study. Door-to-door interviews were conducted of people in Delhi. A sample size of 25 was taken for this study. Sampling technique used was random sampling. The questions were semi structured. A qualitative analysis was done of the interviews. Also an extensive review of literature was made to construct the background and framework of the study.

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INTRODUCTION

Waste segregation is a significant challenge in Delhi's municipal waste management system. Waste segregation has been made compulsory in India by the government, but it has not been implemented properly. The primary problem regarding waste management is a lack of segregation at the source (P. Anshuman & R. Pankaj Kumar, 2019). Most residents do not know the difference between biodegradable and non-biodegradable waste. Therefore, it is necessary to create awareness among people about the importance of waste segregation and provide them with the necessary tools, such as green and blue dustbins, to segregate waste. Awareness drives and distribution of green and blue bins have been conducted in some areas to promote waste segregation. However, the lack of support from garbage collectors is also a significant hurdle in implementing waste segregation (Sharma, 2017). To ensure the success of waste segregation, urban local bodies need to work on making sure that every household has the right bins to segregate waste, and that garbage collection vehicle can store this waste separately. A robust door-to-door collection service covering every household is required to collect this waste and guide people on how they can properly segregate the waste they generate. The success of the concept remains a challenge for civic agencies as a majority of people either don't know about segregation or were reluctant to try it.

Review of Literature

The study suggests that to facilitate the participation of the residents of Delhi, a greater generation of awareness and the promotion of motivation is essential. Another study analysed citizen perceptions of composting and segregation in two case studies from Jakarta and Delhi. The study found that there is a need to increase awareness and education about composting and segregation to encourage people to participate. A field experiment conducted in housing localities of Delhi investigated the determinants of waste segregation behaviour (Wadehra & Mishra, n.d.). The study found that providing information about the benefits of waste segregation and making

it convenient for people to segregate waste can increase participation (Rodrigues, 2022). The studies suggest that there is a lack of awareness among people to dispose of garbage segregated into green and blue dustbins in Delhi. To address this issue, there is a need for greater education and awareness campaigns to encourage people to participate in waste segregation.

The lack of support from garbage collectors for waste segregation in Delhi has several consequences (Sharma, 2017). One of the main consequences is that it makes it difficult to implement waste segregation. If garbage collectors do not collect dry and wet waste separately, it becomes challenging to segregate waste at the source. This can lead to mixed waste being sent to landfills, which can have environmental consequences. Another consequence is that it can discourage residents from participating in waste segregation. If residents do not see garbage collectors collecting segregated waste, they may be less likely to segregate waste at the source. This can make it difficult to achieve effective waste management in Delhi (Bhatia, 2019). To address this issue, there is a need for greater support from garbage collectors and civic agencies to encourage them to collect segregated waste.

There are challenges to proper waste management in Delhi, including a lack of awareness and loosely implemented laws regarding waste segregation. However, there are also efforts to increase awareness and promote proper waste segregation, such as the South Delhi Municipal Corporation's door-to-door campaign in slum clusters and JJ colonies (TNN, 2022). Waste segregation at the source of generation is considered an important step for effective waste management (Ravi, 2018). Proper waste segregation has been found to have potential benefits, such as improved recycling processes and enhanced energy recovery from waste (Rodrigues, 2022).

South Delhi Municipal Corporation

The South Delhi Municipal Corporation (SDMC) is a civic body responsible for monitoring, upgrading and developing civic infrastructure in South Delhi (Bhatia, 2019). Recently, the SDMC launched a door-to-door campaign in slum clusters and JJ colonies

to create awareness and engage people in the segregation of household waste at the source. The campaign was carried out in collaboration with ITC WOW at RK Puram ward's Ekta Camp in the south zone, where residents were educated on categories of waste and how to segregate and dispose of it (TNN, 2022). The SDMC directory can be found on the MCD Online website.

Specific Guidelines for Waste Segregation in Delhi

According to the solid waste management rule of 2016, it is the responsibility of waste generators to segregate waste into three categories: dry, wet, and sanitary (Sambyal, 2018). However, there are challenges to proper waste segregation in Delhi, including a lack of awareness and loosely implemented laws. Segregation of waste materials at their source of generation is considered the most important step for effective waste management. The segregation of waste at source is being implemented in just 32% of wards in Delhi, according to the 2020-2021 Delhi economic survey (Rajput, 2021). The lack of segregation at source has led to pressure on landfill sites, with Delhi sending over 10,000 tonnes of waste to three landfills each day.

Benefits of Waste Segregation for the Environment and Public Health

Waste segregation has several benefits for the environment and public health (J Singh et al., 2018). It helps to make the environment pollution-free and clean by reducing the amount of waste that ends up in landfills (Ravi, 2018). Segregating waste also makes it easier to recycle or reuse materials, which can lead to enhanced energy recovery from waste and improved recycling processes (Rodrigues, 2022). Proper waste segregation can also contribute to effective hospital waste management. Waste segregation can help to reduce the spread of diseases and infections by ensuring that hazardous waste is properly disposed of. Waste segregation is vital for improving public health and the environment, and it should not be taken lightly (Abubakar et al., 2022).

Government's Initiative to Increase Awareness Regarding Waste Segregation in Delhi

Several steps have been taken by the government to increase awareness regarding waste management including a concert at G20 to spread awareness. (TNN, 2023). The North and East Delhi implemented garbage 'segregation at source' in 10 neighbourhoods and followed it up with awareness drives and distribution of green and blue bins for keeping biodegradable and non-biodegradable waste (Sharma & Tripathi, 2017).

FINDING

For this study and collecting data, people were visited at home and interviewed. Information on dry and wet trash as well as different sorts of trash cans, such as green and blue trash cans was discussed and they were asked if they got any information on it. They were asked if they came across any educating material on the values of trash segregation. To provide a clean, pollution-free environment or place to live, waste segregation is necessary was not told to them.

The lack of segregation at the source is Delhi's main issue with trash management. The majority of locals are unaware of the distinction between biodegradable and non-biodegradable garbage. It is therefore highly required to inform and implement the process to separate garbage at the household level into two containers (dry and moist waste). Biodegradable garbage, such as food scraps, vegetable and fruit peels, and leaves, to go in the green trash can. The blue coloured dustbin is used for non-biodegradable waste, such as plastic covers, bottles, boxes, cups, toffee wrappers, soap or chocolate wrappers, and paper waste. By segregating waste, it becomes easier to recycle or reuse the maximum produced waste due to the collection of similar materials together. This process will help in reducing the amount of waste that goes to landfills and promote a cleaner and healthier environment. Some people know about it and they also follow this process. But many don't know so this information is very important for them to know.

The people were asked about garbage vehicles and whether they come or not in their area for collected garbage. Some of the respondents said the facility for garbage vehicles is provided in their area, and some of them said that the facility for garbage vehicles is not provided, and the vehicle did not reach them.

Many of them said that there is a waste truck facility in their neighbourhood, while others claimed that there is none or that the vehicle did not arrive. Many areas lack garbage trucks that come to pick up trash, thus individuals have to dispose of their waste randomly. Wet and dry garbage must be separated into separate categories in such circumstances which is not done effectively. Comparable materials are not gathered together when garbage is separated, it is simpler to recycle or reuse the greatest amount of waste created of comparable material.

People must be made aware of the value of trash segregation in order to encourage it, and the tools they need to use, such as green and blue dustbins must be made available to them. Urban local governments must also endeavour to ensure that every household has the appropriate containers for sorting trash and that garbage collection vehicles can hold this material separately. Since waste collector mixes different types of waste at their end, some people have stopped taking efforts to segregate waste.

CONCLUSION

The study shows that people broadly do not follow waste segregation due to various reasons. Thus, it can be said that waste segregation does not take place at source. More information and communication is necessary and its effective propagation.

Waste segregation plays a major role in waste management. The Government and NGOs play an important role in creating awareness through proper means of communication about waste segregation and the slogan of waste management 4 R's, i.e., Reuse, Recycle, Reduce and Refuse, for proper waste management. Benefits of waste segregation should also be highlighted and communicated (Agarwal et al., 2015). It can be communicated to

the public through awareness campaigns, movie theatres, social media, radio, newspapers, etc. At a personal level, waste segregation should be started in every household. And they should make use of red, green, and blue dustbins. Proper disposal is very important. Stringent measures should be taken for segregation, transport, and proper disposal of waste. Right rubbish in the right dustbin should be the motto. Also, on the dustbins there should be symbols denoting the meaning.

To increase awareness about waste segregation in Delhi, the government can organize more camps and mobilize people. Awareness drives and distribution of green and blue bins for keeping biodegradable and non-biodegradable waste can also be done. The government can also take the help of Resident Welfare Associations (RWAs) to educate people about waste segregation. The government can incentivize rag pickers to collect segregated waste and train them to do so. The government can also impose penalties on those who do not segregate waste to encourage people to take the concept seriously. The government can collaborate with researchers and waste management authorities to adopt effective waste management practices. By taking these steps, the government can increase awareness about waste segregation in Delhi and promote effective waste management practices.

SUGGESTIONS

The research was conducted to suggest several methods to increase awareness among people to dispose of garbage segregated into green and blue dustbins in Delhi. One method is to conduct awareness drives to educate people about waste segregation. Another method is to focus on behavioral change. The Ministry of Urban Development announced that it would be focused on behavioral change and community participation to improve waste management in the country. The study recommended that each household should segregate waste into two bins (dry and wet waste) to increase the amount of waste getting recycled and compost being generated out of their wet waste. The study also suggests that the government should take steps to educate people



about waste segregation and provide support to garbage collectors to encourage them to collect segregated waste (Singh, 2017). The methods to increase awareness among people to dispose of garbage segregated into green and blue dustbins in Delhi include conducting awareness drives, focusing on behavioral change, and educating people about waste segregation.

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