



## "COMMUNITY PERCEPTION AND AWARENESS OF WASTE MANAGEMENT UNDER THE SWACHH BHARAT INITIATIVE IN HARYANA: AN EXPLORATORY STUDY"

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### **Abstract**

Untreated waste in Haryana, India, is increasing day by day. The final disposal of wastewater in most of the villages is not available. Sweepers of the State are not found equipped with proper safety tools and equipment. The study aims to understand the level of awareness of people of Haryana for waste management programs and to know the real impact of government work on waste management programs of the Swachh Bharat Mission. The impact of media to spread awareness among the people of Haryana was also analyzed. It was found that the government is lacking in the implementation of the scheme according to the guidelines of the Swachh Bharat Mission. Cleaning of streets and roads is very irregular and people are not aware of the segregation of dry and wet waste, and the 3R (Reduce, Reuse and Recycle) principles. Public toilets are not having even water and soap facilities in most places. 2646 data collected from 12 districts of Haryana was verified and analyzed using SPSS software version 21. P-values <0.05 was considered statistically significant. Categorical data were presented in number percentage and compared by chi-square test.

**Keywords:** Swachh Bharat Mission, Swachh Bharat Abhiyan, waste management, sustainable development, Cleanliness, media.

### **Introduction**

Does the availability of the Swachh Bharat Mission matter for the cleanliness of Haryana State? We are interested in this question because if the double-engine government of the State and Centre is unable to implement one of the most important cleanliness drives of the country, even after 8 years. And viewpoint of the public for the Swachh Bharat Mission cleanliness drive to achieve the objectives of a better and clean India.

What is Waste: Any resource or material that when rejected by its users or becomes no more useful or unwanted by the user (s) because of any reason is called waste or garbage.

Solid waste: solid waste includes garbage materials from households, sewage residue, animal dung, manure, and other discarded materials generated from industries, households, and commercial sectors.

Mainly in Haryana, three types of waste are generated these are Household waste, industrial waste, and hospital waste or bio-medical waste.

Waste management includes all those activities which are used in the management of waste i.e. it includes all activities like storage of waste in dustbins, collection of dustbins waste by municipal vehicles, transportation of waste from source to recycling units, segregation of waste as per its nature of recycling, recycling of wastes with proper technologies, and final disposal of non-recyclable materials. (Choukanpally & Kumar, 2021) The administration of municipal solid trash has become one of the most important concerns in urban planning. Increasing numbers of Urban Local Bodies (ULBs) are struggling to effectively manage solid waste.

*(PM's Address to the Nation on 15th August, n.d.)* Fresh optimism was sparked by the prime minister's Independence Day speech on August 15, 2014: He began the "Swachh Bharat Abhiyan" or "Clean India Mission," intending to provide every Indian with access to safe and sufficient drinking water as well as toilets, solid and liquid waste management systems, and village sanitation management by October 2, 2019. (Das, 2021) It is India's largest programme to promote cleanliness. Its main goal is to make India as clean as other developed foreign nations, as was Gandhi's ambition. He pledged to leave no trace of dirt wherever, including in cities, towns, schools, temples, and hospitals.

The primary aim of the mission is to stop and eliminate open defecation and use well-constructed toilets. The mission is aimed to reach its goal of Sustainable development. Another primary aim of the Swachh Bharat Mission is to create a clean India.

It is not the only responsibility of the sweepers or housekeeping servants to clean the country, but it is our (all Indians) collective responsibility... Prime Minister asked people to change their mentality.

To spread awareness among people, Prime Minister Narendra Modi himself cleans the roads of Valmiki Basti with a broom. So the common people of India realize that if Prime Minister can clean roads with a broom then why not themselves?

## **Literature Review**

(Dev et al., n.d.) In the digital era, the world is transforming, and developments and innovations are improving human life standard day by day. Living without engaging with these developments is very difficult. (Praveen et al., 2020) Continuous efforts are focusing on inventing smart devices and (Fidje et al., 2023) instruments which can provide services without the involvement of humans. For example, voice command devices, robotic machines, and so on. (Saad et al., 2023) Smart dustbins can play a significant role in solid waste management. Smart dustbins are GSM sim enabled which can automatically send messages to respective waste management authorities about

the garbage level in the dustbin. Waste management authorities can manage garbage if it is about to fill and empty before time, which becomes a great help in keeping nearby areas of the dustbins clean because it is common practice in India that if people found dustbins are full, then they threw waste near the dustbins and within a few hours that area becomes smelly, dirty and unhealthy. The primary aim of this smart dustbin is to minimize human involvement in the handling of waste. Also, there are (Fidje et al., 2023) sensors in this smart dustbin that opens its door automatically when someone tries to put garbage into them. Once the garbage is above the set level, this dustbin automatically sends a message to the authorities with the proper address and its location.

The initial goal of the study is to examine how Swachh Bharat Abhiyan is being implemented in rural and urban impoverished HHs. Second, to compare how the programme is being implemented for impoverished HHs in rural and urban areas. Lastly, to assess the scheme's execution critically. The current study's premise is that there are no appreciable differences in the Swachh Bharat Abhiyan's implementation in rural and urban poor households.

(Deswal & Laura, 2018) With the development of society, urbanization and the population blast problem of waste management also increases. Both size and composition of different types of wastes are changed. As per one estimate above six crores, twenty lakhs tons of annual waste produced by India which consists of fifty-six lacks tons of plastic waste, 0.17 million biomedical waste, about eighty lakhs of hazardous waste, and about fifteen lakhs tons of e-waste. Out of the six crores twenty lakhs tons of waste, only forty-three lakhs tons annual wastes are collected from which just below twelve lakhs tons of waste is treated & rest three crores ten lakhs tons of waste is dumped every time in open dumping sites called landfills. It means that India is throwing over seventy percent of waste in already overloaded landfill sites untreated. As per estimation in India, solid waste is over seven times today within the next thirty years. If the present rate of dumping continues by cities without treatment of waste, it will cause a projected generation of 166 million tons of waste by 2021 and will need 1240 hectares of land every year.

(Aggarawal & Kumar, 2016): In this study, researchers analyzed that most of the population was aware of the objectives of Swachh Bharat Abhiyan. However, lots of them could not identify the logo of Swachh Bharat Abhiyan. It means that the government has successfully achieved the target to convey the message of Swachh Bharat to the population. (Gupta et al., 2012) Researchers found that most populations have seen advertisements for Swachh Bharat Abhiyan. But only 14% of males & 18% of females could recall any of the Advertisements. Some people have said that the government is trying to promote Toilet building in all houses while most of them have said that the government is equally promoting Cleanliness in the homes & Streets along with Toilet Building. Males were found more aware of the Swachh Bharat Abhiyan Content, Tagline, Anthem, and activities in comparison with females.

(Lawania & Kapoor, n.d. 2020): This paper is in an extraordinary reference to "Swachh Bharat Abhiyan (SBA)", where the government of India recognized that the impact of Swachh Bharat Abhiyan is massive & government used the assets, funds, and skills of corporate through Corporate

Social Responsibility to work in executing projects, for example, the development of Sewage treatment, latrines, recycling waste, purifying of rivers, etc. The country's obligation for Corporate Social Responsibility has not just controlled the Corporate Social Responsibility reserve amount for progressive & ecological issues yet additionally transported out the management rearrangement for private business organizations to appoint a CSR board/committee and build up CSR strategy for more noteworthy straightforwardness.

(Srivastava R, Pradhan D, Sharma L, Singh O, Gupta S, Mukherjee S, 2020): Although the Swachh Bharat Abhiyan was launched in a positive tone, cleaning up the nation is a significant undertaking. Along with the significant financial investment, this necessitates behavioural adjustments from people as well as skill and technical understanding. To succeed in Swachh Bharat Abhiyan, lots of facilities and services are required at the ground level and its objectives can only be achieved by changing people's attitudes towards waste management and sanitation. (Prakash et al., 2022) Hence, the importance of healthcare physicians increases to counsel and motivate people about the benefits of Swachh Bharat Abhiyan. Not only change in approaches required but also proper rules and law obligations for those who do not take care of cleanliness, sanitation, and hygiene practices.

(Asnani, 2006): Purchasing durable and long-lasting goods can also help households to generate less waste. All these steps taken by the households and government can reduce the chances of generating waste. With the help of such awareness, campaigns conducted in schools and colleges can be useful in educating people about waste management programs.

(Avanish Kumar, 2017): The prime aim of the "Swachh Bharat Mission" is to make India open and defecate-free before October month of 2019. Government has a target of building over ten crores of toilets but the susceptibility of females is predictable to get worse if the availability of water is not available as there are lots of villages in the country where water is scarce and even they struggle for getting drinking water, then how plenty of water is available for toilets in those areas. (Mahajan & Sekhri, n.d.) The construction of latrines is not enough without removing the hurdles of water and change in the mindset of village people. There is a requirement to make them realize the importance of these toilets for their health and privacy.

(Wath et al., 2010): E-waste management is one of the most important tasks for developed countries but in developing countries like India, it is not an easy task to implement a complete waste management system because of various social and economic issues, lack of capital, lack of knowhow of various technologies, lack of necessary laws, and poor attitude of the government and people of the country. (Shivarajkumar Dandagi & Naresh R. Godara, 2022) To overcome this, a proper educational model or awareness programme is required to educate the people and help them understand the significance of the Swachh Bharat Mission, one of the most important and ambitious government programs.

## **MATERIAL AND METHODS**

A survey method was applied to select 12 districts from Haryana. The selection of districts was made based on the 6 administration divisions of Haryana. A convenience sampling method was carried out to choose 2 districts from each administration division and 10 villages from each district, also 20 people from each village were interviewed taking care with a sex ratio of 1:1. Total of 2646 people from various villages and towns of Haryana state are interviewed via questionnaire. Interviews were also conducted with officers of the Swachh Bharat Mission-Gramin project and sanitary inspectors to get information regarding various norms and practices adopted by the Haryana government for waste management practices.

## Results

2646 data collected from 12 districts of Haryana was verified and analyzed using SPSS software version 21. P-values <0.05 was considered statistically significant. Categorical data were presented in number percentage and compared by chi-square test (Table-1). Continuous data were presented in mean  $\pm$  sd and the mean difference was compared by using an independent t-test between people who were aware of SBM and who were not aware (Table – 2).

Table -1 Demographic change in awareness of the Swachh Bharat Mission (SBM)

Variables		Are you aware of SBM?		p-value
		No Idea about SBM	Aware about SBM	
Districts	Ambala	27 (4.6)	187 (9.1)	< 0.01
	Bhiwani	48 (8.2)	210 (10.2)	
	Hisar	37 (6.3)	165 (8.0)	
	Jhajjar	41 (7.0)	177 (8.6)	
	Gurugram	27 (4.6)	177 (8.6)	
	Jind	13 (2.2)	188 (9.1)	
	Karnal	37 (6.3)	179 (8.7)	
	Kurukshetra	36 (6.1)	167 (8.1)	
	Nuh	93 (15.9 )	125 (6.1)	
	Palwal	106 (18.1)	170 (8.3)	
	Panipat	76 (13.0)	132 (6.4)	
	Rewari	45 (7.7)	183 (8.9)	
Occupation	Farmer	107 (18.3)	261 (12.7)	< 0.01
	Govt. Service	19 (3.2)	205 (10.0)	
	Student	220 (19.6)	551 (6.7)	
	Private Service or Business	125 (21.3)	905 (43.9)	
	Others	115 (37.5)	138 (26.7)	
	18-25	268 (45.7)	680 (33.0)	

Age Group	25-40	156 (26.6)	855 (41.5)	< 0.01
	40-55	101 (17.2)	384 (18.6)	
	55 or Above	61 (10.4)	141 (6.8)	
Gender	Male	286 (48.8)	1189 (57.7)	< 0.01
	Female	300 (51.2)	871 (42.3)	
Open Defecation	Yes	177 (30.2)	534 (25.9)	< 0.01
	Maybe	146 (24.9)	342 (16.6)	
	No	263 (44.9)	1184 (57.5)	
Disposal of Waste in Municipal Vehicles	We threw waste on Streets and open area	29 (4.9)	106 (5.1)	< 0.01
	No	223 (38.1)	738 (35.8)	
	Yes Always	334 (57.0)	1216 (59.0)	
How do you provide waste to Waste Collector?	We just threw waste in a nearby open space	111 (18.9)	490 (23.8)	< 0.01
	Nobody collects waste from our home	137 (23.4)	300 (14.6)	< 0.01
	We collect them in a single dustbin and provide them	173 (29.5)	654 (31.7)	< 0.01
	We collect dry waste and wet waste in different dustbins and provide them	165 (28.2)	616 (29.9)	< 0.01
Have you seen Ads for 3R	No	517 (88.2)	1416 (68.7)	< 0.01
	Maybe	0 (0)	0 (0)	
	Yes	69 (11.8)	644 (31.3)	
Are you aware of the Ranking provided by the government for the cleanliest Hospitals, Schools, Colonies, etc?	No	464 (79.2)	1426(69.2)	< 0.01
	Maybe	0 (0)	0 (0)	
	Yes	122 (20.8)	634 (30.8)	

Baseline data analysis of the study indicates that male subjects (57.7%) are significantly ( $p < 0.01$ ) more aware of the Swachh Bharat Mission. Table 1 depicts that 10.2 % of people from Bhiwani

district were highly aware of SBM, followed by Ambala (9.1 %) and Jind (9.1 %) while people from Nuh district were least aware of the SBM (6.1 %) with statistically significant ( $p < 0.01$ ). Chi-square test with statistically significant ( $p < 0.01$ ) also shows that Private employees and Businessmen (43.9%) were more aware of the SBM with compare to other occupations (6.1%). More than 40 years people were less aware of the SBM while people from the 25-40 years age group were highly aware of the SBM. 57.5% of people who were aware of SBM are not doing Open Defecation with compare to 25.9 % of people who are aware and still defecate in open. It was observed that only 5% of SBM-aware people were throwing their waste in open areas and streets while 59 % of people were disposing of waste in Municipal Vehicles. Almost 30 % of people were segregating wet and dry waste in different dustbins. Only 31.3% SBM aware people have seen advertisements on the 3Rs (Refuse, Reduce and Recycle). Almost 31% SBM aware people understood the government cleaning ranking scheme for Hospitals, Schools, Colonies, etc.

Table 2: Mean difference of Cleanness in society among the aware and not aware people about SBM.

Variables	No	Yes	p-value
Level of cleanliness of Drains in your area	2.42 ± 1.19	2.85 ± 1.31	<0.01
Frequency of Sweeping of streets	2.58 ± 1.42	3.01 ± 1.39	<0.01
Decrease in the use of Polythene by people after SBM	1.81 ± 1.03	2.03 ± 1.18	<0.01
Do you Like Toilet Systems at Home?	4.60 ± 0.60	4.76 ± 0.46	<0.01

Table 2 explains that there is a significant difference ( $p < 0.01$ ) with  $2.85 \pm 1.31$  and  $2.42 \pm 1.19$  among SMB-aware and not-aware people for the level of cleanness of drains required in their area. It was observed that the frequency of sweeping streets was highly significant ( $p < 0.01$ ) for people who were more aware of SBM than those not aware. People who were aware of SBM had more mean & SD ( $2.03 \pm 1.18$ ) than those who were not aware of SBM ( $1.81 \pm 1.03$ ) for use of Polythene. Also, it has been seen that people who are aware of SBM significantly ( $p < 0.01$ ) liked the Toilet system at home more than those who were not aware.

## Discussion

The best homage to the country would be a clean, pollution-free India. A nationwide campaign to promote cleanliness has been launched by the Indian government under the leadership of Prime Minister Narendra Modi. (Bala, 2022) For India's bright future, everyone needs to be aware of this crucial mission. This campaign is a nonpartisan political effort that places a strong emphasis on the well-being of the nation. This acclaimed campaign's main objective is to inspire people to make India spotless.

With heavy blows and fire, teachers, students, and the general public are taking part in this "Swachh Bharat Mission." The primary goal of the cleanliness campaign is to spread the mission as a global awareness effort. This initiative entails building restrooms in public places, raising

cleanliness awareness in rural areas, sanitizing streets, bringing about behavioural changes in individuals, and making India an ideal nation in the eyes of the rest of the world. By agreeing to this campaign, nine people would be invited to the programme as the first link in the chain, and so on, creating a massive chain of participants who could help this campaign succeed. When the cleanliness initiative is finished, it will inadvertently attract the interest of business investors in India and increase global visitor attraction. This would enable a more serious outcome for India's economic development. The Prime Minister has suggested several brand ambassadors for this occasion to make it a success. The private sector's participation in the cleanliness campaign is made easier by this mission.

Zero waste, Zero pollution, Zero Landfill, and Zero Burning is the moto of the Swachh Bharat Mission. Awareness spread by the government of Haryana to the public is somewhere limited to achieving the open defecation-free status only.

Yes, this is true that all the districts have achieved ODF status on the website of the Haryana Government but it is not maintained in all districts. Like Karnal district is still maintaining ODF status in our research but all other districts especially Jhajjar have not maintained it at all.

Segregation of waste is limited in some parts of the cities only and still no Project Manager of the districts has any plan to recycle the whole collected waste. Kerala state and Goa have achieved a 100 percent segregation target and these states have started earnings out of waste through their various recycling projects but Haryana is lacking far behind.

The drainage and Sewerage system of any district of Haryana is not satisfactory. No administration is aware to manage this. For example in Panipat, Swachh Bharat Mission Project Manager said that if they receive any complaint about dirty drains or streets via any mode they do immediate actions to rectify it. But just 100 meters away from their office a water drain was treated like dustbins.

- The government has done lots of effort on paper to communicate the Swachh Bharat Mission's importance and guidelines but there is a reality gap. We did not find any district that has spread enough awareness on the 3Rs (Reduce, Reuse, and Recycling) of waste. Also, people are not aware of the Rankings provided by Government for Cleanest Colony, Village, Street, Hotels, Market, School, etc., and prizes for coming to the top position.

87.0% of people of Haryana told that they are not aware of 3R (Reduce, Reuse and Recycle) workshops as no workshop was conducted in their areas. Only 13% of people of Haryana told that workshops were conducted by officers to aware of them the importance of the 3Rs.

52.1% of the People of Haryana are aware to some extent of the Swachh Bharat Mission, 26.4% of people are fully aware and 21.5% people are not having any idea about the waste management programs of Swachh Bharat Mission.



The government of Haryana has claimed that they are maintaining 100 % ODF status but we find that 54.6% of people of Haryana agreed that no one defecates in open in their villages and city but 25.4% people accepted that still people are defecating in open in their villages and cities while 20% people told maybe some people defecate in open in their areas.

49% of the people of Haryana did not find any reduction in usage of single-use plastic or water bottles even after these are banned by the government of Haryana.

71.2% of the people of Haryana are not aware of the rankings of the cleanest Hotels, Colony, Hospitals, Government offices, Schools, Colleges, Colonies, and Streets, done by the government of Haryana to increase the feeling of competition among the population to follow guidelines of Swachh Bharat Mission.

### **Suggestions & Recommendations**

- In conclusion, my suggestion is if the government and public workers are seriously working on Swachh Bharat Mission then there will be no problem to achieve its goals.
- In a few areas of villages of district Nuh, Government should implement the rules & regulations of the Swachh Bharat Mission very strictly.

To make India clean and healthy we need to start efforts with immediate effects. The following are some suggestions that can help us to fulfill our objective of a clean India:

1. We need to construct a toilet in every left house in the country.
2. Government should build public toilets at each public place, crowded place, in each town, city, and village. (Mahajan & Sekhri, n.d.) And proper maintenance of them must be managed.
3. People need to be educated about the various benefits to keep India clean and how they can contribute to achieving this goal.
4. There should be separate dustbins in every public and private place with clear information in bold letters about the type of waste to be collected in which dustbin. This information must be in English, Hindi, and the local language of the city.
5. People must be educated about the side effects of land, water, and air pollution and how solid waste mismanagement is becoming an emergency for the whole country. A never-ending advertisement campaign must be started by the local and central governments to aware people.
6. There is a need for enough research on the various methods to recycle and reduce the heaps of mountain-size waste on landfill sites.
7. Industrialists need to be aware of the ultimate result of their greed, and poor waste management policies, which are destroying thousands of lives and the environment. And

administration must take strong action against those industries which ignore their guidelines.

There is also a need for strong Laws against those who are spreading waste willingly because of their greed.

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