



Case Study

Analysis of Sanitation Scheme in Rural and Urban Areas under Swachh Bharat Abhiyan (SBA): A Comparative Study

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Abstract: The government of India in the year 1999 established a sanitation program “Nirmal Bharat Abhiyan” (NBA), also known as the Total Sanitation Campaign (TSC) to create awareness among the rural population regarding the importance of sanitation. In contemporary status, the scheme Nirmal Bharat Abhiyan (NBA) has been Disestablished and renovated with the new scheme “Swachh Bharat Abhiyan” under the Clean India Mission on 2nd October 2014 to make India open defecation free by 2019. The objectives of the study are first to study the implementation of Swachh Bharat Abhiyan in the rural & urban poor HHs. Secondly, to compare the implementation of the scheme between rural & urban poor HHs. Finally, to evaluate critically the implementation of the scheme. The hypothesis of the present study is that there is no significant difference in the implementation of the Swachh Bharat Abhiyan between the rural & urban poor HHs. The hypothesis has been tested using an independent sample t-test and the result shows that there has been a significant difference in the implementation of the Swachh Bharat Abhiyan between the rural & urban poor HHs, which has been revealed by the data that the beneficiaries of the scheme in the rural area are just 28 percent, while 90 percent in the urban area. This shows a clear picture of the difference in the implementation of the scheme between the rural & urban HHs.

Keywords: swachh bharat abhiyan, rural poor, urban poor, sanitation, beneficiaries

JEL Codes: I0, I3, I38, I39, R1, R5

Abbreviation

All the abbreviations used in the article are mentioned here:

NBA: Nirmal Bharat Abhiyan

TSC: Total Sanitation Campaign

SSA: Sarva Shiksha Abhiyan

SBA/SBM: Swachh Bharat Abhiyan/Mission

SBM-U: Swachh Bharat Mission-Urban

SBM-G: Swachh Bharat Mission-Gramin

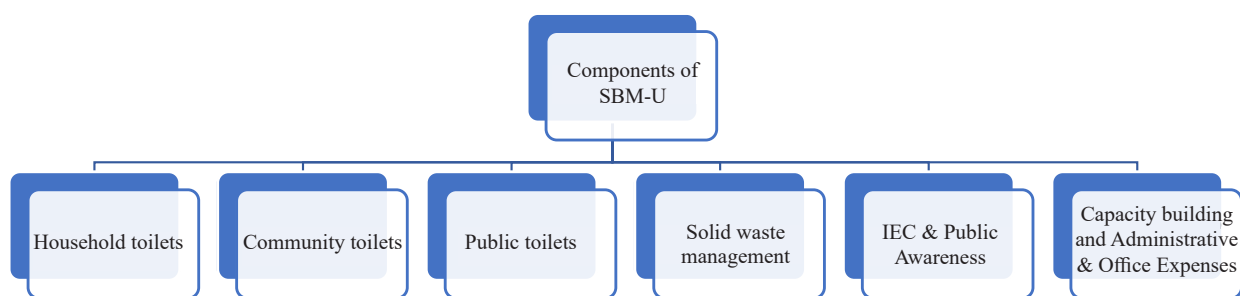
ULB: Urban Local Bodies

CAPEX: Capital Expenditure
OPEX: Operation and Maintenance Expenditure
ODF: Open Defecation Free
OBC: Other Backward Caste
SC: Schedule Caste
HHs: Households
MDWS/MoDWS: Ministry of Drinking Water and Sanitation
IHHL: Individual Household Latrine
DDWS: Department of Drinking Water & Sanitation
MJS: Ministry of Jal Shakti
NFHS: National Family and Health Survey
NARSS: National Rural Sanitation Survey
CLTS: Community-Led Total Sanitation
MIS: Management Information System.

1. Introduction

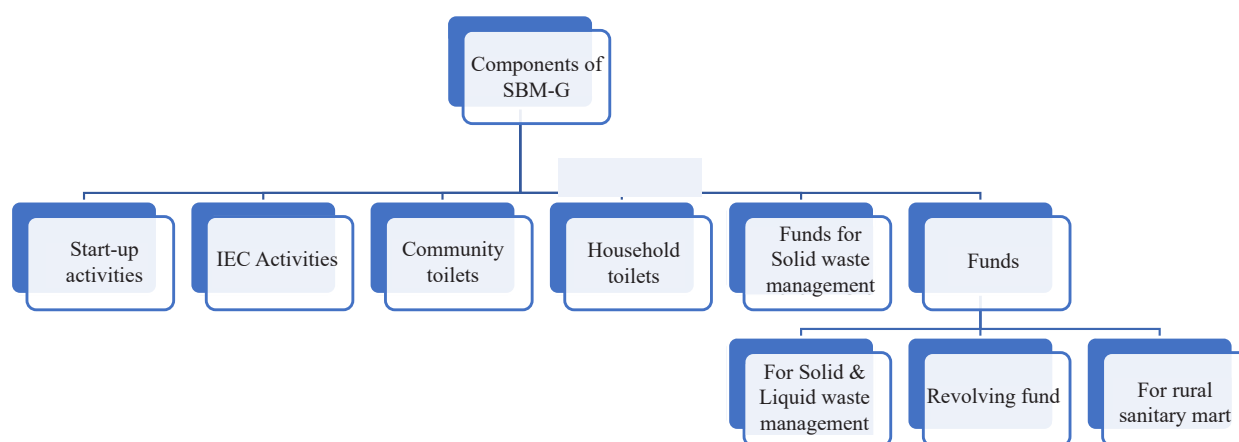
The government of India in the year 1999 established a Comprehensive Rural Sanitation Program and launched the Total Sanitation Campaign (TSC). This was later i.e., on 1st April 2012 renamed as Nirmal Bharat Abhiyan (NBA) to create awareness among the rural population regarding the importance of sanitation (De et al., 2016). The Objectives of Nirmal Bharat Abhiyan (NBA) have included a better quality of life for the rural population; pacing up the usage of proper sanitation in the country through various gram Panchayats; motivating people to use proper sanitation facilities to create awareness in them by organizing various campaigns and programs; further, aimed at educating school children under Sarva Shiksha Abhiyan (SSA) by putting more emphasis on the importance of health and sanitation facilities; and guiding of rural people on proper and differential disposal of solid and liquid waste with improved waste management process and develop a sense of cleanliness among them (Pradhan Mantri yojana, 2021).

In contemporary status, due to the failure of Nirmal Bharat Abhiyan (NBA), it has been disestablished and renovated with the new scheme “Swachh Bharat Abhiyan (SBA)”, initiated by the Government of India on the 2nd October 2014 at Raj ghat with various components as targets to achieve the objectives. This has included the different urban and rural components. The urban components have included Household Toilets, Community toilets, Public toilets, Solid waste management, Information, Education & Communication (IEC) & Public awareness, Capacity Building & Administration & Office expenses as shown in Figure 1 (SBM (U), 2017). These components have been fulfilled by making behavioral changes regarding healthy sanitation practices, enabling an environment for private sector participation in Capex (Capital Expenditure) & Opex (Operation and Management Expenditure), Capacity augmentation for ULBs, making awareness about sanitation and its linkage with public health, elimination of open defecation, eradication of manual scavenging, and adapting modern & scientific municipal solid waste management system. While, the rural components have included - start-up activities; IEC activities; capacity building; Household Toilets; Community sanitary complexes; a revolving fund to meet cheap finance requirements; funds for rural sanitary marts & funds for Solid & Liquid waste management as shown in Figure 2 (Ahluwalia, 2021). These components have been achieved by including the preparation of state plans with respect to these components, capacity augmenting of the functionaries, raising funds in providing cheap finance to their members from Self Help Groups and others, raising funds for the rural sanitary marts from where the materials for the construction of toilets, etc., may be purchased, and finally, raising funds for the better and improved solid and liquid waste management system. Besides, there have been two main objectives, first, making India open defecation free; and, second, improving solid waste management. The first phase has ended with the achievement of Open Defecation Free (ODF) by October 2019. Now, it has undergone the working implementation of the program phase II between 2020-2021 and 2024-2025, for the improvement of solid and liquid waste management, which has already been launched in 2020 (Wikipedia, 2022).



Source: darpg.gov.in (SBM (U), 2017)

Figure 1. Components of SBM-U



Source: Ahluwalia (2021) (prsindia.org)

Figure 2. Components of SBM-G

1.1 Swachh Bharat Mission

The prime minister of India, ‘Shri Narendra Modi Ji’, has launched the Swachh Bharat Abhiyan (synonymously known as Swachh Bharat Mission, and in English Clean India Mission & abbreviated as SBM) on 2nd October 2014 to accelerate the smooth efforts to achieve universal sanitation coverage and to put more focus on sanitation. It was implemented as a nationwide campaign that aimed at eliminating open defecation and improving solid waste management in India. Earlier, the Nirmal Bharat Abhiyan covers only the rural areas but Swachh Bharat Mission covers both urban and rural areas. It has been executed by two different ministries i.e., The Ministry of Drinking Water and Sanitation and The Ministry of Housing and Urban Affairs. The ministry of drinking water and sanitation is responsible for implementing this scheme in rural areas while the ministry of housing and urban affairs is responsible for implementing the scheme in urban areas (Gupta, 2019). Since the program has taken two initiatives to address, out of which one has been addressed in 2019 by making India Open Defecation Free (ODF). While the second phase has proceeded with the second main objective of improving solid and liquid waste management. After the implementation of SBM, the rural household toilet coverage in India increased from 1% in 1981 to 11% in 1991, to 22% in 2001, and to 31.7% in 2011 (Sinha & Sarwatay, 2016; Joyita, 2015). Since 2014, the Government of India has made remarkable strides in reaching the Open Defecation Free targets in all 36 states and union territories, including 706 districts, and 603,175 villages that have been declared open defecation free as of Jan 2020 (UNICEF, n.d.). But a government survey in late 2018 pointed out that nearly 30% of households did not have a toilet and 32% still defecated in the open (BBC

News, 2019). India has constructed a massive number of toilets under SBM in just five years. It has made people aware of toilets. But despite this tremendous achievement, its usage remains low. Although the world bank opined contrary to this and reported that 96% of Indians who have toilets, are using them, which has not been proved true in the case of J & K (Sharma, 2019).

2. Review of literature

Since the launch of SWM (2nd October 2014) the country has seen a miraculous escalation in the activities related to sanitation. States have started competing with one another to fulfill the goals and targets of SWM by 2019 which has been the target date to achieve an open-defecation-free country.

As per the reports of the Ministry of Drinking Water and Sanitation (MDWS), the coverage has toned up from 42 percent in October 2014 to 60 percent in 2017. Also, according to the Ministry of Drinking Water and Sanitation, there have been three states (i.e., Himachal Pradesh, Sikkim, and Kerala) including 85 districts across the whole country and 152,535 villages that have already been declared as Open Defecation Free (ODF) (Khan, 2017). These are the attainments that have contributed to making sanitation a political priority. Therefore, the Ministry has also come up with ODF Sustainability Guidelines for sustainability. Froystad (2018), in her article examines the toilet facilities in three successive fieldworks undertaken in one of India's most poor states, viz., Uttar Pradesh, incorporating the anthropological framework. The author has argued that their condition has stronger methodological implications than those which are previously acknowledged. It has narrated the three 'toilet tests' for which the author himself has been exposed to the series of field visits (Froystad, 2018).

It includes the transition to water as the first fieldwork test, squatting as the second fieldwork test, and ultimately the lack of privacy as the third fieldwork test. Yet, the conclusion has been very disappointing because the study has found that the study area has failed in the success of the third test, that is, privacy. Failing in the third test, the article suggests that, if field sites with 'arduous' toilet conditions have not been able to attract more differently positioned anthropologists, then the result has been likely to be biased and will produce biased coverage and theory-building those merits wrong reflection to the society (Froystad, 2018). There comes another dimension of SWM, viz., Solid waste management, according to Goyal (2019), Solid Waste Management, in urban India, has become a demanding threat. Due to inflation and migration, an increase in per-capita income and an incommensurate population increment have made it difficult to channel the capacity of land and infrastructure development. Thereby, municipal corporations have continued to be incapacitated due to certain constraints, including - administrative, financial, and human resource constraints (Goyal, 2019).

To institutionalize a sustainable model of Municipal Solid Waste Management, the streamlining of the informal waste collectors and/or waste pickers into the formal chain of collection, transportation, treatment, recovery, and disposal of the Municipal Solid Waste has been made mandatory (Goyal, 2019). This in turn will lead to inclusive urban growth and will be constructive for environmental conservation, concerning at source waste segregation and decentralization of waste disposal, through the active operation of the Solid Waste Management Rules, 2016. Not only this but also, the cleanliness campaign has improved the status of women's health as well. As quoted by Pandey (2020), the language used in the campaign to create awareness about toilets and mensuration hygiene for women is not at all abusive in any manner. Yet, before the campaign, if some women have not well- informed and suddenly entered into any perpetual crisis, she has to face the abusive tone of the society that is outside their domestic space as well (Pandey, 2020). Therefore, the cleanliness drive has identified the abuse of women outside her domestic space and thereby called it gender and racial prejudices. There have been many such incidences that evolved and were covered by various researchers.

3. Research gap/rationale of the study

After reviewing various studies, the present study found that there is a need to uplift the cities and villages first to incorporate improvement at the district, division or state level. Since the Government of India (GOI) has launched

numerous programs to develop sanitary conditions. A lot of work has been done on different aspects of SBM. Yet, no single work has been found that incorporates the rural-urban implication of the program. Although, the studies have undertaken certain points to represent rural sanitary conditions and urban sanitary conditions, but haven't considered it as the focal point. Moreover, the rationale behind the selection of the only UT of J & K can be seen from the fact that over the last decade i.e., 2001-2011, the percentage growth rate of rural HHs with toilets is negative. The percentage growth rate of toilets is 42 percent in 2001 which has declined to 39 percent in 2011. Thus, showing a growth rate of -3%. While, contrary to this, the percentage growth rate of all of India is 9% for the same decade (Joyita, 2015). Therefore, to bring the problems of J & K into the limelight, this study has been made. The above literature has favored the studies including the overall improvement in ODF, availability of toilet facilities concerning certain variables, improvement of the municipal solid waste management, improvement in the status of women, etc. But none has talked particularly about the rural & urban implications of SBM. Thereby, to bring equality and reduce the fringe between the Rural-India and the Urban-India, these small level studies must be promoted. These micro-level developments can only be the source to achieve the macro-level developments.

Therefore, the objectives of the present study include-

First, to study the implementation of Swachh Bharat Abhiyan in the rural & urban poor HHs. Secondly, to compare the implementation of the scheme between rural & urban poor HHs. Thirdly, to evaluate critically the implementation of the scheme.

The hypothesis of the study is:

H_0 : There is no significant difference in the implementation of the Swachh Bharat Abhiyan (SBA) between the rural & urban poor HHs.

4. Research methodology

The study has been conducted in the rural and urban areas of the Jammu district of the Union territory of Jammu and Kashmir. The study assumes a cross-sectional design as the data has been collected only once due to limited resources and time. A total sample of 100 respondents has been selected using multi-stage sampling. From the rural areas, two tehsils (Chowki Choura and Bhalwal) have been taken into consideration & from each Tehsil, five villages have been selected randomly. Further from each village, five households have been selected randomly. Thus, a total sample of 50 respondents has been taken from rural areas. While, in urban areas, two identified slums (Kalika Colony and Rajeev Nagar) have been selected by random sampling out of a total of three. Further, from these two selected slum dwellings, 25-25 households have been considered for the study. Thus, it has made a total sample of 100 HHs. In the rural area, households having BPL ration cards have been considered as rural poor whereas, in the urban areas, people residing in the slums have been considered as urban poor for the present study. This study is based on both primary & secondary data. The primary data have been collected by a well-structured questionnaire & secondary data have been derived from various governmental sites, books, newspaper articles and journals.

5. Swachh Bharat Abhiyan-Urban (SBA-U)

The SWM-U has emerged primarily intending to make India ODF and manage the solid & liquid waste properly. To achieve these objectives the mission has made certain targets for the urban areas under SBM-U. The present status of such components has shown that the achieved number has succeeded the targeted number. As, it has targeted to achieve 5,899,637 individual toilets and achieved 6,264,914 individual toilets, which has revealed the 106% of the success of the mission. For the second component of SBM, i.e., community & public toilets, the mission targeted 507,587 toilets but achieved 621,164 toilets which have been considered 122% of success (swachhbharaturban.gov.in). Under this mission, community toilets have been built in those residential areas where the construction of individual toilets has been found arduous for individual HHs. While the public toilets have been constructed in consigned locations, that includes- tourist places, markets, bus stations, railway stations, etc. (De et al., 2016). The third component includes cities & wards, the mission has shown 100% achievement in the door-to-door waste collection in cities and wards, wherein it has covered

4,686 cities and 87,095 wards. Even after showing the tremendous success of the mission, the declared ODF states of India comprise only 93% of the whole of India, out of which 92% have been considered as verified states. Furthermore, under the phase II of SBM-U, there have been 71% and 21% ULB certified ODF⁺ and ODF⁺⁺ states in India respectively (swachhbharaturban.gov.in). The target group selected as beneficiaries for the construction of toilets has included - 80% of the urban HHs engaging in open defecation and the rest 20% of the HHs with insanitary and single-pit latrines (SBM (U), 2017). The UT unit cost has been decided by the government as Rs. 5,333/-, wherein it has two criteria, first for UTs without legislature, the central share has been 100% (Rs. 5,333/- per Individual Household Latrine (IHHL)). Secondly, for UTs with the legislature, the central share has been 80% (Rs. 4000/- per IHHL) and the UT share has been 20% (Rs. 1,333/- per IHHL) (SBM (U), 2017).

6. Swachh Bharat Abhiyan-Gramin (SBA-G)

The Nirmal Bharat Abhiyan has been restructured into Swachh Bharat Abhiyan (Gramin). The mission aims to make India an ODF country in Five years. Under the mission, Rs. 134,000 crores have been spent on the construction of about 111,100,000 toilets in the country (De et al., 2016). It has achieved its target by 111% of the success rate of making India ODF by 2019. This mission has given a huge boost to nationwide toilet building exercises as it aims to construct over 100 million toilets in India by 2019. There has been a 61.24% of the increase in the HHs with toilets since 2nd October 2014 (Department of Drinking Water and Sanitation, Ministry of Jal Shakti, n.d.). Technology has been used on a large scale to transform waste into wealth, such as bio-fertilizers & some other forms of energy, in rural India. The mission has to be executed not only with the involvement of every Gram Panchayat, Panchayat Samiti, and Zila Parishad in the country but also by engaging the large sections of the rural population adjoining with school teachers and students in this endeavor. Under this mission, all villages, gram panchayats, districts, states, and UTs have to declare themselves 'Open Defecation Free' (ODF) by 2nd October 2019, i.e., on the 150th birth anniversary of Mahatma Gandhi. As the number of districts that declared themselves as ODF is 711, the number of gram panchayats is 262,302, and the number of villages is 601,526 respectively, that have declared themselves as ODF (DDWS, MJS, n.d.b).

Under the phase II of SBM-G, there have been three categories of ODF plus villages i.e., aspiring, rising, and model. In India, 31,610 villages are in the aspiring category, 7,860 are in the rising category and 15,919 are in the model category. In ODF plus villages, J&K has just entered the ODF⁺ category with 0.00 percent. J & K has a total of 7,263 villages but no aspiring, rising, or model villages have been reported since March 2022. In the aspiring village category, Tamil Nadu is at the top with 91.9% coverage, followed by Telangana i.e., 72.73%. while in the rising category, Himachal Pradesh is at the top with 16.65% coverage, followed by Mizoram i.e., 13.79%. In the category of model villages, Andaman and Nicobar Islands have achieved 100% coverage, followed by Sikkim with 26.3% (DDWS, MJS, n.d.a).

It covers people living below poverty and above the poverty line as well. Under this mission, people can avail reimbursement for constructing toilets at the household level. As the scheme works under a reimbursement model, where the households have to build the toilets from their funds, and then, upon producing the required documents, they are reimbursed with the required decided amount. Below given are the components of the program in urban as well as rural areas.

7. Status of J & K under Swachh Bharat Abhiyan

The former Governor of Jammu and Kashmir (J & K) Satyapal Malik has been declared the erstwhile state as Open Defecation Free (ODF) on 15 September 2018 (The Tribune, 2018; Ahuja, 2018). The report card published of then J & K discussing the rural & urban sanitation coverage has been published by the Ministry of Drinking Water & Sanitation and the Officials of the Jammu division & Kashmir division. According to this report, there has been 100 percent coverage of rural sanitation till 2018. While the data from (the 2014-2019) datasheet and the website (Swachhbharatmission.gov.in) accessed on 15 October 2019 has revealed that there was 84.30 percent rural sanitation

coverage in 2018 and it has reached 100 percent in 2019. On the other hand, the report has also acknowledged all 78 wards of Jammu as ODF in 2018. But Planning Commission has reported that there has been an improvement in 2014 and more than 91 percent of people in the urban area have access to sanitation facilities. While NSS report, 2019, reported that almost 96.2 percent of the HHs in the urban areas have access to toilets (Planning Commission report, 2013; Jebaraj, 2019). This implies that there has been a discrepancy in the data. As per the report the 100 percent sanitation coverage has been done in 2018, but only on paper and not in reality. Therefore, there is a need to understand the relevance of this Mission to make it a success in reality too.

8. Discussion

In rural India, the responsibility of building toilets has always been with local governments particularly the Gram Panchayats since 1951 (Department of Water & Sanitation, Ministry of Jal Shakti, n.d.). Rural sanitation has become the focal point in the 1980s with increased financial sources for this sector. The making of the National Water Policy, 1987 aimed at recognizing the need for sanitary services in the rural & urban areas with the alignment of the International Drinking Water Supply and Sanitation Decade Programme (1981-1991) (Planning Commission, 2013). Another milestone in this sector has been the 73rd and 74th constitutional amendment in 1993. This is so because it has implemented the program at the grass-root level by incorporating Municipalities and Panchayats in urban & rural areas respectively. The State Government has also assigned certain specific functions to the Municipalities, Block Panchayats and Village Panchayats. Some of these functions are the community mobilization work for total sanitation, safe disposal of garbage, maintenance of Community Sanitary Complexes, monitoring of the various activities and contribution of funds for conducting these activities (Planning Commission, 2013). Yet, there is a need to search for the ground reality to understand the implication of the program properly, as some states are still lacking far behind in completing the target, and as per the sample collected, J & K is one of them. This paper has emphasized the interaction between rural & urban poor concerning sanitation facilities and benefits received from Government support among different castes. Including the source of water supply as a complement to support the development of sanitation services under SBM.

Table 1. Caste of households in the sampled HHs

Caste of HHs	Rural area		Total	Urban area		Total
	Chowki Choura	Bhalwal		Kalika Colony	Rajeev Nagar	
General	20 (80)	4 (16)	24 (48)	0	0	0
OBC	2 (8)	3 (12)	5 (10)	1 (4)	0	1 (2)
SC	3 (12)	18 (72)	21 (42)	24 (96)	25 (100)	49 (98)
Total	25 (100)	25 (100)	50 (100)	25 (100)	25 (100)	50 (100)

Source: Field survey (2020) (Percentages are given in the parenthesis)

The above table states the representation of different castes in the study area. As far as the data is concerned, the Table 1 reveals that in rural areas 48 percent has been contributed by the general category under the poverty status. Followed by the SC population (i.e., 42 percent) and then by OBC (i.e., 10 percent). While, in urban areas, the poverty status of the SC category is a maximum which is 98 percent, followed by 2 percent in OBCs. This reveals that there is much need to uplift the urban poor because the majority of the minority in the urban areas have been at risk.

The Table 2 reveals the sanitation facility in the rural as well as urban areas concerning their poverty status. In rural areas, the total percentage of people having access to the sanitary facility is more than half i.e., 56 percent, while, in urban areas, this number has increased to 68 percent. This provides a little relief to the researcher regarding the implication of the scheme. This states that the sanitation status is much better in areas with urban poverty rather than the

areas with rural poverty. Thereby, there is a need to put more emphasis on the awareness campaign in the rural areas of poverty, to get better results.

Table 2. Sanitation facility in the sampled HHs

Sanitation Facility	Rural area		Total	Urban area		Total
	Chowki Choura	Bhalwal		Kalika Colony	Rajeev Nagar	
Yes	14 (56)	14 (56)	28 (56)	17 (68)	17 (68)	34 (68)
No	11 (44)	11 (44)	22 (44)	8 (32)	8 (32)	16 (32)
Total	25 (100)	25 (100)	50 (100)	25 (100)	25 (100)	50 (100)

Source: Field survey (2020) (Percentages are given in the parenthesis)

Table 3. Beneficiaries under the scheme in the sampled HHs

Beneficiaries	Rural area		Total	Urban area		Total
	Chowki Choura	Bhalwal		Kalika Colony	Rajeev Nagar	
Yes	10 (40)	4 (16)	14 (28)	24 (96)	21 (84)	45 (90)
No	15 (60)	21 (84)	36 (72)	1 (4)	4 (16)	5 (10)
Total	25 (100)	25 (100)	50 (100)	25 (100)	25 (100)	50 (100)

Source: Field Survey (2020) (Percentages are given in the parenthesis)

As far as, the beneficiaries are concerned, the Table 3 has talked about the rural as well as urban beneficiaries of the scheme in the study area. In the rural area, the poor population that has taken the benefit of the scheme comprised merely 28 percent. Yet, 72 percent have not been able to take advantage of it. While the data reveals an astonishing fact concerning urban areas, i.e., 90 percent of the urban poor have been covered under this scheme in the study area. Therefore, there is a need to bring the program to the accessibility of rural poor too. To make equivalent coverage in the rural area, there has been a strict need to make them adaptable to the new schemes of their benefit by providing them proper knowledge regarding the schemes and government initiatives.

Table 4. Source of water supply in the sampled HHs

Source of drinking water	Rural area		Total	Urban area		Total
	Chowki Choura	Bhalwal		Kalika Colony	Rajeev Nagar	
Spring	10 (40)	0	10 (20)	0	0	0
Well	6 (24)	0	6 (12)	0	0	0
Handpump	5 (20)	0	5 (10)	0	0	0
Pipeline	4 (16)	23 (92)	27 (54)	25 (100)	16 (64)	41 (82)
Shared/Public tap	0	2 (8)	2 (4)	0	9 (36)	9 (18)
Total	25 (100)	25 (100)	50 (100)	25 (100)	25 (100)	50 (100)

Source: Field Survey (2020) (Percentages are given in the parenthesis)

The supply of water has been discussed in this paper because it complements the sanitation facility. Without a water supply, there has been no means to develop the sanitary status of the people. This table shows the actual source of supply of water or can be called as the source of water supply to the study area. Table 4 has clearly identified that in rural areas 54 percent of poor HHs depend upon the pipeline, followed by spring (i.e., 20 percent), then wells (i.e., 12 percent), and then 10 & 4 percent on handpump & tap water respectively, as the source of water supply. While, in urban areas, there have been only two dominating sources of water supply. 82% of the sampled households get water through the service of pipelines followed by 18% through taps. This has cleared the picture that the major source of water supply to the study area has been the pipeline.

Table 5. Caste and accessibility of sanitation facility in the sampled HHs

Caste	Sanitation facility			
	Rural area		Urban area	
	Yes	No	Yes	No
General	15 (30)	9 (18)	0	0
OBC	1 (2)	4 (8)	1 (2)	0
SC	12 (24)	9 (18)	33 (66)	16 (32)
Total	28 (56)	22 (44)	34 (68)	16 (32)

Source: Field Survey (2020) (Percentages are given in the parenthesis)

To accelerate the SBM, there has been a need to look into the distribution of sanitary facilities among the different castes of the rural as well as urban poor. So, Table 5 have presented the data for rural and urban poor HHs with & without the accessibility of sanitation facilities among the different castes. 56% of the total rural sampled households have access to a sanitation facility. As per caste of the respondents is concerned 30% belonging to the general category have accessed, followed by 24% by SCs and 2% by the OBC population.

While, in the urban study area, there have been a total of 68 percent (in Table 2 as well) HHs with access to sanitation facilities. Out of which, all 66 percent have been contributed by the SC category followed by OBCs (i.e., 2 percent). This has revealed that in providing sanitation facilities, both the areas have performed well in general, but not as per the government claims. As SBM has claimed 100% achievement in both rural & urban missions of SBM (DDWS & MoHUA, 2020).

Table 6. Caste and beneficiary in the sampled HHs

Caste	Beneficiary			
	Rural area		Urban area	
	Yes	No	Yes	No
General	7 (14)	17 (34)	0	0
OBC	0	5 (10)	1 (2)	0
SC	7 (14)	14 (28)	44 (88)	5 (10)
Total	14 (28)	36 (72)	45 (90)	5 (10)

Source: Field Survey (2020) (Percentages are given in the parenthesis)

This Table 6 has shown immense importance because it has narrated the status of the beneficiaries in the rural as well as urban HHs according to their caste. The total beneficiaries in the rural study area have contributed only 28 percent (in Table 3 as well). Out of which, 14 percent have been contributed by each general and SC category. While the total beneficiaries in the urban study area have contributed 90 percent (in Table 3 as well). Out of which, 88 percent have been contributed by the SC category, followed by 2 percent OBC. This has revealed that even caste-wise, the urban study area has shown a better implication of the scheme concerning the receiving of benefits from the government.

Table 7. Beneficiary and sanitation facility in the sampled HHs

Beneficiary	Sanitation facility			
	Rural area		Urban area	
	Yes	No	Yes	No
Yes	12 (24)	2 (4)	34 (68)	11 (22)
No	16 (32)	20 (40)	0	5 (10)
Total	28 (56)	22 (44)	34 (68)	16 (32)

Source: Field Survey (2020) (Percentages are given in the parenthesis)

The Table 7 has compared the sample with & without the sanitation facility to the having & not having the benefit. It has been the utmost important part of the paper. This table has represented that there have been 24 percent of rural HHs have a sanitary facility with them and have also availed the benefit from the government. On the contrary, there have been 32 percent of rural HHs with a sanitary facility but haven't availed the benefit from the government. While, there have also been 4 percent HHs who have the benefit from the Government, but have no access to a sanitation facility, thereby, practicing open defecation. Further, 40 percent HHs have no access to sanitation facilities and not even have received any benefit from the government. This has meant that these 40 percent have still followed the practice of open defecation. Therefore, this implies that there has been 44 percent HHs who have still practiced open defecation. While this table has also represented that there have been 68 percent of urban HHs in the study area have the sanitary facility and have also availed the benefit from the government. On the contrary, there have been 22 percent of urban HHs have benefited from the Government but have no access to a sanitation facility. This has been so because they have made the toilets in their native lands rather than where they have been residing now. Further, only 10 percent HHs have no access to sanitation facilities and not even have received any benefit from the government. Therefore, these 32 percent HHs practice open defecation in the urban study area.

9. Results and findings

To check the hypothesis, Student's t-test for independent samples, the Welch test, and Mann-Whitney U-Test has been used.

9.1 Assumption check

Table 8 reveals that Levene's p-value is < 0.05 , which means the assumption of homogeneous variance does not hold. Therefore, the student's t-statistic is not applicable here. Hence, it requires to be tested through a non-parametric test i.e., the Welch test has been used.

Table 8. Homogeneity of variances tests

		F	df	df2	p
Beneficiary	Levene's	25.3	1	98	< 0.001
	Variance ratio	0.446	49	49	0.006

Table 9. Tests of normality

		statistic	p
Beneficiary	Shapiro-Wilk	0.839	< 0.001
	Kolmogorov-Smirnov	0.257	< 0.001
	Anderson-Darling	7.00	< 0.001

Table 9 reveals that Shapiro-Wilk's p-value is < 0.05, which means the assumption of Normality does not hold. Therefore, the student's t-statistic is not applicable here. Hence, it requires to be tested through a non-parametric test i.e., Mann Whitney U-test has been used.

9.2 Result: Independent sample t-test

Table 10. Independent samples T-Test

		Statistic	df	p
Beneficiary	Student's t	-8.04	98.0	< 0.001
	Welch's t	-8.04	85.5	< 0.001
	Mann-Whitney U	475		< 0.001

Table 10 reveals that since Levene's test is significant as the p-value is less than 0.05, suggesting a violation of the assumption of Homogeneous variances, due to which instead of student's t statistic, A non-parametric Welch's test has been applied. Secondly, the Shapiro-Wilk test is significant as the p-value is less than 0.05, suggesting a violation of the assumption of normality, due to which instead of the student's t statistic, a non-parametric test statistic has been applied, i.e., Mann-Whitney U test.

Since the p-value in Welch's & Mann-Whitney U test is less than 0.05, this implies that the null hypothesis has been rejected at a 5% level of significance. Therefore, there has been a significant difference in the implementation of the Swachh Bharat Abhiyan between the rural & urban poor HHs. Moreover, as per the official status provided in the SBM report, J & K attained ODF in 2018, including the construction of toilets and reimbursement of money. Hathi and Srivastav (2018) have been of a similar view and claimed that even though the elimination of the open defecation has been the core objective of the program, it has never been monitored by the ministries. They have just been engrossed in tracking the construction of toilets and funds utilized (Hathi & Srivastav, 2018). On the basis of the figures collected with respect to the construction of toilets and spending of funds, they have considered it ODF.

But this is in contradiction to the present study, in which it was found that 56 percent of HHs have toilets in the rural areas, out of which 24 percent are those who have benefitted from the program and have constructed toilets. But exceeding this number, 36 percent are those who haven't benefitted from the program and have constructed the toilets. While in the urban areas, there are 68 percent HHs have access to toilets in the study area. They all have benefitted from the program and have constructed toilets under the scheme. As per this, one may find that the implementation of the mission in the rural area is only 24 percent. While, in the urban area, it has been found to be 68 percent. Therefore, it shows that there is a need to look at grassroots levels and take further actions to implement the mission properly for those who actually need it.

10. Conclusion

The present paper "Analysis of Sanitation Scheme in Rural and Urban Areas under Swachh Bharat Abhiyan (SBA): A Comparative Study" endeavors to evaluate the implementation of the sanitation scheme under SBM in rural & urban poor HHs. SBM has shown tremendous growth in improving the status of J & K in the water supply, sanitation, and waste management sector. The reports have also considered certain states & UTs as 100% ODF. J & K is also one of them, which is a great achievement for the then State of J & K (now UT). The ex-governor of the then state Shri. Satyapal Malik declared the then state as ODF on 15th September 2018. Yet, the status of 100 percent coverage in rural J & K has been accomplished in 2019 according to the NSS report, 2019. This has revealed that there are divergences between the findings of the surveys and the official records. But according to the sample collected for the study, there have been only 56 percent sanitation coverage in rural J & K, while 68 percent in urban J & K, which is far behind the target bars, even in 2020. Moreover, any state, district, block or village can't be declared ODF until the 100% population of that particular region has intended to use the sanitation facility. Even, if, a single HH has left behind or has not been convinced to use it, then it is not ODF.

The government has considered ODF by looking into the statistics of construction and fund allocation only. But it hasn't looked at the field projections. This has been supported by the NFHS-4 survey report as well. Although the government has pointed out that the NFHS-4 has not undertaken the recent developments that have been taking place in SBM, that's why providing the contradictory results (Coffey & Spears, 2018b). As NARSS, conjointly with Ministry of Drinking Water & Sanitation (MoDWS) has supported the government's claim by confirming J & K as ODF with its results. But the data result of NARSS has been found biased because it was instructed to match the results with the Management Information System (MIS) of MoDWS, which has been purely based on the construction of toilets and not on their use. Furthermore, they were instructed that if the data had not matched the MIS data, then they have to visit the village again where they found OD and it will lead to an extra expense on the part of the company (Hathi & Srivastav, 2018). The second claim undertaken by the government in order to falsify the NFHS report was that it might be possible that the SBM has worked more efficiently after the end of NFHS data collection (Hathi & Srivastav, 2018). To rectify the claims of the government, the NFHS has come up with several points which have proved that the NFHS data is sounder, such as- first, SBM has worked over the 2011-2012 list of a government survey, where there a smaller number of HHs were covered. Secondly, the government officials were under huge pressure to get latrines built rapidly under unrealistic targets & timelines (Coffey & Spears, 2018b), so in order to meet the desirous results, Gram panchayats have declared themselves as ODF not even being in ODF status. Thirdly, many have a strong incentive to report latrine construction even if some latrines were under construction, incomplete or non-existent. But all were reported as constructed (Hathi & Srivastav, 2018). Finally, the 2011-12 survey excluded many HHs, including all new HHs that formed between 2011-12 & the present day (Coffey & Spears, 2018a). Therefore, there is a need to focus on the barriers in such a way, so that it may properly channel the scheme to make it a success and make J & K, actually, a 100 percent ODF in reality. The hypothesis testing has provided a significant result, i.e., there has been a significant difference in the implementation of the Swachh Bharat Abhiyan between the rural & urban poor HHs. The implementation that has taken place in the urban area is more than 50 percent. While the coverage of the mission in the rural area is merely among the 24 percent of the population. Therefore, there is a need to bridge this significant difference by improving the status of rural areas in terms of better sanitation facilities as par to the urban areas.

11. Policy implications of the scheme

1. SBM has claimed to encourage cost-effective and appropriate technologies for ecologically safe and sustainable sanitation. For which it is necessary to construct 100% toilets with 100% solid waste management in the area. But the study has shown contradictory results, as there is only 24% coverage in the rural areas and 68% in urban areas. This has been because of the reason as the people have to make the initial investment by themselves and afterward, the government will reimburse the fund to the desirable candidates. Yet, in rural areas, it has not been possible for the poor HHs to put on this initial investment, which can be the reason for the lesser number of toilet construction in the rural areas. As going in line with the study of Kumar (2019), who has discussed various barriers to the construction of toilets in rural areas. So, the government should come up with some more innovative ideas to incorporate the rural poor into the implementation of the scheme.

2. The Abhiyan has launched with three necessary conditions, the first is the '*planning condition*', secondly, the '*implementation condition*', and thirdly, the '*sustainability condition*' (swachhbharatmission.gov.in). In certain states & UTs, it has achieved all the conditions. Yet, in J & K, it has been under the second phase, i.e., the implementation phase (observed from the survey, 2020). But the government has declared it ODF. Due to this, the SBM Phase-I has stopped & working on Phase-II has initiated where it had declared ODF. Therefore, the condition has worsened in the J & K with respect to phase-I. As Jammu ranked 224th across the country in 2020 under phase-I of SBM, the rank has improved in 2021 by 55 spots, and Jammu ranked 169th in overall ranking under phase II (Bali, 2021). It is not because of improvement in the condition of J & K, but because of the status of phase II. It is going similar to the structural transformation of India, as jumping on the tertiary sector without properly developing the agriculture & industry. So, it needed to look upon cautiously and implement phase-I sustainably to achieve long-run prosperity in health, hygiene & sanitation.

3. Migration has also been proved to be a major reason for encouraging OD. The urban poor covered in the present paper has been the population of slums. They have not been the residents of the then state of J & K. They have comprised of the mixed population of various states; including- Haryana, Rajasthan, Chhattisgarh, U.P., Bihar, etc. According to the government of J & K, it has achieved ODF in 2018, which has been nullified by the survey report of NSO 2019, that has claimed that only 71% HHs had access to toilets in 2018 (Priscilla, 2019) and various independent survey authorities (Like, NFHS & NARSS) also supported the fact. The present study has revealed that there are 4% of poor rural HHs and 22% of poor urban HHs have benefitted from the scheme but have not built the toilets. The reason that has come forth in the urban area is that they have built the toilet in their native place of residence. Although, they are living in the study area for 30-40 years but prefer to go for OD. So, this problem of migration should be undertaken by the policy reformers to sort.

4. Poor people have generally been unaware of the various schemes of the government, due to which they have not been able to avail the benefits of the schemes at the right time and therefore have remained disadvantaged. To make them advantaged, proper channelization of the awareness programs must be enhanced. The Government has already taken up this initiative by providing IEC activities in the rural & urban areas, but it has not been working properly on the ground. So, proper supervision is required to evaluate it and to reduce the mal-practices done under the mission.

5. The urban areas have not been so spacious even in general, so there has been less chance of spacious slum dwellings. Thereby, this has discouraged the building of individual toilets in the slums. To solve this problem, the government has allotted community toilets for those areas. Since people living in the slums are migrated from different states, so here comes the problem of prevalent hegemony and conflict. Those who are in majority never let the minorities to use toilets. Therefore, to resort to the conflict the minorities have to be indulged in OD.

6. The construction of toilets has not been the biggest problem since now. But the things observed at ground level that has created the problem are ignorance of the people and no self-motivation to use toilets. As toilet use has never been embedded in the cultural practice of the rural poor. Although several agencies have worked on it, QCI has reported 91.3 percent usage of toilets in 2017 (The Hindu, 2017), while World Bank has reported 96 percent usage in 2021 (UNICEF, n.d.), and thereby it can be concluded that on an average more than 90 percent of the population has used toilets. But the present study hasn't found anything like that. Therefore, it is suggested as a policy implication to encourage & motivate the people for using it extensively.

7. In urban community toilets, the widespread emergent problem that has been observed is long queues in the

morning, as everyone is in a hurry because most of them are daily wagers (especially those belonging to the labor class). So, they prefer open defecation because of its ease. Therefore, it is suggested to build community toilets as per the need of the area surrounded by it.

8. As water acts as a complement to the sanitation facility, therefore, the scarcity of water supply to any area acts as a big hindrance to the usage of toilets. So, to promote the usage of toilets, either in the rural or urban areas, the first and foremost important requirement is to curb the problem of water scarcity. Although the government has taken many initiatives. Yet, separate connections to the toilets or to the dwelling units haven't been found in the study area.

9. At the grass-root level, studies have shown that many of the achievements claimed were inflated (Hathi & Srivastav, 2018; Priscilla, 2019). Even, the quality of toilets constructed has not been much to be desired, because of the local level malpractices, much of which have now been hidden safely under the toilet substructures (Spears, 2019).

10. As a consequence of reimbursement of funds, either revolving funds or the fund for the rural sanitary marts, the problem of dependence has increased. At the heart of CLTS lies the recognition that the approaches to sanitation that offered subsidies have created a culture of dependence on subsidies (Community-Led Total Sanitation, n.d.).

11. Another loophole to the mission has arrived now after the construction of toilets. There is an emergent issue that has been raised in the rural and urban areas, i.e., the problem of fecal sludge management as tanks and single pit gets filled up and are difficult to empty (Chambers, 2019) and thereby spreading diseases (CLTS, n.d.).

12. Limitations of the study

The limitation of the present study is that the sample size chosen for testing the hypothesis is small. Although, conclusions have been drawn correctly. Yet, it can become much more effective if the study has a large sampled population. But due to limited access to resources and time, this hasn't been possible for the author. Although, it is not only the present study that debunks the claim of the Swachh Bharat Mission, the data revealed by the NSO survey has also debunked Swachh Bharat's claims of achieving 100% ODF (Jebaraj, 2019).

Conflict of interest

There are no conflicts of interest.

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