

Navigating Cleanliness: A Comprehensive Examination of Swachh Bharat Mission Urban through Comparative Analysis between Indore M.P & Chandigarh

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Abstract

The largest survey in the world, the Swachh Survekshan Survey, the Indian government initiated a major cleaning campaign known as Swachh Bharat Abhiyan (SBA) to advance health technology and hygiene knowledge. In order to chart the campaign's effectiveness. With the observation of 73 cities at the start of the Swachh Survekshan Campaign in 2016, the Indian government created the largest cleanliness survey in the world, with 4242 cities participating. Along with additional observations based on other factors, the survey covers the population of each area separately—rural and urban. The aim of this research is to conduct a comparative analysis between Gwalior, which was renowned for its cleanliness and beauty and significantly dropped in the Swachh Survekshan Ranking, and Indore City, which has regularly rated among the top cities in 2017 to 2022 surveys. The research has analysed the differences in two cities' adherence to the Swachh Bharat Mission parameters using an exploratory research technique and secondary data from the Swachh Survekshan Survey 2022.

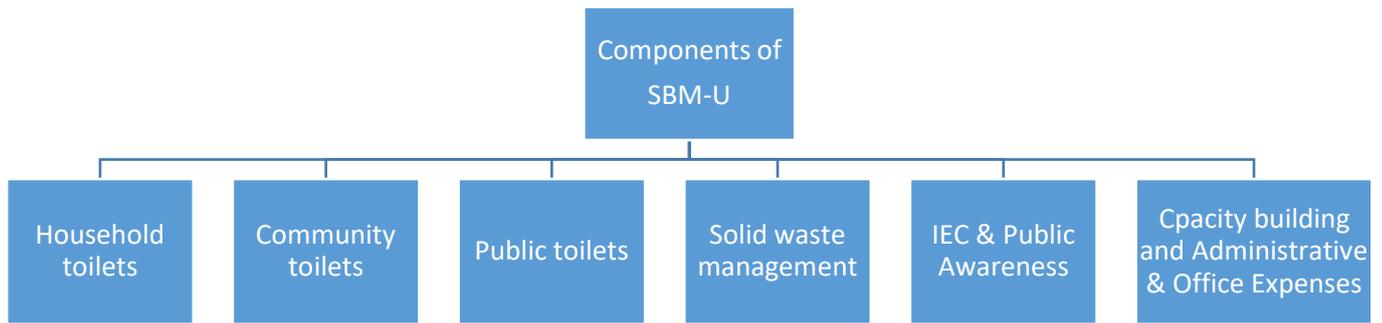
Keywords—World's largest cleanliness survey, swachh survekshan ranking, cleanliness movement,

Introduction-

The Government of India launched the Swachh Bharat Abhiyan to clean the nation's roads, streets, and infrastructure in 4,041 statutory cities and towns. The prime minister of India, 'Shri Narendra Modi Ji', has launched the Swachh Bharat Abhiyan (synonymously known as Swachh Bharat Mission) 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. The Ministry of Housing and Urban Affairs and the Ministry of Drinking Water and Sanitation are the two ministries that have carried it out. In rural areas, the ministry of drinking water and sanitation is in charge of carrying out this programme, and in urban areas, it is the ministry of housing and urban affairs. Two initiatives have been carried out since the program's beginning. The first was to declare India Open Defecation Free (ODF) in 2019. However, the second major objective of the second phase has been to enhance the management of both solid and liquid waste. After SBM was implemented, India's rural household toilet coverage increased from 1% in 1981 to 11% in 1991, 22% in 2001, and 31.7% in 2011. The Indian government has achieved impressive progress since 2014 in achieving the Open Defecation Free objectives in all states and union territories. As of January 2020, 706 districts and 603,175 villages have been proclaimed free of open defecation.

The Indian government restructured the Comprehensive Rural Sanitation Program from 1 April 1999 and launched a TSC (Total Sanitation Campaign), later renamed Nirmal Bharat Abhiyan (1 April 2012), which was (NBA). The new version NBA was the Swachh Bharat Abhiyan, thus reorganizing the Nirmal Bharat Abhiyan was initiated on 2 October 2014 by Hon'ble Prime Minister by the name Swachh Bharat Abhiyan.



Components of SBM-

Following are the Components of Swachh Bharat mission-

- **Individual Household Latrine (IHHL) Construction:** Building toilets in households to ensure access to sanitation facilities.
- **Community and Public Toilet Construction:** Constructing toilets in public spaces and community areas for general use.
- **Solid Waste Management (SWM):** Implementing systems for the proper disposal and management of solid waste.
- **Information, Education, and Communication (IEC):** Conducting awareness campaigns to educate people about the importance of sanitation and hygiene.
- **Capacity Building:** Training and capacity building for stakeholders involved in the implementation of the Swachh Bharat Mission.
- **Incentives and Awards:** Providing incentives and awards to individuals, communities, and local bodies for achieving and maintaining cleanliness and sanitation.
- **Monitoring and Evaluation:** Establishing systems to monitor the progress of the mission and evaluating the impact of implemented initiatives.
- **Innovation and Research:** Encouraging innovation and research in the field of sanitation and waste management.

List of clean cities-

1. Indore
2. Surat
3. Navi Mumbai
4. Ambikapur Chattisgarh

5. Mysore, Karnataka
6. Vijayawada Ndhra Pradesh
7. Ahmedabad Gujarat
8. New Delhi
9. Chandrapur, Maharashtra
10. Khargone, Madhya Pradesh

Research Objectives-

- To compare Chandigarh and Indore cities with reference to Swachh Survekshan 2022.
- To find out the reasons behind slipping down of Chandigarh in Swachh Survekshan Ranking.

Research Methodology –

A wide range of sources, including books, reports, and newspaper articles, were used to compile the secondary data for the Swachh Survekshan survey in addition to the Ministry of Housing and Urban Affairs' website. The study employed a rigorous approach to the collection, aggregation, and curation of data. For cities, data on municipal companies and councils was also acquired.

Research Analysis

Both Indore and Chandigarh are renowned for being exceptionally clean cities. A comparison examination between these two cities is done in the current research. The largest ever cleanest study in the world, the Swachh Survekshan study 2020, 2022, determined that Indore has been the nation's cleanest city for five years running. However, Chandigarh was placed second in the inaugural Swachh Survekshan study, which was done in 2016, and it dropped to twelfth in the most current study, which was conducted in 2022.

The study aims to investigate the rationale behind Chandigarh city's lower rating.

comparative analysis on the basis of their ranks between 2016 to 2022..

Before comparative analysis on the basis of Swachh Survekshan study, we have created

Table 1 comparison of ranks between Indore and Chandigarh

| City | Rank of city | | | | | |
|------------|--------------|------|------|------|------|------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2022 |
| Indore | 25 | 1 | 1 | 1 | 1 | 1 |
| Chandigarh | 2 | 11 | 3 | 20 | 16 | 12 |

In table -1, On the basis of observation we find out the rank of Chandigarh scored two in 2016 and Indore scored twenty five but in 2017 the rank of Chandigarh is decreased in their rank as compared to Indore and still decreased, The latest ranking of 2022 by the

cleanliness survey Swachh Survekshan marks Indore as the cleanest city of India. Indore has held the title of being India's cleanest city for five consecutive years

Solid Waste management-

Table 2- comparison of solid waste management data in between Indore and Chandigarh

| City | No. of wards | wards with 100% D2D collection | Wards with 100% source segregation | Generation | Processed |
|------------|--------------|--------------------------------|------------------------------------|------------|-----------|
| Chandigarh | 35 | 35 | 35 | 524 | 523 |
| Indore | 15 | 15 | 15 | 401 | 401 |

Table 2, Shows the comparison between Indore and Chandigarh. Indore generate the waste that is 401 ton per day and the processed is full 401 ton per day, 100 % door to door collection is formed in Chandigarh.

Indore generate the waste that is 524 ton per day and processed is almost full that is 523 ton per day and get 100% door to door collection.

SWM (Sewerage waste Management) plants-

Table 3- Comparison of Sewerage waste management with its types

| City | No. of Plants | Biomethanation | | Waste to compost | | Waste to energy | | MRF | | C & D Waste | |
|------------|---------------|----------------|-------------------|------------------|-------------------|-----------------|-------------------|---------------|-------------------|---------------|-------------------|
| | | No. of Plants | Designed capacity | No. of Plants | Designed capacity | No. of Plants | Designed capacity | No. of Plants | Designed capacity | No. of Plants | Designed capacity |
| Chandigarh | 7 | 1 | 500 | 1 | 300 | 1 | 300 | 3 | 225 | 1 | 150 |
| Indore | 17 | 3 | 585 | 7 | 187 | 0 | - | 6 | 544 | 1 | 100 |

Table 3 On the basis of Swachh Survekshan study and analysis was compared between both the cities, In this table analysis the data of sewerage waste

management and compared both cities. Number of Plants in Chandigarh is 7, out of these one is Biomethanation plant with a capacity of 500 MLD. One plant is waste to compost with a

capacity of 300 MLD, one plant of waste to energy with a capacity of 300 MLD, three plants is MRF with a capacity of 225 MLD and a is Construction and demolition plant with a capacity of 150MLD. Discuss about Indore, number of plants in Indore is 17 out of which three of Biomethanation with a capacity od 585 MLD,

seven number of plants are of Waste to compost plant with a capacity of 187, no waste to energy plant is available in Indore, six number of plants is MRF and a plant of construction and demolition plant is available in Indore with a capacity of 100 MLD.

LWT (Liquid waste Treatment) Plants-

Table 4 Comparison between Liquid waste treatment plants with its capacity

| city | Total No. of Plants | Sewage treatment Plants | |
|------------|---------------------|-------------------------|-------------------------|
| | | No. of Plants | Designed Capacity (MLD) |
| Chandigarh | 6 | 6 | 246 |
| Indore | 10 | 10 | 412 |

Table 4- In this table, we discuss about Liquid waste treatment plants available in Chandigarh and Indore and comparison between both of them. Number of

Liquid waste treatment plant available in Chandigarh is 6 with a capacity of 246 MLD and Number of plants available in Indore is 10 with a capacity of 412 MLD.

Community Toilets, Public Toilets & Urinals-

Table 5- Shows the number of toilets & Urinals available in Chandigarh and Indore

| City | Community toilets | Public Toilets | Urinals |
|------------|-------------------|----------------|---------|
| Chandigarh | 33 | 307 | 0 |
| Indore | 78 | 230 | 139 |

5 Reasons why Indore is the cleanest city of all and why other cities must take inspiration from it.

Indore, located in the state of Madhya Pradesh, India, has consistently been recognized as one of the cleanest cities in India. However, please note that rankings and situations may have changed since then. Here are five reasons why Indore has been praised for its cleanliness, and other cities might consider taking inspiration from its initiatives:

1. Swachh Bharat Abhiyan (Clean India Campaign):

Indore actively participated in the Swachh Bharat Abhiyan, a national cleanliness campaign initiated by the Government of India. The city implemented and promoted

cleanliness practices, waste segregation, and proper disposal methods. The success of Indore in this campaign has been a model for other cities to follow suit.

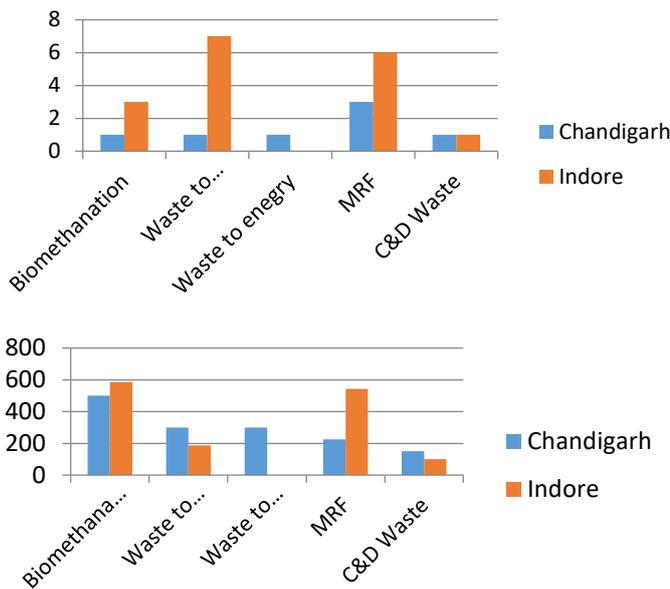
2. Effective Waste Management:

Indore has implemented robust waste management practices. The city focuses on proper waste segregation at the source, ensuring that households and businesses separate their waste into biodegradable and non-biodegradable categories. This has led to efficient waste disposal and recycling, contributing to the overall cleanliness of the city.

3. Community Participation:

The success of Indore's cleanliness initiatives is also attributed to the active involvement of the community. Public awareness campaigns, cleanliness drives, and the involvement of local residents and businesses have created a sense of responsibility and ownership among the people. Other cities can learn from this community-driven approach and encourage active citizen participation in cleanliness programs.

Indore has embraced the concept of a smart city, leveraging technology to enhance urban living standards. Smart waste management systems, surveillance, and other technological interventions have played a role in maintaining cleanliness. Other cities looking to improve their cleanliness can explore incorporating smart city initiatives to streamline their processes and infrastructure.



CONCLUSION-

The comparative study between Chandigarh, and Indore in this in-depth investigation of the Swachh Bharat Mission Urban has brought to light notable differences and similarities in the ways that these two states address waste management and urban sanitation. Door-to-door collection, efficient trash segregation, and active public participation are all examples of Indore's solid waste management success, which is demonstrated by the city's continuous top cleanliness ranking. However, Chandigarh has demonstrated its commitment to raising urban amenities and health standards via its innovations in sewage infrastructure and public restrooms.

When it comes to carrying out the mission's goals, both cities stand out: Chandigarh is a leader in the creation and upkeep of infrastructure, while Indore is a shining example of community engagement and efficient garbage processing. These results highlight the significance of a customised strategy that takes into account regional conditions and obstacles in order to accomplish thorough urban cleaning.

The success examples of Chandigarh and Indore highlight how important it is for everyone to get involved. Proactive community involvement, enhanced public lavatory facilities, and efficient waste management systems are important elements that support the mission's overall impact. As a result, the Swachh Bharat Mission Urban is a vital step in the direction of creating healthier, cleaner urban environments throughout India.

4. Infrastructure Development:

Indore has invested in the development of modern infrastructure to support cleanliness initiatives. This includes the construction of public toilets, waste treatment plants, and other facilities that contribute to maintaining cleanliness standards. Other cities can take inspiration from Indore's infrastructure development to address their own cleanliness challenges.

5. Smart City Initiatives:

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