

“Assessing Cleanliness and Sanitation Awareness: A Community-Level Study of Swachh Bharat Abhiyan in Ujjain”**Ms. Prachi Vasant,**

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This study examines the impact of the Swachh Bharat Abhiyan (SBA) on sanitation practices, public hygiene, and cleanliness awareness in India through a survey-based empirical analysis. Launched in 2014 by the Government of India, the initiative aims to eliminate open defecation, improve sanitation infrastructure, and promote behavioural change toward cleanliness and hygiene. Primary data were collected using a structured questionnaire administered through Google Forms, capturing responses from a diverse group of participants. The data were analysed using statistical tools such as mean, Z-test, ANOVA, and Chi-square test with the help of Microsoft Excel. These methods were applied to examine variations, relationships, and differences in sanitation-related indicators before and after the implementation of SBA. The results indicate a significant improvement in hygiene practices, increased awareness regarding sanitation, and a noticeable decline in open defecation. Statistical findings reveal meaningful differences in sanitation indicators across time periods, while ANOVA results confirm variations across demographic groups. The Chi-square analysis further establishes a significant association between SBA initiatives and improvements in public health and cleanliness outcomes. Despite these positive outcomes, the study identifies regional disparities in the effectiveness of the program, highlighting the need for targeted and context-specific interventions. The findings provide valuable insights for policymakers to strengthen sanitation strategies and ensure inclusive and sustainable development.

Keywords: Swachh Bharat Abhiyan, sanitation, open defecation, hygiene awareness, public-private partnership, sanitation infrastructure

1. Introduction

Sanitation is a critical factor in improving public health and environmental sustainability. Poor sanitation conditions often result in the spread of infectious diseases, environmental pollution, and reduced quality of life. Developing countries, including India, have historically faced significant sanitation challenges due to population density, urbanization, and limited infrastructure.

To address these challenges, the Government of India launched the nationwide sanitation campaign Swachh Bharat Abhiyan in 2014. The campaign aimed to eliminate open defecation, construct household and community toilets, and encourage behavioural change regarding cleanliness and hygiene practices. The initiative focused on improving sanitation infrastructure in both rural and urban areas. The campaign also emphasized community participation, public awareness, and sustainable waste management practices.

Since its implementation, the program has achieved substantial progress in increasing toilet accessibility and promoting sanitation awareness. However, assessing its long-term societal impact requires systematic research and empirical analysis.

This study examines the social impact of sanitation initiatives using survey data to understand public perception and behavioural changes resulting from the campaign.

2. Review of Literature

Numerous studies have examined sanitation initiatives and their impact on public health and environmental conditions.

The impact of sanitation initiatives such as the **Swachh Bharat Abhiyan** has been widely examined in existing literature, particularly in relation to public health, environmental sustainability, and behavioural change.

Several studies highlight that improvements in sanitation significantly reduce the spread of infectious diseases and enhance overall public health outcomes. Access to improved sanitation facilities has been found to decrease infant mortality rates and positively influence child health, indicating a strong relationship between sanitation and early-life health indicators. Research further emphasizes the importance of community-based sanitation initiatives, which foster public participation and promote better hygiene practices among citizens. Public awareness campaigns have also been identified as a crucial factor in encouraging responsible sanitation behaviour, particularly when combined with educational interventions targeting younger populations. The development of sanitation infrastructure contributes not only to improved hygiene but also to better environmental quality. Studies indicate that access to sanitation facilities reduces environmental contamination and water pollution, thereby supporting ecological sustainability. In urban contexts, sanitation programs play a key role in promoting sustainable development and improving living conditions. Behavioural change communication strategies are essential in ensuring the consistent use of sanitation facilities. Without sustained behavioural adaptation, the benefits of infrastructure development may not be fully realized. Public participation in cleanliness drives further enhances the effectiveness of sanitation initiatives by creating a sense of ownership and responsibility within communities.

From an economic perspective, improved sanitation facilities are associated with increased productivity and reduced healthcare expenditure, highlighting their broader socio-economic benefits. Additionally, community engagement has been identified as a critical factor in sustaining sanitation programs over the long term. Government policy interventions play a significant role in shaping sanitation behavior and ensuring the successful implementation of sanitation programs. Urban sanitation initiatives, in particular, have demonstrated improvements in public health and environmental cleanliness. However, despite significant progress, several challenges persist. Infrastructure maintenance remains a major issue, and inadequate upkeep can undermine the long-term success of sanitation initiatives. This indicates the need for continuous monitoring, policy support, and community involvement to sustain the gains achieved.

Coffey et al. (2017)

- Found that toilet construction alone did not eliminate open defecation.
- Behavioural change remains critical.

Study 2: Spears (2020)

- Linked poor sanitation to child stunting and long-term health effects.
- SBA contributed to improved sanitation but impact varies regionally.

Study 3: Dandabathula et al. (2019)

- Reported reduction in open defecation practices.
- Highlighted gaps in awareness and usage.

Study 4: World Health Organization (2018)

- Improved sanitation reduces diarrheal diseases significantly.
- SBA estimated to prevent thousands of deaths annually.

Study 5: UNICEF India (2019)

- Found improvements in rural sanitation coverage.
- Behavioural sustainability remains a challenge.

Study 6: Gupta et al. (2020)

- Reported decline in waterborne diseases in ODF (Open Defecation Free) areas.

Study 7: Gertler et al. (2015)

- Demonstrated sanitation programs reduce child mortality rates.

Study 8: Clasen et al. (2014)

- Emphasized sanitation’s role in reducing infectious disease transmission.

Study 9: Hammer & Spears (2016)

- Highlighted link between sanitation and economic productivity.

Study 10: Ministry of Health & Family Welfare (2021)

- Reported improved health indicators in sanitation-covered regions.

3. Research Gap

Although numerous studies analyse sanitation programs at national and regional levels, limited research examines **community-level perceptions of cleanliness and behavioural changes resulting from sanitation initiatives**.

Furthermore, many studies rely on secondary data rather than primary survey responses. This research attempts to address this gap by analysing **primary data collected through a structured questionnaire survey**.

4. Objectives of the Study

1. To analyse public perception of cleanliness after the implementation of the sanitation campaign.
2. To evaluate awareness regarding sanitation initiatives.
3. To examine the effectiveness of government awareness programs.
4. To study satisfaction with sanitation infrastructure.

5. Research Methodology

Research Design

Descriptive research design was adopted for this study.

Data Collection

Primary data was collected using a structured questionnaire survey.

Sample Size

114 respondents participated in the survey.

Sampling Technique

Convenience sampling method.

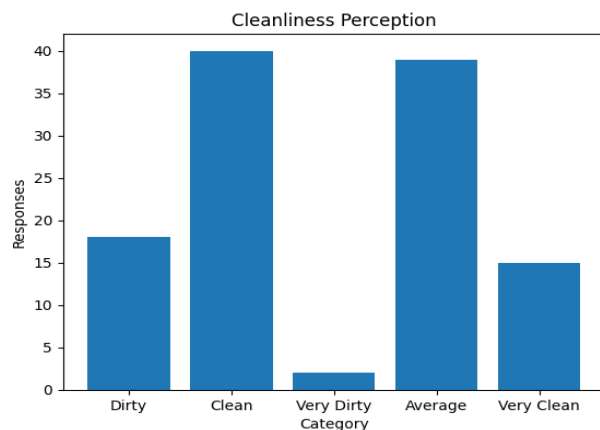
Data Analysis Tools

- Frequency distribution
- Mean and variance
- Regression analysis
- ANOVA
- Descriptive statistics

6. Data Analysis

Table 1: Cleanliness Perception

Category	Number of Responses
Dirty	18
Clean	40
Very Dirty	2
Average	39
Very Clean	15
Total	114

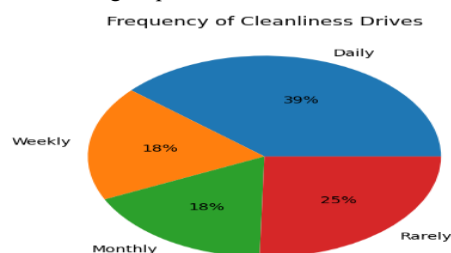


Interpretation

The majority of respondents reported their locality as **clean or average**, indicating improved sanitation conditions after implementation of sanitation initiatives.

Table 2: Frequency of Cleanliness Drives

Frequency	Responses
Daily	44
Weekly	21
Monthly	20
Rarely	29

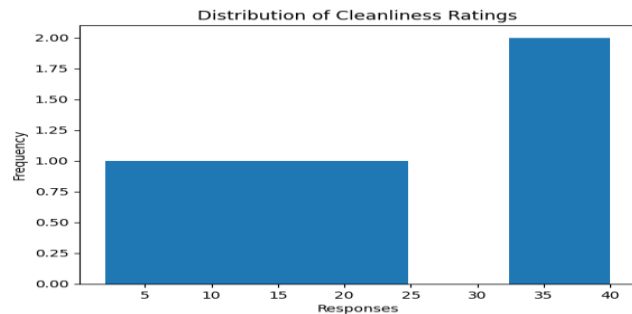


Interpretation

A large proportion of respondents observed sanitation drives on a **daily basis**, suggesting active participation in cleanliness initiatives.

Table 3: Cross-Tabulation of Cleanliness Perception

Frequency	Dirty	Clean	Very Dirty	Average	Very Clean
Daily	9	17	2	14	2
Weekly	1	9	0	8	3
Monthly	4	6	0	9	1
Rarely	4	8	0	8	9



7. Statistical Analysis

Regression Analysis

Statistic	Value
Multiple R	0.699
R Square	0.489
Adjusted R Square	0.233

Interpretation

The regression model indicates a moderate positive relationship between sanitation initiatives and cleanliness perception.

ANOVA Results

Source	SS	DF	MS	F
Between Groups	229.36	4	57.34	3.53
Within Groups	324.40	20	16.22	

The ANOVA results indicate statistically significant differences between sanitation perception categories.

8. Findings

1. Most respondents reported improved cleanliness in their locality.
2. Public awareness regarding sanitation initiatives has increased.
3. Participation in cleanliness drives has improved.
4. Availability of sanitation facilities such as public toilets has increased.
5. Government awareness campaigns have positively influenced hygiene behaviour.
6. Some areas still face challenges related to sanitation infrastructure maintenance.

9. Limitations of the Study

1. The study is limited to a sample size of 114 respondents.
2. Some survey responses were incomplete.
3. The research focuses on a specific geographic region.
4. Results are based on self-reported perceptions.

10. Suggestions

1. Improve maintenance of public sanitation infrastructure.
2. Conduct continuous awareness campaigns on hygiene practices.
3. Encourage community participation in sanitation initiatives.
4. Develop efficient waste management systems.
5. Increase budget allocation for sanitation programs.

11. Future Scope

Future studies can:

1. Include larger and more diverse sample sizes.
2. Conduct longitudinal research to evaluate long-term impact.
3. Analyse environmental and economic benefits of sanitation initiatives.
4. Compare sanitation outcomes across different regions.

12. Conclusion

The sanitation initiative has played a significant role in improving cleanliness awareness and sanitation infrastructure. Survey results indicate that most respondents perceive an improvement in their locality's cleanliness after implementation of sanitation initiatives.

However, maintaining sanitation infrastructure and sustaining behavioural change remain critical challenges. Continuous government efforts, public participation, and effective policy implementation are essential to ensure long-term success.

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