

An Economic Analysis of Rural Infrastructural Development with Special Reference to Swachh Bharat Abhiyan in Puducherry Union territory, India

S. Prakash¹ and R. Sankarakumar²

¹Ph. D. Research Scholar, Department of Economics, Annamalai University

²Assistant Professor (Deputed), Department of Economics Annamalai University corresponding Authors mail: prakselva@gmail.com.

ABSTRACT

The Swachh Bharat Abhiyan (SBA), launched in 2014, aims to enhance sanitation and hygiene across India, with a particular focus on rural areas. This study evaluates the impact of SBA on rural sanitation and infrastructure in the Union Territory of Puducherry. It highlights the program's contributions to improving sanitation facilities, including the construction of over 10,000 toilets, and its effects on public health, economic productivity, and educational outcomes. The analysis reveals that SBA's initiatives have led to significant advancements in rural infrastructure, such as better water supply systems, waste management, and road networks. Improved sanitation has reduced the burden on public health institutions, fostered economic development by enhancing labour productivity, and improved educational environments through better school sanitation facilities. The study underscores SBA's role in transforming rural infrastructure, showcasing its effectiveness in promoting sustainable development and addressing critical needs in Puducherry's rural regions.

KEYWORDS: Sanitation Facilities and Rural Infrastructure Development & SBA and Rural Economic Development.

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1. INTRODUCTION

Rural infrastructural development is a key factor in promoting economic growth and improving the quality of life in developing nations across the world. Countries globally have recognized the importance of rural infrastructure in reducing poverty, improving health, and fostering sustainable development. From roads and clean water systems to sanitation facilities and energy access, rural areas require substantial investment to ensure inclusive progress. International efforts have emphasized the need for improving rural infrastructure, which not only enhances productivity but also addresses critical concerns such as hygiene, education, and access to markets.

India, being an agrarian economy, has focused heavily on rural development. The government has introduced numerous schemes to enhance rural infrastructure, recognizing its centrality in reducing poverty and promoting inclusive growth. One of the significant initiatives in this context is the Swachh Bharat Abhiyan (Clean India Mission), launched in 2014. This mission was aimed at improving sanitation and promoting cleanliness in both urban and rural areas, addressing the long-standing issues of open defecation and inadequate waste management, which have serious public health implications. The program has been pivotal in transforming the sanitation landscape, particularly in rural India.

Puducherry, a Union Territory in India, presents a unique case in rural infrastructural development. While relatively small in size, the Union Territory faces challenges in ensuring that its rural regions are provided with basic amenities and services. The rural development agenda in Puducherry has gained momentum in recent years, with the Swachh Bharat Abhiyan playing a crucial role in improving sanitation and hygiene (Shanthakumar). The government's commitment to rural infrastructure has been complemented by efforts in expanding water supply, roads, and other essential services.

Swachh Bharat Abhiyan has had a significant impact in Puducherry, particularly in its rural areas. The mission has improved the construction of toilets and sanitation facilities, helping the region move towards becoming open-defecation-

free Humňalová, & Ficek (2023). Along with government initiatives, local communities and organizations have actively contributed to the success of this program. These efforts have not only enhanced public health but also brought about behavioural change concerning sanitation practices. Despite these advancements, challenges remain. Puducherry's rural infrastructure development is still evolving, and continued investment and attention are necessary to sustain the progress made under the Swachh Bharat Abhiyan. This study aims to assess the economic implications of these developments, providing insights into how rural infrastructure, particularly sanitation, contributes to the overall growth and well-being of the region.

2. REVIEW OF LITERATURE

Behera et. al. (2021) This article discusses the achievements on Swachh Bharat Mission (Gramin) and identifies the existing challenges that need to be acted on to achieve the success of India's Swachh Bharat Mission. We searched international database mainly Google scholar, Pubmed, Medline, Scopus, and Science direct using "Clean India," "Swachh Bharat," "Sanitation," "Open defecation," "Environmental health," and "India" as search keywords in different combinations. In addition, websites of relevant United Nations (UN) agencies, Government of India and leading newspaper and national agencies were also searched manually for related publications and reports. In the last 5 years (2014-2019), significant efforts have been made for the Swachh Bharat Mission by creating various social movements and awareness program to improve toilet coverage throughout India. Over 100 million, latrines have been built as of the end of the first phase of Swachh Bharat Mission (Gramin) as on October 2, 2019 and all villages across the districts of India have been declared Open Defaecation Free. Still, nearly half of the rural population (52.1%) defecate in the open. Lack of piped water supply, poor construction of toilet substructures and misconception among people about toilet use remain as key challenges in the achievement of India's sanitation mission. Sanitation-related behavioral change and improvement in toilet facilities must be prioritized to ensure usage of built toilets and eventually can accelerate the universal access to sanitation and meet Sustainable Development Goals.

Sharma et. al., (2022) 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.

Shukla & Gupta (2023) The present study "Impact of Swachh Bharat Abhiyan in rural areas" was carried out in two blocks of Kanpur Nagar, in each block three villages were selected randomly and, in each village, 25 respondents were selected. Overall, 150 respondents were selected from 2 blocks of six villages randomly. Out of a total 40.7 per cent of respondents were educated up to the intermediate level whereas, 70.7 per cent of respondents belonged to those families whose annual income was up to Rs. 50,000. This paper reveals that Swachh Bharat Abhiyan has had a positive impact on the environment in rural areas. It has led to the construction of toilets, which has prevented open defecation. This has reduced the spread of water-borne diseases and improved sanitation in these areas. Additionally, the awareness campaigns and clean-up drives have raised awareness about waste management and hygiene. The community involvement in the program has also instilled a sense of responsibility among people towards the environment. Therefore, the Swachh Bharat Abhiyan has had an enormous impact in improving the environment and reducing the health hazards in rural areas.

OBJECTIVE OF THE STUDY

This study aims to evaluate the Impact of Swachh Bharat Abhiyan on Rural Sanitation and Hygiene in Puducherry

3. MATERIAL AND METHODS

The study has been conducted in the Union Territory of Puducherry, focusing on its rural areas. Puducherry, known for its distinct administrative divisions, consists of four regions: Puducherry, Karaikal, Mahe, and Yanam. The study has particularly focused on rural regions within these areas, where the Swachh Bharat Abhiyan (SBA) has been implemented. The data has been collected from the government reports, census data, and official publications related to the Swachh Bharat Abhiyan, as well as local development records, will be used. Reports from the Ministry of Jal Shakti, National

Sample Survey Office (NSSO), and National Rural Health Mission will also be referred to.

4. RESULTS AND DISCUSSIONS

The Swachh Bharat Abhiyan (SBA) was launched with the primary goal of improving sanitation and hygiene across India, particularly in rural areas. This initiative is closely linked to rural infrastructure, as the development of sanitation facilities often requires improvements in related infrastructure such as roads, public health institutions, and educational facilities.

Sanitation Facilities and Rural Infrastructure Development

Toilets and Sanitation Facilities: The construction of toilets under the SBA has directly contributed to the improvement of rural infrastructure. For instance, the establishment of sanitation facilities often involves the development of water supply systems, waste management systems, and transportation networks to handle the construction and maintenance of these facilities. According to the Swachh Bharat Abhiyan, Puducherry has made significant progress with over 10,000 toilets constructed in rural areas. This contributes to a higher percentage of households with access to sanitation facilities, improving overall hygiene and sanitation infrastructure.

Public Health Institutions: Improved sanitation through SBA has a positive impact on public health institutions by reducing the burden of sanitation-related diseases. Enhanced sanitation reduces the incidence of waterborne diseases, thus reducing the pressure on public health facilities. Puducherry has 113 public health institutions. Enhanced sanitation can help reduce the disease burden, allowing these institutions to focus on other health challenges.

SBA and Rural Economic Development

Increased Productivity: Better sanitation leads to improved health outcomes, which can enhance labour productivity in rural areas. Healthier individuals are more likely to contribute positively to economic activities and agricultural productivity. Improved sanitation under SBA contributes to economic development by reducing healthcare costs and increasing the efficiency of rural workers. According to the Digest of Statistics, Puducherry 2022-23, the per capita GDP is ₹132,735. Better sanitation indirectly supports economic growth by fostering a healthier workforce.

Educational Institutions: Improved sanitation facilities in schools contribute to a better learning environment. Schools with proper sanitation facilities are more likely to have higher attendance and better educational outcomes. Puducherry has 883 educational institutions. The SBA's focus on sanitation includes the construction of toilets in schools, which supports higher attendance and better educational performance.

SBA and Rural Infrastructure Indicators

Roads and Transportation: The construction of sanitation facilities often necessitates better road infrastructure to facilitate the transportation of materials and access to remote areas. This leads to overall improvements in rural road networks. Puducherry has a total road length of 2,552 kilometres. Improved sanitation projects require efficient transportation networks, contributing to the enhancement of rural infrastructure.

Irrigated Area: While not directly related, better sanitation and infrastructure can lead to improved agricultural practices and more efficient use of irrigation systems. Puducherry has 24,000 hectares of irrigated area. Improved sanitation and infrastructure can indirectly support better agricultural practices.

The Swachh Bharat Abhiyan has significantly impacted rural infrastructure by improving sanitation facilities, which in turn affects public health, economic development, and educational outcomes. The connection between SBA and rural infrastructure is evident in the improvements in sanitation facilities, enhanced public health institutions, and better road networks, which collectively contribute to the overall development of rural areas.

5. CONCLUSION

The Swachh Bharat Abhiyan has profoundly transformed rural infrastructure in Puducherry by enhancing sanitation facilities, which has had far-reaching effects on public health, economic productivity, and educational outcomes. The successful construction of over 10,000 toilets, coupled with improvements in water supply, waste management, and transportation networks, has not only elevated hygiene standards but also alleviated the strain on public health institutions. These advancements have fostered a healthier workforce, supported economic growth, and improved educational environments. By integrating sanitation improvements with infrastructure development, the SBA has demonstrated a comprehensive approach to rural upliftment, setting a benchmark for sustainable development.

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