

**THE SOCIAL AND ECONOMIC IMPACT OF 'SWACCH BHARAT ABHIYAAN'  
ON RURAL WOMEN IN INDIA**

**(STUDY WITH FOCUS ON VILLAGES IN WEST BENGAL)**

by

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## **Dedication**

**This is for my boys, Dhruv and Rudra.**

**Thanks for being born to me.**

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My love for academics stems from my family and for that I am eternally grateful to them.

And above all, I am thankful to God without whose blessings nothing is possible.

## **ABSTRACT**

### **THE SOCIAL AND ECONOMIC IMPACT OF THE SWACH BHARAT ABHIYAN ON RURAL WOMEN IN INDIA**

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(2023)

Dissertation Chair:

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There has been a long pending and dire need for the social and economic upliftment of women in rural India. Open defecation leads to several social, psychological, economic and medical problems in women of rural India. This study aims to assess the effectiveness of the Swachh Bharat Abhiyan vis-à-vis various parameters of women's social and economic empowerment like literacy, employment, overall quality of life etc.

Information was collected from women and schools of villages in West Bengal, India regarding parameters like household incomes, expenses, perceived security, girls' literacy etc. This information was then collated and analysed statistically to derive conclusions regarding the existence of any correlations between the Swachh Bharat Abhiyan and any improvement/decline in the social and economic status of rural women in India.

The findings of the study indicate a positive social impact of the Swachh Bharat Abhiyan on rural women. 85 percent of women reported a vast improvement in their quality of life, sense of security etc. Other social parameters measuring girls' literacy like attendance rates etc. also showed an improvement as a result of the implementation of the program. This study's findings, with regards to the economic impact of the Swachh Bharat Abhiyan on rural women in India, were largely inconclusive, however. Only 10 percent of the women reported a rise in household income attributable to the construction of toilets while 95 percent reported a rise in expenses related to their upkeep and maintenance. The data regarding indirect medical expenses was also quite ambiguous with a little more than half the respondents claiming a decline in medical expenses related to the impact of the Swachh Bharat Abhiyan and the remainder reporting a rise in medical costs, albeit reasons provided were unrelated to the program. Another finding of the study was the largely unexplored aspect of the ecological advantage of this mission 80 percent of the respondents were unaware of the possibility of utilizing toilet wastes as fertilizers or biogas.

Further research may be conducted to explore the economic and ecological benefits of the Swachh Bharat Abhiyan so that it positively impacts the overall quality of life of all Indian women.

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## **CHAPTER I: INTRODUCTION**

### **1.1 INTRODUCTION**

“Sanitation is more important than political independence,” Mohandas Karamchand Gandhi said in 1947. While this may seem to be a rather radical statement by the Father of the Nation, it is noteworthy that it brought to light India’s rather ignominious record in terms of one of the basic faculties of human existence.

The nation won its political independence in 1947, but sanitation still remained a struggle for decades. It was estimated by the World Bank in 2011 that in India, 626 million people defecated in the fields and streets rather than use toilets (Charassangsomboon, 2022). A news report published in ‘Down to earth’ in 2021, brought to light that, ‘a recent joint monitoring program (JMP) on water, sanitation, and hygiene by the World Health Organization and UNICEF released July 1, 2021, stated that at least 15 percent of the total population in India defecates in the open. One percent of the urban and 22 percent of rural population practices open defecation in the country.’

This poor sanitation caused significant health problems such as typhoid and childhood stunting, as well as economic impacts estimated at a loss of almost 6.4% of India’s GDP. (Charassangsomboon, 2022). According to a study by WHO, lack of cleanliness leads to an annual loss of over Rs.6500 every year to each Indian. Unhygienic surroundings are the main reason behind several diseases that are prevalent in the country. A UN report has said that currently, nearly 60 percent of India’s population practice open defecation which puts them at risk of diseases like cholera, diarrhea, typhoid (Chaudhary, 2017).

As per the 2011 Census of India, 68.84% of India's population lived in villages; among those, only 32.70% of the households had access to toilets. United Nations Sustainable Development Goal 6 (SDG6) aims to “achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations” (Dandabathula et al., 2019).

Inadequate access to sanitation leads to psychosocial stress among women and girls due to environmental barriers, such as physical distance and unsafe latrines, social factors, and fears of sexual violence. UNICEF estimates that inadequate sanitation costs India \$189 billion annually, or 7.9% of GDP, as a result of medical costs, lost tourism, and losses in productivity (Jain et al., 2020).

According to Saleem et al. (2019), “the health and social needs of women and girls remain largely unmet and often side-lined in circumstances where toilets in homes are not available. Further research is critically required to comprehend the generalizability of effects of open defecation on girls and women.”

Villarreal (2015) states that, ‘with over half of the population without access to a toilet, Indians turn to public defecation. Defecating in the open leads to an unsanitary environment that promotes infestation of bacteria and other hazardous chemicals within the water that is being drunk and that which is used to water crops. The polluted water leads to diseases that infect the locals. Women are especially prone to these diseases as they tend to be the water gatherers of the family. An unsanitary environment can also include a lack of access to feminine hygiene products. This absence of such products leads to girls staying home from school. A minimum week of absences can impair a young lady’s educational career. With so many absences, the chance of dropouts increases.’

Swachh Bharat (Clean India) Mission was launched by Prime Minister, Shri Narendra Modi on October 2, 2014 to create a clean India by 2019, the 150th birth anniversary of Mohandas Karamchand Gandhi who was an ardent proponent of a Clean India. This movement was launched by the Government of India to solve the sanitation and waste management problem and make India a clean country. The basic objective behind the Swachh Bharat Mission is to create sanitation facilities for all and eliminate the unhealthy practice of open defecation completely. It aims to provide every rural family with a toilet by 2019 (Chaudhary, 2017).

According to Swain and Pathela (2016), 'Swachh Bharat Abhiyan has taken a shape of Swachh Bharat Mission with the following objectives for rural and urban areas:

- 1) To improve sanitation coverage in rural areas;
- 2) To encourage communities and Panchayati Raj institutions to follow viable and feasible sanitation facilities and practices;
- 3) To improve quality of life by encouraging cleanliness and hygienic practices in the community;
- 4) To completely wipe out open defecation;
- 5) To promote economically viable and appropriate technologies to achieve sustainable sanitation;
- 6) Elimination of Manual Scavenging;
- 7) Promoting solid waste management in the communities;
- 8) Creating awareness about sanitation and its association with public health.'

In his book, '*Right to Sanitation in India: Nature, Scope and Voices from the Margins*', Koonan (2016) mentions the United Nations General Assembly Resolution – The Human Rights to Safe Drinking Water and Sanitation, 2015 Acknowledging the importance of equal access to safe drinking water and sanitation as an integral component of the realisation of all human rights,

1. Affirms that the human rights to safe drinking water and sanitation as components of the right to an adequate standard of living are essential for the full enjoyment of the right to life and all human rights;
2. Recognises that the human right to safe drinking water entitles everyone, without discrimination, to have access to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use, and that the human right to sanitation entitles everyone, without discrimination, to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, socially and culturally acceptable and that provides privacy and ensures dignity, while reaffirming that both rights are components of the right to an adequate standard of living.

In 2015, the United Nations General Assembly announced 17 Sustainable Development Goals (SDGs) to be met by 2030. One of these goals, SDG 6, calls on the global community to “ensure availability and sustainable management of water and sanitation for all”. A particular concern was the persistence of open defecation (OD) in the Global South. Open defecation is defined as the disposal of human faeces in open areas, such as fields, forests, road side, beaches, and open bodies of water (Jain et al., 2020).

According to Minh and Hung (2011), “Scientific evidence has demonstrated that the economic cost associated with poor sanitation is substantial. At the global level, failure to meet the MDG water and sanitation target would have ramifications in the area of US\$38 billion, and sanitation accounts for 92% of this amount. In developing countries, the spending required to provide new coverage to meet the MDG sanitation target (not including program costs) is US\$142 billion (US\$ year 2005). This translates to a per capita spending of US\$28 for sanitation. Annually, this translates to roughly US\$14 million. The evidence compiled in this paper

demonstrates that investing in sanitation is socially and economically worthwhile. For every US\$1 invested, achieving the sanitation MDG target and universal sanitation access in the non-OECD countries would result in a global return of US\$9.1 and US\$11.2, respectively.”

However, the social impact of MDG water and sanitation target may far outweigh the economic benefit. It is thus a very desirable albeit ambitious program which goes a long way in the emancipation of the weaker sections of the society especially in the rural and remote regions.

The Nirmal Bharat Abhiyan has been restructured into the Swachh Bharat Mission (Gramin). Under the mission, One lakh thirty four thousand crore rupees will be spent for construction of about 11 crore 11 lakh toilets in the country. Technology will be used on a large scale to convert waste into wealth in rural India in the forms of bio-fertilizer and different forms of energy. The mission is to be executed on war footing with the involvement of every gram panchayat, panchayat samiti and Zila Parishad in the country, besides roping in large sections of rural population and school teachers and students in this endeavour (De et al., 2016)

According to Guruprasad (2018), ‘Swachh Bharat Mission (SBM) envisages covering the entire community for saturated outcomes with a view to create Nirmal Gram Panchayats with following priorities:

- Provision of Individual Household Latrine (IHHL) of both Below Poverty Line (BPL) and Identified Above Poverty Line (APL) households within a Gram Panchayat (GP).
- Gram Panchayats where all habitations have access to water to be taken up.
- Priority may be given to Gram Panchayats having functional piped water supply.
- Provision of sanitation facilities in Government Schools and Anganwadis in Government buildings within these GPs.
- Solid and Liquid Waste Management (SLWM) for proposed and existing Nirmal Grams.

- Extensive capacity building of the stake holders like Panchayati Raj Institutions (PRIs), Village Water and Sanitation Committees (VWSCs) and field functionaries for sustainable sanitation.
- Appropriate convergence with MNREGS with unskilled man-days and skilled man-days'

Advocating the idea of Clean India, Prime Minister Modi had said that the pursuit of cleanliness can be an economic activity, contributing to GDP growth, reduction in healthcare costs, and a source of employment. This cleanliness mission will help to make India a popular tourist destination which will bring more people and also bring about a paradigm shift in the worlds' perception about the country (Choudhury, 2017).

According to Firdaus et al. (2019), 'some salient points regarding the Swach Bharat Abhiyan are as follows:

- The slogan of this campaign is "one step toward cleanliness"
- The aim of this campaign is to clean the India including street, roads, towns, cities and especially rural areas.
- The name of Swacch Bharat Abhiyan is made with three words in Hindi language and its translation in English is "clean India mission"
- Millions of students and govt. employee are participating in this mission to clean up the India.
- The main objective of this is "to stop the open defecation" by construction of toilet in every home.'

Over 100 million latrines have been built by 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 Defecation Free (Behera et al., 2021).



While there have been several studies to assess the success or failure of the Swachh Bharat Abhiyan in terms of the achievement of the aforementioned objectives- there are very few studies especially focused on its effect on the status of rural women in India. This research aims to understand ‘The Social and Economic Impact of the Swachh Bharat Abhiyan on Rural Women in India’.

According to a study by Gandhare et al. (2020), Waste that is not properly managed, especially excreta and other liquid and solid waste from households and the community, is a serious health hazard and leads to the spread of infectious diseases...Statistically, it can be concluded that the successful implementation of SBM can improve the health of society.

Sinha and Sarwatay (2015), in their book, Communication Tools for Swachh Bharat Abhiyan state that, ‘SBA can help not just for alleviating our sanitation woes, but also to address related issues like girl child education. There are several girls who stop going to school simply because they don’t have separate toilets. If SBA can help get these children back to their rightful paths, it will have fulfilled more than the objectives set.’

In August 2017, Quality Council of India released a Survey which reveals that overall national rural "household access to toilet" coverage increased to 62.5% and usage of toilets to 91.3%. Similarly, a study by Ashoka University revealed that the construction of toilets led to a decrease in incidence of sexual assault against women (Hiwale et al., 2021).

Mahajan and Sekhri (2019) claim that “Our findings demonstrate that access to in-home toilets leads to a reduction in sexual assault of women. Access to sanitation facilities is promoted because of its impact on health and human capital, but we show that it also has a crucial safety enhancing impact on women. Widespread sexual crimes can be reduced, if only to some extent,

by providing better access to in-home toilets for women. Thus, ensuring that they do not venture out alone in dark when they are likely to be sexually violated.”

Bhagat (2014) claims that, ‘It is torturous for women who cannot use open spaces as freely as men in the day time and have to wait until the sunset. This incurs health risk to women in want of latrine facilities in both rural and urban areas.’ According to Punia and Verma (2022), Apart from health concerns, women and girls face difficulties during their menstruation cycles. Lack of sanitation facilities in school is a huge impediment for girl’s education as it could restrict school attendance by girls during such days.

“Our estimates imply that reported incidents of sexual assaults against women fell by 25 incidents per million women due to construction of toilets during 2014–16.” (Hossain et al., 2022).

According to Mills and Cumming (2016), ‘WASH plausibly affects maternal and newborn health through multiple direct and indirect mechanisms, and WASH coverage in delivery settings in low and middle-income countries is extremely low. There is a consensus that safe WASH in health facilities—and in other delivery settings—is critical for accelerated progress on maternal and newborn health. There is also suggestive evidence that WASH may have impact on reproductive, maternal and newborn health through multiple direct and indirect mechanisms (i.e. throughout the life course). While further research is required for a greater understanding of the risks to MNH associated with WASH and the magnitude of the impacts, there is sufficient evidence to advocate for increased attention to this dimension by both WASH and MNH policy makers and practitioners.’

The sustainability of the program is of vital importance because only then can India achieve its target of total sanitation. The mere construction of the toilets is just the first step of the program.

Constant efforts towards educating the people about the benefits of the sanitation and hygiene are required to sustain the momentum of the program and ensure its success. According to Cairncross (2004), a conventional subsidy-driven approach in Maharashtra State, the Swachh Bharat Abhiyan, considered a failure, despite its 'success' in building 1.5 million toilets. This is because, subsequent surveys reveal that more than half of the newly constructed toilets have been abandoned or are being misused.

The direct health impacts of OD on waterborne illness have been well documented and their biological mechanisms are not sex-specific. Yet in practice, OD is often highly gendered in its impacts due to social expectations regarding modesty, the gendered nature of personal security and the common expectation that women be the primary caretakers of the young, the elderly and the infirm. The first two represent limitations on women regarding how, when and where they may meet their sanitary needs; the third is an indirect burden of illness that disproportionately impacts women. Increasing access to private (household) latrines may address all three impacts but only if the overall sanitary system incorporates women's needs and dignity in its design and implementation (Burt et al., 2016).

Pandya and Shukla (2018) are of the opinion that the successful implementation of the Swachh Bharat Abhiyan can also address the issue of inequality by creating a positive impact of the water and sanitation sector on the economic, social and political position of women. The attempts to improve sanitation and water supply services would really help to improve the security and health of not only women but also of their families.

## **1.2 RESEARCH PROBLEM**

There has been a long pending and dire need for the social and economic upliftment of women in rural India. This is one of the main areas of focus among the issues that may be addressed

by the ‘Swachh Bharat Abhiyan’. Open defecation leads to many social, psychological, and medical problems for women and so this study aims to understand whether the ‘Swachh Bharat Abhiyan’ has been able to address some of the issues that are responsible for the poor status of women in rural India.

According to Exum et al. (2020), ‘sanitation is of utmost importance for better nutrition. For optimal nutrient absorption, it is important that open defecation is eliminated as emphasized by the Swachh Bharat Mission. Along with this, there must be water provision to ensure the proper use of toilets. Public toilets with water connection may be built, where necessary.’

Kayser et al. (2021), claim that, ‘Findings from this study support prior research suggesting that poor access to sanitation is associated with women's risk for NMSV in rural India. This may be via increased exposure, and/or as a marker for greater vulnerability to NMSV beyond what is explained by other SES indicators. Solutions can include increased access to private household sanitation and more targeted NMSV prevention in rural India.’ NMSV-Non Marital Sexual Violence, SES-Socioeconomics

Although the evidence base remains largely qualitative in nature, it is increasingly accepted that inadequate access to WASH can expose vulnerable groups—particularly women and girls—directly to violence. This may cause psychosocial stress due to the perceived threat of such violence, adding to other causes of psychosocial stress such as the perceived threat of harassment, or the threat of being unable to meet basic needs (Mills and Cumming, 2016).

Apart from health outcomes, sanitation has a bearing on education, privacy and the dignity of women. Many studies have pointed out that one of the reasons for high drop out rates among adolescent girls in our country is lack of sanitation facilities at school. Better sanitation

facilities in schools will translate into greater learning opportunities for adolescent girls. Not having access to toilets adversely affects the health and safety of women (George, 2009).

‘The Swach Bharat Abhiyan aims to relieve women from the indignity of going to the fields for their daily ablutions notwithstanding the myriad health and security issues they face in doing so. Several schools in Indian villages have a high dropout rate of teenage girls and low attendance of girls due to non-availability of toilets causing various inconveniences related to menstruation. The Swach Bharat Abhiyan hopes to arrest this high school girls’ dropout and low attendance rate in rural schools. Open defecation and/or poor sanitation is often the cause of several diseases in rural households which prove to be a drain on the monetary resources of the households and ultimately the economy as a whole. The Swach Bharat Abhiyan hopes to address this medical and consequently economic problem as well. Bio-compost toilets and other eco-friendly measures of waste management could also be a good source of revenue for rural households if awareness is spread as a part of this campaign. Incomes in the rural sector could also rise due to the employment opportunities provided by the construction and maintenance of toilets.

It is thus essential to analyse the variables of human development to get a complete and holistic picture of the success/failure of the Swach Bharat Abhiyan to address the problems faced by the weaker sections of the Indian polity. The existence or absence of a correlation between the implementation of the Swach Bharat Abhiyan and the improvement of the social and economic status of women in rural India would help policy makers to identify the areas requiring further attention and help them in formulating future welfare policies.

Conventional sanitation concepts, based on flush toilets, a water wasting technology, are neither an ecological nor economical solution in both industrialized and developing countries.

The water-based sewage systems were designed and built on the premises that human excreta are a waste; suitable only for disposal and that the environment is capable of assimilating this waste. A sanitation system that provides Ecological Sanitation (EcoSan) is a cycle-a sustainable, closed-loop system, which closes the gap between sanitation and agriculture. The EcoSan approach is resource minded and represents a holistic concept towards ecologically and economically sound sanitation. The underlying aim is to close (local) nutrient and water cycles with as less expenditure on material and energy as possible to contribute to a sustainable development. Human excreta are treated as a resource and are usually processed on-site and then treated off-site. The nutrients contained in excreta are then recycled by using them, e.g., in agriculture' (Langergraber and Muellegger, 2005).

It is thus important to understand the feasibility and sustainability of incorporating eco-friendly sanitation solutions into the Swachh Bharat Abhiyan. This will allow for an assessment of the ecological and financial benefits of the program and also help in incentivising its adoption by the rural population.

In their study, Chirgwin et al. (2021) claim that, 'Sustaining behaviour is fundamental for sustaining health and other quality of life improvements. However, few studies have been done of intervention mechanisms for, or measuring outcomes on sustained adoption of latrines to stop open defaecation. There has also been some increase in the number of studies looking at outcomes and interventions that disproportionately affect women and girls, who quite literally carry most of the burden of poor water and sanitation access. However, most studies do not report sex disaggregated outcomes, let alone integrate gender analysis into their framework.'

While there are several studies that assess the success/failure of the 'Swachh Bharat Abhiyan'- its correlation to the improvement/or not on the status of rural women in India has not been

attempted much. Although governmental and non-governmental papers and data on the status of rural men and women are easily available, there has been no significant effort to link the parameters to the ‘Swacch Bharat Abhiyan’. Hence the effect of the ‘Swacch Bharat Abhiyan’ on the social and economic status of rural women in India has not been extensively mapped or analysed. This paper aims at addressing this lacuna in the existing available information.

Through this research, data was collected with respect to the following questions:

1. Has there been an increase/decrease or no change in overall monthly expenses?
2. Has there been an increase/decrease or no change in the monthly income of women after the construction of toilets?
3. Has there been an increase/decrease or no change in the dropout rate and attendance of schoolgirls in schools that have toilet facilities?
4. Has there been an increase/decrease or no change in the feeling of security amongst women after the construction of toilets?
5. Has there been an increase/decrease or no change on the perceived quality of life of rural women attributable to the implementation of the ‘Swacch Bharat Abhiyan’?
6. Has there been any increase/decrease or no change in fertilizer costs of households with toilets?

Any correlation between an increase/decrease in the monthly income and expenses, including medical expense, of rural households and the implementation of the Swach Bharat Abhiyan would allow the policy makers to understand the economic impact of the program on the rural populace. The analysis of the presence or absence of any link between any change in the sense of security and overall quality of life of women in rural India after the construction of toilets would provide an important insight into the social impact of the Swach Bharat Abhiyan on rural women. The education of girls in rural India is also an important welfare goal and so the

study of any correlation between the attendance rates and school dropout rates of girls in schools is quite important to policy makers as they may ascertain the extent to which the program has impacted the rural society in India. This project also aims to study the correlation between the implementation of the Swachh Bharat Abhiyan and its impact on the manure and fertiliser costs/revenues of rural households as they provide a window of understanding the economic as well as the ecological impact of the program on rural society.

Data and information collected from above mentioned questions would certainly provide valuable insight to policy makers regarding the success/failure of their plans and also help them frame, formulate and execute better programs to benefit most people in the future.

### **1.3 PURPOSE OF RESEARCH**

According to Exum et al. (2020), Open defecation (OD) is a widespread and persistent practice in India. It spreads diarrhoeal disease accounting for an estimated 13% of the deaths in India. It creates undignified and unsafe conditions for women and girls, transmits community-acquired multidrug resistant infections across borders, and also contaminates the environment. The majority of the world's open defecation takes place in India. As of December 2015, almost two-thirds of the 892million people worldwide still practising open defecation were estimated to be in India. The Government of India was motivated to end OD entirely and in 2014 the Swachh Bharat Mission (SBM) was started. The goal of SBM was to accelerate sanitation coverage so all households have access to a toilet and eliminate open defecation by October 2019, designed to coincide with Mahatma Gandhi's 150th birthday. Toilet construction is a critical element of SBM.

There are tremendous socio-economic benefits associated with improved sanitation services including efficiency (that is reduced time wasted due to health and care-giving burdens), safety,



improved health, transparency and good governance and empowerment (Wendland et al., 2017).

The rationale behind this research study is to study the effectiveness of the ‘Swacch Bharat Abhiyan’ vis-à-vis the various parameters of women empowerment like literacy, employment, security, etc. This may be helpful in analysing the role that women play in ensuring the success of this ambitious ‘Swacch Bharat Abhiyan’.

Better access to water and sanitation facilities can provide immediate health benefits for women and girls. It provides privacy, dignity, reduced risk from sexual harassment and gender violence, as well as better educational and economic opportunities and life chances to women. It can also be a vehicle for women empowerment as it can provide them a platform for inclusion in water and sanitation management committees and other decision-making bodies thus affording them with the necessary training that can improve their self-esteem and leadership skills. It is important for women to be actively involved in all stages of community projects. With their detailed knowledge of local water sources, and as the main users of future water points and sanitation facilities, women are well placed to contribute with their local knowledge. For policies to be effective, women need to participate in their formulation (Mehta, 2013).

According to Mills and Cumming (2016), ‘in many countries, it has been reported that poor WASH facilities act as a barrier to student attendance and enrolment. This affects girls in particular, but especially girls postmenarche, when their MHM needs may not be addressed. Until recently, there was little robust evidence to support this but there has now been at least one rigorous intervention study supporting the positive effect of improved WASH on school attendance-for both boys and girls-when services are well designed and managed. In addition, there is a growing body of evidence around successful approaches to increasing access to

WASH in schools. While more experimental research is undoubtedly needed for a greater understanding of the characteristics and magnitude of the health and psychosocial impacts associated with poor MHM, enough is known at present to warrant increased attention to this issue by the WASH and education sectors, as well as the reproductive health sector.’

This paper aims to study the social impact of the ‘Swacch Bharat Abhiyan’ in terms of the security of women (or lack thereof, when they leave their homes in the early hours of the morning for their morning ablutions in the fields), improved attendance and registration rate of girls in schools, etc.

Gius and Subramanian (2015) are of the opinion that greater access to latrines generally corresponds to higher female literacy rates and greater female labor force participation. Given that women’s literacy is positively related to the availability of indoor toilets, it is critical for policy makers to focus their efforts on improving the sanitation infrastructure of India. Such capital improvements would do much to improve the lives of women in India.

Gender equality is an important consideration in, and a potential outcome from, enhancing access to safe water and improved sanitation and hygiene. Women and girls play key roles in the provision, management and safeguarding of water in their communities. For instance, according to WHO/UNICEF (2008), in 75 per cent of cases in developing countries, it is women who collect and carry water. Their exclusion from community decision-making and other aspects of water, sanitation and hygiene denies them their rights and results in various unwanted outcomes including inappropriate system design, potentially negative social and economic impacts and perpetuation of existing gender inequalities (Willets et al., 2010).

The paper aims to understand the economic impact of the ‘Swacch Bharat Abhiyan on rural women in India in terms of its impact on overall household income and expenditure, medical impact and expenses etc.

The primary objectives of this research paper are:

Objective 1: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the literacy of women in rural India

Objective 2: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the employment of women in rural India

Objective 3: To examine the effectiveness of ‘Swach Bharat Abhiyan’ on household income and expenditures in rural India

Objective 4: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the sense of security in women in rural India

Objective 5: To examine the effectiveness of the ‘Swacch Bharat Abhiyan’ on the overall perceived quality of life of rural women in India.

These parameters will help ascertain whether the ‘Swacch Bharat Abhiyan’ has made a positive, negative, or no impact on the status of rural women in India. We can also collect data and information from other underdeveloped or developing countries that have been able to successfully implement sanitation practices in recent years, to benefit from their experiences. We can then analyse the data collected to offer suggestions on how to impact rural women better through better policy framing or implementation, so that they may truly benefit from this noble initiative.

The social impact of the Swach Bharat Abhiyan on rural women may be assessed by the parameters of women’s education and by their perceived sense of security. Many villages in India have a high school dropout rate among girls in middle school. Although there may be many reasons behind the high school dropout rate and low attendance rates of girls in middle school, the lack of proper sanitation facilities for girls in schools may be one of the crucial factors. This research paper aims to study the impact of the Swach Bharat Abhiyan in

addressing this social problem affecting the younger women in rural India. If there exists a correlation between the existence and maintenance of toilets in schools and girls attendance and dropout rates in schools, it may have a bearing on educational welfare policies as well. This paper also aims to establish the absence or presence of a correlation between the implementation of the Swach Bharat Abhiyan and the perceived sense of security and quality of life of rural women in India. This may be useful to ascertain the level of involvement of women in the framing and the implementation phases of the Swach Bharat Abhiyan.

This project aims to study the economic impact of the Swach Bharat Abhiyan on women in rural India. The construction and maintenance of toilets may provide several employment and income opportunities to rural households. The maintenance of toilets in girls' schools etc. may also be linked to employment opportunities for women and consequent empowerment. The purpose of this study is to quantify and analyse the existence or not of a correlation between the implementation of the Swach Bharat Abhiyan and the economic upliftment of rural women in India. Positive economic benefits may also stem from reduced medical expenses as a result of lesser infections and other medical costs. The economic impact of the program on the rural women in particular and rural economy as a whole may also be due to the advantages of newer technologies and better awareness of waste management systems which may lead to fertiliser and manure advantages. This project aims to analyse and assess the data to understand this economic impact of the Swach Bharat Abhiyan on rural women in India.

It has been historically stated that the best indicator of a society's development is the status of its women. Sadly, India has been lagging behind in this area, especially in the rural zones. This paper aims at researching whether there has been any emancipation of the social and economic status of rural women which can be attributed to the Swach Bharat Abhiyan.

#### **1.4 SIGNIFICANCE OF THE STUDY**

Cairncross (2003) claims that, More than a third of the world's population (2.4 billion people) lacks access to adequate excreta disposal. Four in five of these unserved people are in Asia, with approximately one in five in both India and China, respectively.

The Swachh Bharat Abhiyan was launched in 2014 as a pan-India cleanliness drive to address the myriad problems that plagued Indian cities and villages due to the lack of proper health and hygiene facilities. It was focused on eliminating open defecation, eradication of manual scavenging, total scientific collection and disposal of municipal solid waste and most importantly bringing a behavioural change in people regarding sanitation practices through awareness (Bhattacharya et al., 2018).

Women empowerment in rural areas is an important goal for the Indian government and so any study that analyses the impact of governmental policies on the status of women gains significance. The primary focus of this research paper pertains to the assessment of the effectiveness of the Swachh Bharat Abhiyan and its effect on the social and economic status of women in rural India.

According to Wendland et al. (2017), 'although there is a lot of evidence that women are deprived in the sanitation sector, gender-disaggregated data is currently mostly absent or significantly incomplete. It's needed to collect disaggregated data by women and men in the different population groups (e.g. rich/poor; urban/rural) and monitoring the difference in the rate of change between women and men in each group and the general population.'

This paper gains significance from the fact that although there have been several studies regarding the variables of the success/failure of the Swachh Bharat Abhiyan and the social and economic status of rural Indian women there have not been many studies to ascertain the

presence or absence of a correlation between them. While these variables may appear to be mutually exclusive they do share a common goal of the welfare of the weaker sections of Indian society.

According to Moorthy (2006), 'the steps towards women empowerment with respect to sanitation may be enumerated as - ACCESS: The first step towards women empowerment was their access to Water & Sanitation project. UNICEF and other partners support the principle of empowering community women in all aspects of its work. In the past community decisions were made by a small group of village leaders which almost always consisted of only men. Applying the Participatory Approach in a systematic manner opens opportunities for both women and men to be involved together in all aspect of the project. Participatory approach offered women their first occasion to discuss, plan, decide, implement and manage village action equally with men. Through this approach, Integrated Hygiene, Sanitation & Water Supply project has put gender equality into core of its community work.

PARTICIPATION: The process of participation of women in Water & Sanitation projects started right from the access of women to Water & Sanitation. But women participation was further increased and women folk participated in a number of trainings along with men, be it training of hand pump mechanics or orientation of project managers.

CONSCIENTISATION: Women not only participated in trainings, the skills acquired during the trainings were successfully implemented in Water & Sanitation project, resulting in tremendous change in the attitude of the community.

CONTROL: Not only women are engaged in discussing, planning or managing activities in Water & Sanitation project, they are holding important positions enabling them to take key decision and have access to resources and manage them.'

If a direct or indirect correlation between the Swach Bharat Abhiyan and women empowerment can be established, it could provide an important blueprint for planning and implementing future rural developmental projects and also assess the role of women in the successful implementation of governmental development policies.

The study of the presence or absence of a correlation between the Swach Bharat Abhiyan and the various parameters of women empowerment in rural areas would help the policy makers to identify the strong and weak points of the mission and also decide the level of public, especially women, participation in the implementation process.

The study of the social impact of the Swach Bharat Abhiyan on rural women in India may help the government in the formulation of future welfare policies, the possibility of linking symbiotic policies and also identifying areas requiring special attention and focus. For example, a positive correlation between the literacy variables of women and the presence of toilets in school would be a good basis for linking policies for girls' education and the Swach Bharat Abhiyan.

The study of the extent of the economic impact of the Swach Bharat Abhiyan on rural women in India would be useful in linking relatable policies like employment guarantee programs, formulation of policies to develop good entrepreneurial skills required to capitalise on the opportunities created due to the implementation of the program, and also launching of schemes that provide sustainable income to the rural populace especially the women, so that the benefits of the Swach Bharat Abhiyan may be used as a poverty alleviation tool as well.

Hannan and Andersson (2002) state that ecological sanitation approaches are thus far more feasible than conventional sanitation systems both financially and environmentally and offer more in terms of a sustainable livelihood and poverty reduction.

This study may also be useful to provide insights regarding the awareness among villagers about environment-friendly living, ecological practices and framing policies regarding the advantages of using toilet waste for organic and other energy sources.

This research paper could provide an important perspective on the effectiveness of the Swachh Bharat Abhiyan towards the upliftment of the social and economic status of rural women in India, which would in turn provide a good basis for framing developmental policies in the future.



## **CHAPTER II: REVIEW OF LITERATURE**

Water, sanitation and hygiene services are often promoted as critical for women's empowerment and gender equality. Tools for monitoring water, sanitation and hygiene (WASH) have focused largely on technical standards related to public health outcomes, overlooking those related to broader human wellbeing such as gender and social equality (Dickin et al., 2021).

### **2.1 SOCIAL IMPACT**

“The inextricable link between access to safe and hygienic sanitation services and the well-being and safety of women has been well recognized, in both the policy and public discourse. Women, more than men have to bear the brunt of the lack of toilets and other sanitation facilities. Though the Ministry of Drinking Water and Sanitation has not yet initiated reporting in the Gender Budget Statement, the draft Action Plan for SBA recognizes some critical gender concerns pertaining to sanitation. However, how well this recognition is reflected in the design of the program needs to be analysed”, argues Kanika Kaul (Yojana, 2015).

‘Women, in particular will suffer due to the absence of sanitation facilities and they have to walk for miles away from home to reach a secure place to relieve themselves. During this process, they are more susceptible to become victims of humiliation and sexual assaults’ (Khandelwal et al., 2020). A survey on the impact of the ‘Swacch Bharat Mission’ carried out by UNICEF and Bill and Melinda Gates Foundation in 2020 found that nearly 93% of rural women feel safer from assault by not going out into the field to defecate.

Women and girls are severely affected by the lack of sanitation facilities. In some states, women have been at the forefront of change through the demand for toilets in house. The

policies would need to assign a prominent role for women in planning and implementation of sanitation programs. The role of women could also be envisaged in education related to behavioural management (Tiwari et al., 2022).

The study by Swachh Sangraha (2022), had surveyed around 7000 women across five states- Madhya Pradesh, Bihar, Maharashtra, Uttar Pradesh and Rajasthan in February 2020. The study revealed that an increase in access to household toilets has led to the improvement in the Suraksha, Suvidha and Swabhimaan of rural women.

**Following are three key findings of the study:**

- 93 percent women feel safer from assault by not needing to go out in the open to defecate.
- 91 percent women save at least an hour a day, which they had spent earlier in walking to the defecation spots.
- 88 percent of the women are proud to own a toilet.

(Impact of SBM-G: convenience, safety & self-respect of rural women | swachh sangraha, 2022)

Widespread violence against women in relation to sanitation use has been well documented in dozens of countries, including Fiji, India, Brazil, Sri Lanka, Philippines, Kenya, Ethiopia, and South Africa (Wendland et al., 2017).

It is thus very important to observe whether the construction of toilets has provided women with a greater sense of security. This observation can help in garnering public support and illustrate the benefits of the campaign to the rural population.

From the findings of the cross-sectional survey, FGDs and the attendance records, it was observed that nearly half of the surveyed adolescent schoolgirls reported that they had been absent during their menstrual period. As reported by most of them, their absence from school

was mainly due to physical discomfort during menstruation and the lack of basic facilities such as water, bathroom, and toilet facilities for MHM (Vashisht et al., 2018). (MHM- Menstrual Hygiene Management, FGD- Focus Group Discussion)

Vishwakarma (2016) is of the opinion that, the availability of toilets in schools is known to be positively correlated with girls' school attendance. Extensive studies on the correlation between the availability of toilets and girls' education are very important as they can provide valuable insights regarding the efficiency of other policy initiatives undertaken for the emancipation of women.

Mills and Cumming (2016) hold the opinion that, 'While further rigorous trials are required to explore the various mechanisms through which WASH can affect school absenteeism and to seek to effectively quantify these effects, there is nonetheless already a clear human rights mandate for the WASH and education sectors to work together to provide appropriate WASH in schools.'

According to Banerjee et al. (2017), 'empirical analysis indicates female literacy rate is an important factor. Use of toilets can be improved by policies that aim to emancipate and increase education levels among women. Empowering women through increase labour force participation will put emphasis on owning and using toilets.'

Caruso et al. (2017) claimed that they 'found that women at different life stages in rural Odisha, India have a multitude of unaddressed urination, defecation and menstruation concerns. Concerns fell into four domains: the sociocultural context, the physical environment, the social environment and personal constraints. These varied by season, time of day, life stage and toilet ownership, and were linked with an array of adaptations (i.e., suppression, withholding food and water) and consequences (i.e., scolding, shame, fear).' In their study they suggested that,

‘To sincerely address women’s sanitation needs, our findings indicate that more is needed than facilities that change the physical environment alone. Efforts to enable urinating, defecating and managing menstruation independently, comfortably, safely, hygienically, privately, healthily, with dignity and as needed require transformative approaches that also address the gendered, sociocultural and social environments that impact women despite facility access.’

According to a study by De (2018), the results suggest that factors such as region and religion, which subsume a set of customs and norms, impact the access to and use of sanitation. Hence, customs and norms are important determinants of sanitation coverage.

Public policy for sanitation should be directed towards better education, infrastructure, changing social norms, and multiple options for types of sanitation.

According to a study by Adelmiluyi and Odugbesan (2008), “Education in health and hygiene, training in maintenance and the handling of cash, and involvement of women in community institutions and decision-making, are key activities needed to create local capacity to manage.”

According to Hutton and Chase (2016), there exists significant evidence on many aspects of WASH which can be utilized in designing and implementing improved policies and programmes. Over time, global data sets on WASH coverage are improving and better quality research is available on the impacts of inadequate WASH and the effectiveness of WASH interventions. However, to optimize available resources, further evidence is still needed. This relates in part to the expanded scope of global targets—higher service levels, the inclusion of hygiene and the recognized need for better institutional WASH. It also relates to the need to achieve better targeting of programmes to poor and marginalized households and communities (including children and women), improved mechanisms for achieving demand creation and behaviour change, and some of the challenges we face on continued urbanization, population growth and climate change. While global overviews of evidence are useful as a first step, to be

truly useful for WASH decision makers—evidence needs to be compiled and reviewed that relates to specific contexts, such as rural or urban areas, or at country or regional level.

In their paper, A randomized, controlled study of a rural sanitation behavior change program in Madhya Pradesh, India, Patil et al. (2013) claim that, ‘the present study documents that India’s TSC was effective at convincing rural Indian households to build improved toilets but the corresponding reduction in open defecation has been less. Even among intervention households with a JMP improved toilet, 41% report that adults still practice daily open defecation. Toilet use has clearly lagged behind toilet construction, and even following intervention there remains room for large improvements in both toilet construction and sanitation related behaviour change. The majority of adults (74%) in intervention villages report that they still practice daily open defecation, and open defecation among children < 5 remains even higher (84%).’ This study shows that while the primary objective of construction of toilets in the rural areas of India has been quite successful, the behavioural change that is required for its maintenance and usage lags behind. The subsequent steps of the program should thus also emphasize on creating awareness and educating people about the advantages of sanitation and hygiene. TSC- Total Sanitation Campaign, JMP-Joint Monitoring Program

According to Mills and Cumming (2016), the distribution of WASH-related mortality and morbidity falls disproportionately on the poor, on women and on children and is thus very inequitable. It is thus crucial to understand that for WASH policy and programmes to be effective, they must address this inequality.

A noteworthy aspect of the social impact of the Swachh Bharat Abhiyan on the status of rural women in India is their bargaining power vis-à-vis the men. The campaigns promoted by local governmental and non-governmental authorities may go a long way in addressing the local problems of women and helping them in a more efficient manner. A case in point is the ‘No

Toilet, no Bride' campaign launched by the state authorities in Haryana. According to Stopnitzky (2012), Women value toilets to a greater extent than males because they suffer disproportionately from male staring and harassment when they defecate, urinate, or attend to menstrual hygiene in public places. For this reason, private latrines generate benefits that are disproportionately enjoyed by females. The change that has allowed women to successfully demand latrines in marriage negotiations is associated with an unusual sanitation campaign commonly known as "No Toilet, No Bride", which Haryana state authorities initiated in 2005. The campaign encouraged families of marriage-age girls to demand that potential suitors' families construct a latrine prior to marriage. Mass media messaging via billboards, posters, and radio advertisements emphasized phrases such as "no toilet, no bride" and "no loo, no I do". These messages were framed by women's concerns about privacy and dignity when they defecate in the open, a behavior that is routine among roughly 70% of rural households in Haryana in 2004. Although the rationale for public investment in sanitation programs is the reduction of fecal pollution and the morbidity associated with widespread open defecation, the emphasis of "No Toilet, No Bride", combined with the fact that private benefits accrue largely to women, provides a unique opportunity to study female bargaining power under widespread discrimination. The "No Toilet, No Bride" program serves as a source of exogenous variation that alters the distribution of female preferences for sanitation. Because women move into the house of their husbands or their husbands' families at the time of marriage, the program's focus on women's preferences indirectly targets male behavior.

Both men and women perceived that women were more effective than men at mobilizing widespread, sustained WaSH improvements, which was attributed to their successes using relational approaches and leveraging social ties to deliver acceptable and appropriate messages. Their skills for motivating collective action indicate that they can be highly effective WaSH

implementers despite lack of technical experience and training, and that women's active participation is important for achieving transformative community change (Anderson et al., 2021).

## **2.2 ECONOMIC IMPACT**

Swachh Bharat mission helps to alleviate the burden on existent health care facilities which will help to encourage Indian economy. (Jaggi et al., 2017). Monetized costs included household financial and time investments in building and maintaining toilets, and government's investments on subsidies and campaign activities. Monetized benefits included reductions in medical costs and mortality associated with diarrheal diseases, productive time saved from fewer diarrhoea cases and accessing outside defecation options, and increase in the property value of having a toilet (Hutton et al., 2020).

It is thus important to analyse the financial impact of the Swach Bharat Abhiyan on households in general and women in particular because it will provide a clearer understanding regarding the respective success or failure of the implementation of the program. The findings can be used to educate the population regarding the benefits of the mission and incentivize them for greater coverage.

According to Bajpai (2021) there has been employment generation in order to build the toilets...The improvement in the accountability framework has led to an increase in the number of workers working to build not only roads, schools and government buildings but also toilets. There has been an increase in money in the hands of the rural population through employment generation.

Increased employment opportunities may also come from the regular upkeep and maintenance of the toilets. This may have a positive impact of the financial status of rural households and subsequently rural women as well.

Pradhan(2017) claims that Gramin swachh bharat mission, earlier the Nirmal Bharat Abhiyan, is aimed to make rural areas free of open defecation till 2019 for which the cost has been estimated is one lakh thirty four thousand crore rupees for constructing approximately 11 crore 11 lakh toilets in the country. A major dimension of the campaign is a plan of converting waste into bio-fertilizer and useful energy forms, for use in farming.

According to Langergraber and Muellegger (2005), 'It can be concluded that EcoSan concepts are a way towards a more ecological sound sanitation. There are many different EcoSan concepts available that can be appropriate in different socio-economic and geographical situations. EcoSan concepts are also in accordance with the UN Millenium Development Goals due to their accessibility also to the world's poorest people. There are so many technological options that most social and economic conditions can be met. Creativity is needed to find the appropriate technology and the best way of implementing, operating and financing.'

The financial benefits coming from the increased usage of organic fertilisers and bio-fuels available as a result of the successful implementation of the Gramin Swach Bharat Abhiyan and converting waste into bio-fertilizers and useful energy forms should also be observed as this can have a widespread effect on a predominantly agricultural country like India.

However, according to an article in the International Journal of Community Medicine and Public Health · September 2020, while one of the objectives of SBA is to create a significant positive impact on gender but it has been observed that the involvement of women in the actual process of implementation of the program is very minimal.



In her article, 'In Sanitation, Put women in Charge', Naina Lal Kidwai argues, "There is no doubt that women can help to drive change and bring about lasting change as the jan andolan for Swacchhta, health and sanitation gains momentum." It is therefore very important to understand whether the Swach Bharat Abhiyan has impacted women positively, negatively or not at all in terms of their social and economic status. This could provide the policy makers with a clearer perspective regarding policy formulation and implementation.

Hannan and Andersson (2002) hold the opinion that, integrating gender perspectives, or giving attention to both women and men, in ecological sanitation programmes is important for securing human rights and social justice. It is also critical for ensuring that the goals and objectives of ecological sanitation, particularly in relation to sustainable livelihoods and poverty reduction, are effectively achieved.

It is thus essential to study the positive, negative or zero financial impact of the Swach Bharat Abhiyan on rural women so that the policy makers may benefit from the findings and future programs may be planned and programmed accordingly.

According to Tilley et al. (2013), 'a lack of robust gender-segregated data on sanitation policies and technologies, along with reductionist framings of gender are to blame for limited progress in verifying the need for, and impact of, gender-responsive sanitation. Technology and policy development and implementation would benefit from gender-considerate interpretations of shame, dignity, safety and status.'

Lee (2017) claims that, "Drawing from nationwide household-level panel data between 2004 and 2011 in rural India, I find that households in which women have regular access to mass media and accurate health knowledge are more likely to have latrines."

It is thus important to analyse and understand the symbiotic relationship between sanitation and women empowerment. Any correlation between the construction of toilets and the social and economic status of women will present a clearer picture to the policy makers to formulate and implement policies which benefit most.

According to Morna (2000), while men participate in the decision making around the type and building of the toilet, its maintenance is seen as the responsibility of women since cleaning the house and toilet are not regarded as work for men (SA Water Research Commission, 1999).

There are then two main ways for sanitation projects to consider women: (a) by including information on women in the project area in the data to be collected, and using it in planning; and (b) by assisting women to play an active role in the project, particularly in decision—making about the technology and design aspects and in accompanying education activities (Perrett, 1985).

The impact of the Swach Bharat Abhiyan on the social and economic status of rural women in India should be studied as it helps governmental and non-governmental organizations to ascertain the role that women should play in the planning and implementation of the policy and also provide a roadmap towards the sustainability of the programme and also ensure that the benefits reach the most needy sections of society.

A study conducted by Wang and Shen (2022) on Sanitation and work time: Evidence from the toilet revolution in rural China, found that rural households with access to clean flush toilets significantly increase their work time by 0.253–0.431 h/day, and the effects are more prominent among women than men.

The Beijing Platform for Action calls on governments to promote knowledge of, and sponsor research on, the role of women, particularly in rural areas, in food gathering and production;

soil conservation, irrigation, watershed management, sanitation, marine resource management, pest management, land use planning, forest conservation and community renewable sources of energy, focusing particularly on women's knowledge and experience. It also calls on governments to ensure that women's priorities are included in public investment programmes for economic infrastructure such as water and sanitation, electrification, energy conservation, transport and road construction. Government must promote greater involvement of women who will benefit from the project planning and implementation stages to ensure access to jobs and contracts Morna (2000).

According to Scherer et al. (2021), 'strong proportional representation of girls in policy and practice is needed to advance gender inclusion, and the results of this study indicate that girls are represented in Bangladesh and Cambodia to a similar extent as adult women, which is an encouraging finding.'

While there are several studies that assess the success/failure of the 'Swacch Bharat Abhiyan'- its correlation to the improvement/or not on the status of rural women in India has not been attempted much. Although governmental and non-governmental papers and data on the status of rural men and women are easily available, there has been no significant effort to link the parameters to the 'Swacch Bharat Abhiyan'. Hence the effect of the 'Swacch Bharat Abhiyan' on the social and economic status of rural women in India has not been extensively mapped or analysed. This paper aims at addressing this lacuna in the existing available information.

## **CHAPTER III: RESEARCH METHODOLOGY**

### **3.1 OBJECTIVE OF STUDY**

The objective of this study is to understand the Social and Economic Impact of the Swachh Bharat Abhiyan on rural women in India. The research aims to understand whether there has been any social &/or economic benefits or disadvantages of the implementation of the Clean India Mission on the lives of women in Indian villages.

### **3.2 INTRODUCTION**

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them (Kothari, 2020).

This chapter deals with the methodological procedures by which the data pertinent to the research problems were collected. It presents the description of the research design, study area, sample and sampling techniques. The details are as described down below.

### **3.3 SELECTION OF THE AREA OF STUDY**

This research is regarding the status of women in rural India with focus on the villages of West Bengal so the area of study was chosen accordingly. Women aged 18 years and above were chosen from households in the villages of North 24 Parganas, a district of West Bengal. These households had functional toilets constructed under the Swach Bharat Abhiyan or other related governmental programmes implemented under the Clean India Mission like, Mission Nirmal Bangla and MGNREGA Sanjukta Prakalpa. Data regarding the social and educational impact of the Clean India Mission on rural women was also collected from schools in North 24 Parganas.

At Basirhat II Block, Basirhat Sub- Division of 24 Parganas (North), villages and schools were selected at random from Begumpur, Bibipur, Jadurhati Dakhin, and Dhyannakuriagrama panchayats. Proximity and accessibility of the villages were also contributing factors in the choice of these villages for the purpose of the data collection.

### **3.4 RESEARCH DESIGN**

The research design for this study proposes to use the descriptive approach of utilising primary and secondary sources of data to collect, collate, analyse and arrive at a conclusion based on them. The primary source of data will be through questionnaires wherein information based on certain social and economic parameters will be collected from women from villages of West Bengal and schools in those areas. The secondary data will consist of information gathered from relevant governmental and non-governmental papers and articles.

### **3.5 RESEARCH APPROACH**

According to Brannen (2005), “An interviewing approach which allows interviewers to probe and the interviewees to give narratives of incidents and experiences is likely to result in a more holistic picture of people’s understandings than a conventional survey analysis would provide and elucidate the meanings that research participants attribute to their practices and actions.”

This research used both qualitative and quantitative data collection techniques.

Qualitative research methods are subjective in nature. There is a non-numerical focus on discovering and understanding the experiences, perspectives, and thoughts of participants.

Quantitative approach is a numerical approach and is objective in nature.

The reason for using both approaches is that some findings needed personal assessment of the information obtained from people, while some conclusions needs statistical and mathematical approaches such as percentages, graphs and tabulation.

### **3.6 POPULATION OF THE STUDY**

For this study, the population was all adult women living in households having functional toilets (constructed under the Clean India Mission) in rural West Bengal. It also included schools having female students in rural West Bengal.

#### **3.6.1 TARGET POPULATION**

Women 18+years from 60 households from rural West Bengal

(The households with a working toilet provided by the Swachh Bharat Abhiyan have been selected.)

Schools (Primary, Junior, High) =10 nos.

### **3.7 SAMPLING AND SAMPLE SIZE**

#### **3.7.1 Sample Size**

For this research, a sample size of 60 adult women and 10 schools was taken from Basirhat II Block, Basirhat Sub- Division of 24 Parganas (North). Women from villages were selected at random and representative women from schools were selected from Begumpur Bibipur, Jadurhati Dakhin, and Dhyannakuriagrama panchayats.

#### **3.7.2 Sampling Technique**

For this study, Convenience sampling was used to collect data because the study was limited to households with a functioning toilet provided by the Swachh Bharat Abhiyan. Female participants were selected based on their availability and willingness to take part.

### **3.8 DATA COLLECTION**

This research used both quantitative and qualitative data collection techniques. The quantitative data allowed for the statistical analysis of the correlation between the measurable variables and the qualitative data provided a better understanding of the ground realities.

- Information has been collected from villages in West Bengal, India regarding parameters like medical expenses or benefits, social benefits, if any etc.
- This information was then collated and analysed statistically to derive conclusions regarding the existence of any correlations between the Swachh Bharat Abhiyan and any improvement/decline in the status of rural women in India.
- The data was collected in the form of questionnaires which will take approximately 10-15 minutes of the participant's time.
- The identity of the participants will not be disclosed. A consent form has been signed by the responders, who will remain anonymous.

### **3.9 DATA ANALYSIS**

This study combines the qualitative and quantitative data collected to provide a well-rounded understanding of the problem.

The quantitative data collected was statistically analysed to draw relevant correlations between the implementation of the Swach Bharat abhiyan and the certain measurable parameters of women's social and economic status.

In the opinion of Chowdhury(2015), Qualitative Data Analysis or "QDA, in addition to the coding, sorting and sifting of data, includes researcher's awareness and interpretation on respondents' attitudes, behaviours, needs, desires, routines, environment, and a whole range of other information that is essential to probe a research topic."

The data collected in the questionnaires was not only statistically analysed but also the responses of the participants were noted to observe the consistencies in the results overall so that well-informed and researched conclusions could be arrived at.

### **3.10 ETHICAL CONSIDERATION**

‘The first protective principle stemming from the 1978 Belmont Report is the principle of Respect for Persons, also known as human dignity. This dictates researchers must work to protect research participants’ autonomy while also ensuring full disclosure of factors surrounding the study, including potential harms and benefits. According to the Belmont Report, an autonomous person is an individual capable of deliberation about personal goals and of acting under the direction of such deliberation.

To ensure participants have the autonomous right to self-determination, researchers must ensure that potential participants understand that they have the right to decide whether or not to participate in research studies voluntarily and that declining to participate in any research will not affect in any way their access to current or subsequent care. Also, self-determined participants must have the ability to ask the researcher questions and the ability to comprehend questions asked by the researcher. Researchers must also inform participants that they may stop participating in the study at any time without fear of penalty.

Researchers must also ensure that they do not coerce potential participants into agreeing to participate in studies.

An additional aspect of respecting potential participants’ self-determination is to ensure that researchers have fully disclosed information about the study and explained the voluntary nature of participation (including the right to refuse without repercussion) and possible benefits and risks related to study participation.

The second Belmont Report principle is the principle of beneficence. The beneficence principle includes two specific research aspects: (1) participants’ right to freedom from harm and discomfort and (2) participants’ rights to protection from exploitation.



The final principle contained in the Belmont Report is the principle of justice, which pertains to participants' right to fair treatment and right to privacy. The selection of the types of participants desired for a research study should be guided by research questions and requirements so as not to exclude any group, and to be as representative of the overall target population as possible.

Researchers must keep any shared information in their strictest confidence. Upholding the right to privacy often involves procedures for anonymity or confidentiality.' (Barrow et al., 2021)

This research study conforms to all the aforementioned ethical criteria of data collection. The participants were all adults who were informed about the benefits of the study, explained the questions and chose to participate voluntarily without any coercion or incentives. The identity of the participants will not be disclosed. A consent form has been signed by the responders, who will remain anonymous.

### **3.11 STUDY PROCEDURE**

- Information was collected from villages in West Bengal, India regarding parameters like medical expenses or benefits, social benefits, if any etc.
- This information was then collated and analysed statistically to derive conclusions regarding the existence of any correlations between the Swachh Bharat Abhiyan and any improvement/decline in the status of rural women in India.
- The data was collected in the form of questionnaires which took approximately 10-15 minutes of the participant's time.
- The identity of the participants will not be disclosed. A consent form has been signed by the responders, who will remain anonymous. (See Appendix.)

### **3.12 DURATION OF FIELD WORK**

22<sup>nd</sup> July, 2022 – 7<sup>th</sup> August, 2022

### **3.13 PRIMARY OBJECTIVES OF THE STUDY**

Objective 1: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the literacy of women in rural India

Objective 2: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the employment of women in rural India

Objective 3: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on household income and expenditures in rural India

Objective 4: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the sense of security in women in rural India

Objective 5: To examine the effectiveness of the ‘Swacch Bharat Abhiyan’ on the overall perceived quality of life of rural women in India.

These parameters will help us ascertain whether the ‘Swacch Bharat Abhiyan’ has made a positive, negative, or no impact on the status of rural women in India.

### **3.14 DESCRIPTION OF VARIABLES**

This study aimed to establish the social &/or economic impact of the Swacch Bharat Abhiyan on rural women in India. Hence the data variables were identified from the social and the economic perspective respectively.

From the economic perspective, the household income was one of the foremost variables. The study collected data on the increase/decline/no effect of the income of the family after the installation of a functional toilet. Better employment opportunities, in terms of construction and maintenance of the toilets, availability of more productive work hours etc. could be contributing factors towards a greater household income.

The impact of the toilets on overall household expenses was also studied. While the construction and maintenance of toilets could be a source of income for some households it could also lead to a rise in expenses for some.

Another economic effect of the Swacch Bharat Abhiyan on the status of women could also be measured by the 'medical expenses' variable. This variable could also throw some light regarding the social aspect of the impact of the Swacch Bharat Abhiyan on rural women because it highlights whether the campaign has had any effect on the general health of women and households in rural India.

Data was also collected on the provision of using the toilets infrastructure for manure or biogas manufacturing. This variable, while having the obvious economic aspect in terms of reduced fertiliser and fuel expenses, also has an important ecological aspect as well- since biogas and organic fertilisers are more environment-friendly.

The Social effect of the Swacch Bharat Abhiyan on rural women was studied by assessing their sense of security with regards to using a household toilet as opposed to ablutions in the fields. Finally, the women were asked regarding the impact of the Swacch Bharat Abhiyan on their overall quality of life. This was a variable which gave us a clear perception of the perceived impact the campaign had on the lives of women.

Information was also collected from schools in villages in West Bengal to analyse the social and Economic impact of the Swacch Bharat Abhiyan on rural women.

An increase or decline in the overall school expenditure would be an important indicator as it would determine the willingness or reluctance of the school for further efforts in providing and maintaining functional toilets in the school.

The number of functional toilets being shared by the students is an important variable as it provides the policy makers with the data required for deciding the future path of the programme.

The availability of functional toilets for girl students is a very important social angle of this study and so this was also a variable on which information was collected.

Data was also collected from schools regarding the impact of the Clean India Mission on the overall health and hygiene awareness in rural India.

The non-availability of a functional toilet for girls could be one of the contributing factors behind the high drop-out rate in girls around middle school (the time they attain puberty).

Hence the effect on the drop-out rates in girls in middle school was also a variable in the study.

The monthly attendance rates of girls could also be impacted by the availability of girl's toilets as menstruation may lead to loss of days in the absence of toilets. Thus, the impact on the monthly attendance rates of girls in schools after the implementation of the Clean India programme was also studied.

The economic impact on the rural population with respect to employment opportunities that could be accrued to the Swacch Bharat Abhiyan were also analysed.

Finally, the contribution of the Swacch Bharat Abhiyan to the overall schooling experience of girls was assessed and analysed.

The data variables collected by the questionnaire were then collated and analysed to find correlations between the implementation of the Swacch Bharat Abhiyan on them. This information was analysed to see the Social and Economic Impact of the Swacch Bharat Abhiyan on rural women in India as they provide valuable economic and social indicators and pointers.

### **3.15 LIMITATIONS OF THE SAMPLE**

The sample size for this study was 60 women and 10 schools from rural households of West Bengal. The data thus represents the opinions and ideas of these particular women from these areas which may differ from the ideas and experiences of women from other rural parts of the district, state or country. It may also not be possible to entirely extrapolate this data over a larger nation-wide or state-wide population. Hence, while this sample size is adequate for the purpose of this study, the limitations of this study is thus the projection and representation of a larger population from a sample size of 60 individual participants and 10 schools.

### **3.16 STATISTICAL ANALYSIS TOOLS**

Correlation analysis in research is a statistical method used to measure the strength of the linear relationship between two variables and compute their association. Simply put - correlation analysis calculates the level of change in one variable due to the change in the other. A high correlation points to a strong relationship between the two variables, collected through research methods like surveys and live polls. They try to identify the relationship, patterns, significant connections, and trends between two variables or datasets.

There is a positive correlation between two variables when an increase in one variable leads to the increase in the other. On the other hand, a negative correlation means that when one variable increases, the other decreases and vice-versa.

## The Correlation Coefficient

One of the statistical concepts that is most related to this type of analysis is the correlation coefficient.

The correlation coefficient is the unit of measurement used to calculate the intensity in the linear relationship between the variables involved in a correlation analysis, this is easily identifiable since it is represented with the symbol  $r$  and is usually a value without units which is located between 1 and -1.

The equation for the correlation coefficient is:

$$\text{Correl}(X, Y) = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

As much as the correlation coefficient is closer to +1 or -1, it indicates positive (+1) or negative (-1) correlation between the arrays. Positive correlation means that if the values in one array are increasing, the values in the other array increase as well. A correlation coefficient that is closer to 0, indicates no or weak correlation.

**Table 3.17 QUESTIONNAIRE FOR WOMEN**

1. Does your household have a functional toilet that was provided by SWACHH BHARAT ABHIYAN?	Yes	1	No	2
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Please record in the box your opinion on the household toilet on a scale of 1-3. Interviewer will record the data in the form of a ✓ in the appropriate box.

2. Has the functional toilet increased your family income?	Increased	3	No change	2	Decreased	1
a) If increased, how?						
3. Has it increased your expenses?	Increased	3	No change	2	Decreased	1
a) If increased, how?						
b) If decreased, why?						
4. Has the general health of your family improved after having the functional toilet?	Improved	3	No change	2	Not improved	1
5. Have your medical expenses declined?	increased	3	No change	2	Decreased	1
a) If increased, how?						
b) If decreased, why?						
6. Do you feel safer than going to the fields for toilet requirements?	Yes	2	No	1		
7. Do you get biogas/fertilizer from the toilet?	Yes	2	No	1		
8. Do you think having a toilet has improved your quality of life?	Improved	3	No change	2	Not Improved	1

Village: \_\_\_\_\_

Age of Respondent: 18-25 yrs. => 1; 26-45 yrs. => 2; 46-55 yrs. => 3;

Above 55 yrs. => 4;

### 3.18 QUESTIONNAIRE FOR SCHOOLS

1.Name of school							
a) Category of School			Junior	1	High	2	
b) Type of School		Only boys	1	Only girls	2	Co-ed	3
Name of Village:							
2.Number of students							
3. How many children per functional toilet?							
4.Does the school have a girl's toilet			Yes	1	No	2	

Please record in the box below **on a scale of 1-3** to indicate your opinion about functional Toilets in schools.

Interviewer will record the data in the form of a  $\checkmark$  in the appropriate box.

5.Has having toilets increased the schools' expenses?	Increased	3	No change	2	Decreased	1
6. Has toilets improved health and hygiene awareness?	Improved	3	No change	2	Not Improved	1
7.Has the school drop-out rate for girls after Class VII increased/ decreased after the construction of toilets?	Increased	3	No change	2	Decreased	1
8.Has the average monthly attendance of girls increased/decreased after the construction of toilets?	Increased	3	No change	2	Decreased	1
9. Has having toilets provided employment opportunities for the local community?	Yes 1 No 2					
10. Do you think the overall schooling experience has improved after the construction of toilets?	Increased	3	No change	2	Decreased	1



## **CHAPTER- IV: RESULTS OF THE STUDY**

### **4.1 SYNOPSIS OF THE STUDY**

#### **4.1.1 Households**

- Mission Nirmal Bangla and MGNREGA Sanjukta Prakalpa were regarded as Swachh Bharat Abhiyan for the study.
- Average age of female respondents is around forty-two in yrs.
- Only ten per cent of households stated that the functional toilet increased family income because one of the family members was employed for the construction job or other project-related activities.
- A functional toilet increased costs, according to 95% of households.

#### **Major reasons:**

- the cost of toilet upkeep is what has led to the price increase.
- the toilet's quality is so poor that repairs are required on a regular basis.
- the cost of regular manual scavenging by sweepers is very high due to the small size of the toilet chamber
- Sixty percent of households reported that their family member's overall health had improved since installing a functional toilet. The others responded that even in houses with toilets, the manual scavenging process persists. And the family members are sick with diseases unrelated to toilets.
- Fifty-two percent of respondents stated that the main reason for the decrease in medical expenses is that family members are suffering from disease less than before, followed by a reducing in mosquito, insect, and fly-borne disease, and a decrease in the level of dirtiness in the community.
- The remaining users believe that having a functional toilet at home has increased medical costs although the reasons for the rise in medical expenses was stated as having family members with illnesses unrelated to toilets. The other causes of health problems include the climate, water, and workplace injuries. The primary causes of health issues are the climate, water, and workplace injuries.

- 98% of respondents believe that having functional toilets lowers the risk of being bitten by snakes and insects and it has eliminated the possibility of getting wet in the rain.
- Eighty percent (80%) respondents do not think about using toilet waste as biogas or fertilizer. They dig a pit close to the toilet, fill it with toilet waste, and then cover it with soil.
- 85% of respondents felt that having functional toilets had improved their quality of life.

Since the majority of respondents agreed, it may be inferred that the family's general health has significantly improved since the functioning toilet was installed.

#### Correlation Coefficient

- Correlation between family income and change in family expenses after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.178 with coefficient of determination [ $r^2$ ] being 0.031, this figure is close to zero, which suggests a very weak correlation.

***Hence it can be inferred that there is almost no relationship between change in family income and that of family expenses after having the functional toilet.***

- Correlation between medical expenses and improvement in health after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.722, with coefficient of determination [ $r^2$ ] being 0.521, this figure is high, that suggests a strong correlation.

***Therefore, it can be argued that the family's improvement in overall health as a result of having a functional toilet has greatly assisted in reducing medical costs.***

### 4.1.2 Schools

- Students on average 1081 nos.
- Per functional toilet, the average number of students is: 72
- Every school has a female toilet.
- According to 70% of schools, having toilets increased school costs.
- Eighty percent of schools said that having toilets increases awareness of health and hygiene.
- Since the construction of toilets, 80% of schools have reported fewer girls dropping out after class VII.
- 90% of schools reported that the construction of toilets increased the average monthly attendance of girls.
- Only 30% of school respondents stated that having toilets provided employment opportunities in the local community.
- 90% of school respondents believe that the overall schooling experience has improved since the construction of toilets.

### Correlation Coefficient

- Correlation between awareness of improved health and hygiene and the increase/decrease in schools' dropout rate for girls after class VII after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.937. , with coefficient of determination [ $r^2$ ] being 0.878, this figure is quite high, that suggests a strong correlation.

***Therefore, it can be said that the dropout rate for girls after class VII has dropped as a result of increased awareness of enhanced health & hygiene following the construction of functional toilet in schools.***

- Correlation between awareness of improved health and hygiene and the increase/decrease in average monthly attendance of girls after having a functional toilet was statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [r<sup>2</sup>] being 0.783, this figure is quite high, that suggests a strong correlation.

*Therefore, it can be said that the attendance of girls has increased as a result of growing awareness of enhanced health & hygiene following the construction of functional toilets in schools.*

- Correlation between awareness of improved health and hygiene and the improvement in overall schooling experience after having a functional toilet was statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [r<sup>2</sup>] being 0.783, this figure is very high, which suggests a strong correlation.

*Therefore, it can be said that the overall schooling experience has improved after the awareness of enhanced health & hygiene brought on with the construction of functional toilets.*

## **4.2 Detailed Findings: Households**

Table 4.2.1 Demographics of Households

<b>Name of Village</b>	<b>Count</b>	<b>%</b>
Begumpur	11	18.3
BoroGobra	29	48.4
KachuaMokampur	14	23.3
Panigobra	6	10.0
Grand Total	60	100.0

Table 4.2.2 Age-Wise Distribution

<b>Age of Respondent</b>	<b>Count</b>	<b>%</b>
18-25yrs.	5	8.3
26-45yrs.	33	55.0
46-55yrs.	10	16.7
55yrs.+	12	20.0
Grand Total	60	100.0
Average age of respondents (in yrs.)	41.7	

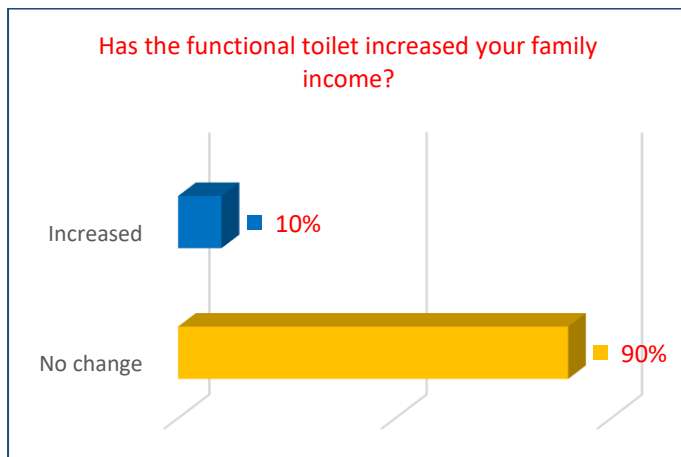
1. Does your household have a functional toilet that was provided by SWACHH BHARAT ABHIYAN?

100% of the households with a working toilet, provided by the Swachh Bharat Abhiyan were interviewed.

Mission Nirmal Bangla and MGNREGA Sanjukta Prakalpa were regarded as Swachh Bharat Abhiyan for the study.



Figure (I) Photographs of Some Toilets constructed under the Swachh Bharat Abhiyan

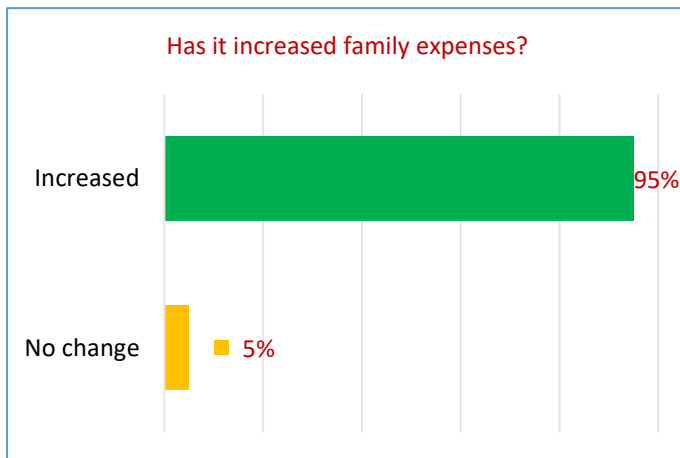


Only ten per cent of households stated that the functional toilet increased family income because one of the family members was employed for the construction job or other project-related activities.

Figure 4.3. Has the functional toilet increased family income?

Table 4.3 If family income increased, how?

	Count	%
One of my family members was engaged in various activities, such as listing and filling out forms for toilet project	1	1.67
One of the family members was involved for the toilet construction job	5	8.33
The total number of respondents who mentioned a functional toilet increased their family income.	6	10.00



A functional toilet increased costs, according to 95% of households.

Major reasons:

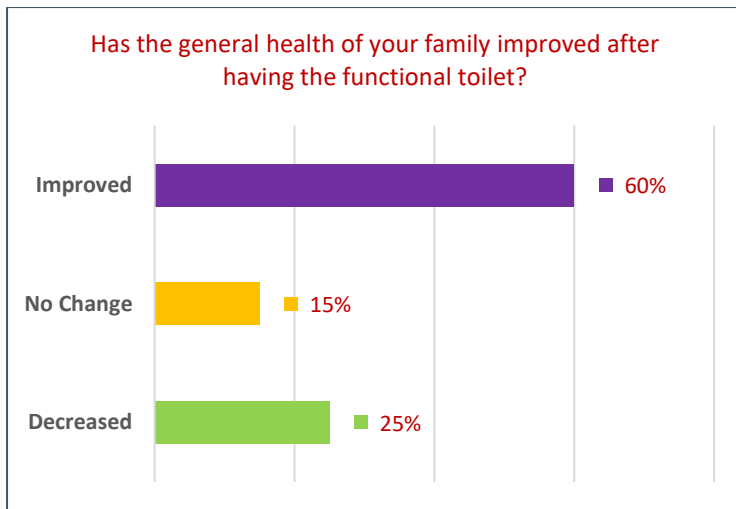
- the cost of toilet upkeep is what has led to the price increase.
- the toilet's quality is so poor that repairs are required on a regular basis.
- the cost of regular manual scavenging by sweepers is very high due to the small size of the toilet chamber.

Figure 4.4. Has the functional toilet increased family expenses?

Table 4.4a) If family expenses increased, how?

	Count	%
The cost of toilet cleaning has increased my family expenses	30	50.00
The quality of toilet is so poor, that repairing jobs are require from time to time	12	20.00
The toilet chamber is too small and must be emptied frequently	10	16.67
The structure is not wells supported to resist natural calamities like a storm, expenditure increased due to repair work	7	11.67
The total number of respondents who mentioned a functional toilet increased their family expenses.	57	95.00

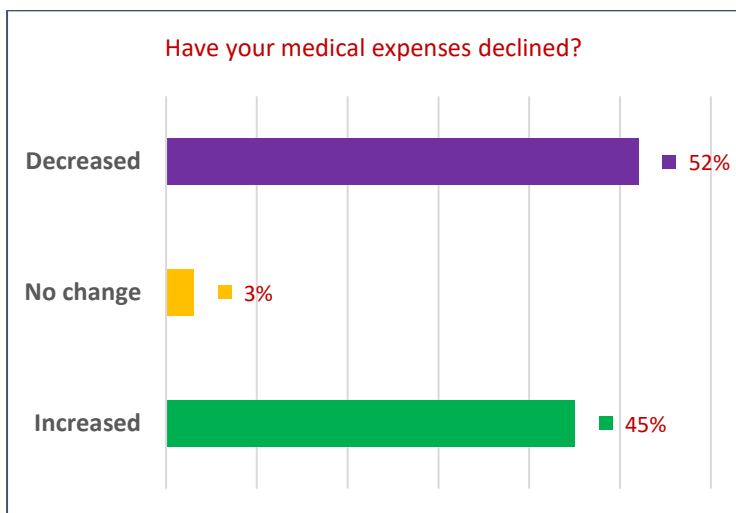




Sixty percent of households reported that their family member's overall health had improved since installing a functional toilet.

The others responded that even in houses with toilets, the manual scavenging process persists. And the family members are sick with diseases unrelated to toilets.

Figure 4.5. Has the general health of your family improved after having the functional toilet?



Fifty-two percent of respondents stated that the main reason for the decrease in medical expenses is that family members are suffering from disease less than before, followed by a reducing in mosquito, insect, and fly-borne disease, and a decrease in the level of dirtiness in the community.

The remaining users believed that having a functional toilet at home had increased medical costs although the increase was due to family members with illnesses unrelated to toilets. The primary causes of health issues are the climate, water, and workplace injuries.

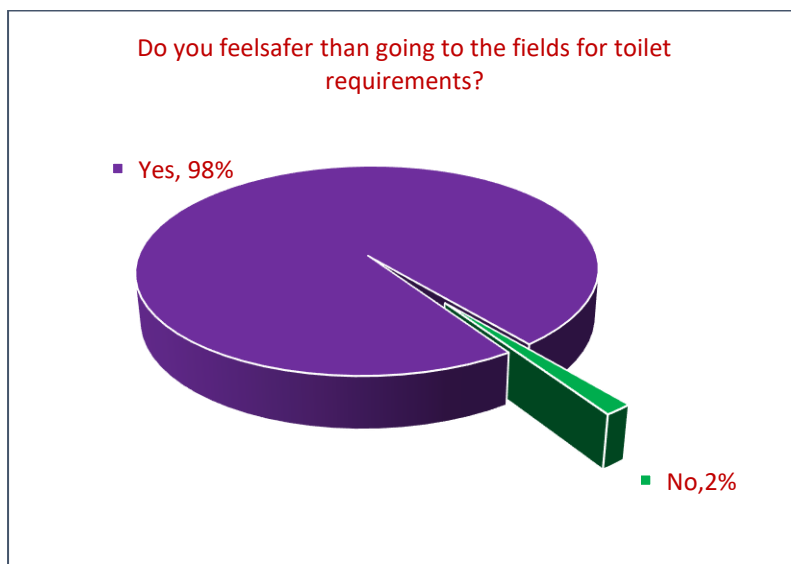
Figure 4.5. Have your medical expenses declined?

Table 4.6a) If family medical expenses increased, why?

	Count	%
Family members are suffering from diseases which are not related to toilet/Don't think functional toilet is the only issue to decline medical cost	9	15.0
Diseases like blood sugar, blood pressure increased costs which are not related to toilet	4	6.7
Climate is the main cause of illnesses such as cough and cold, and fever in our area, which is unrelated to a functional toilet	4	6.7
Expenses increased for one of my family members sick due to accident	4	6.7
Diarrhoea and dysentery from water have become more common in the family	1	1.7
Heart disease patients need to pay for medicine	1	1.7
Thyroid increased costs that had nothing to do with toilets	1	1.7
One of my family members has a tumour that is not related to the toilet	1	1.7
One of my family members has asthma, which has increased my expenses	2	3.3
Arthritis does not involve with toilet	1	1.7
The total number of respondents who mentioned medical expenses increased	27	45.0

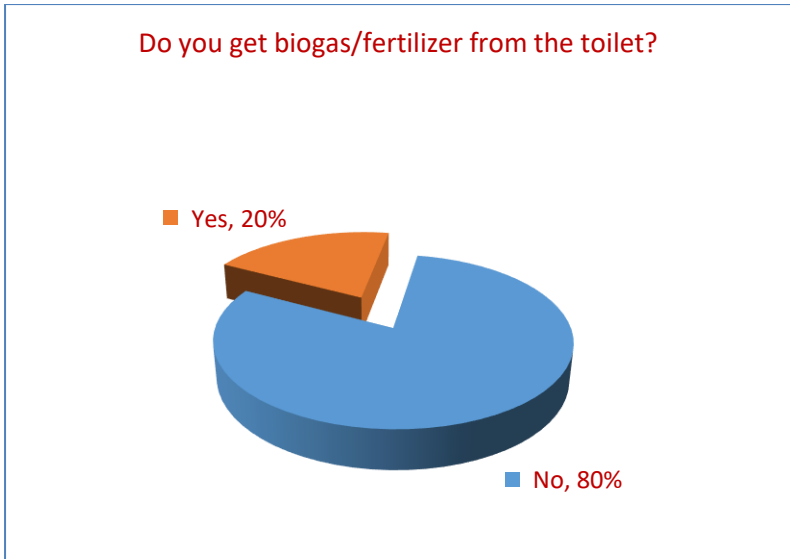
Table 4.6b) If family medical expenses decreased, why?

	Count	%
The family members are suffering less from disease than before	10	16.7
Mosquito and fly -borne diseases are being reduced	7	11.7
The level of dirtiness in the locality tends to decrease	7	11.7
chances of biting insects reduced	3	5.0
No Chance for wetting in the rain	1	1.7
Less doctor expenses	1	1.7
Reduced diarrheal diseases, stomach problems	1	1.7
Reduced stomach problems	1	1.7
Because of the functional toilet, the chances of an accident in the fields for toilet requirements are reduced	1	1.7
The total number of respondents who mentioned medical expenses declined	31	51.7



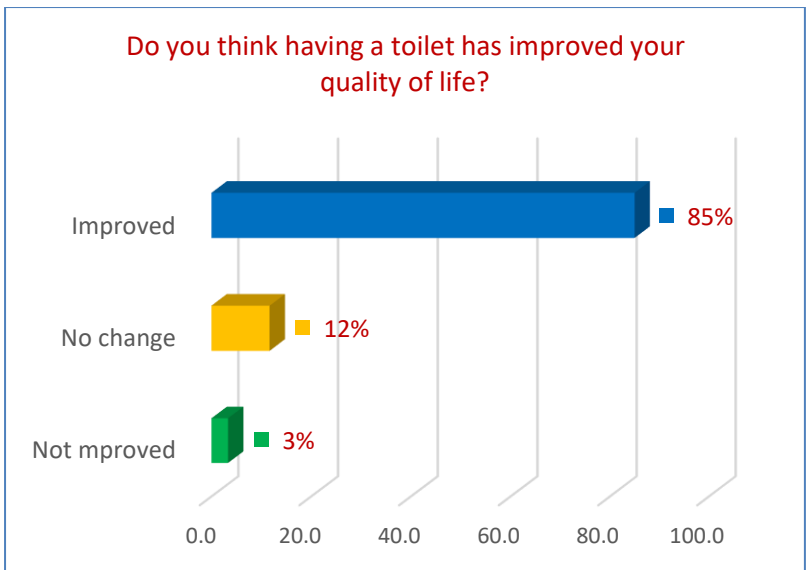
98% of respondents believe that having functional toilets lowers the risk of being bitten by snakes and insects and it has eliminated

Figure 4.7. Do you feel safer than going to the fields for your toilet needs?



Eighty percent (80%) respondents do not think about using toilet waste as biogas or fertilizer. They dig a hole close to the toilet, fill it with toilet waste, and then cover it with soil.

Figure 4.8. Do you get biogas/fertilizer from the toilet?



85% of respondents felt that having functional toilets had improved their quality of life.

Figure 4.9. Do you think having a toilet has improved your quality of life?

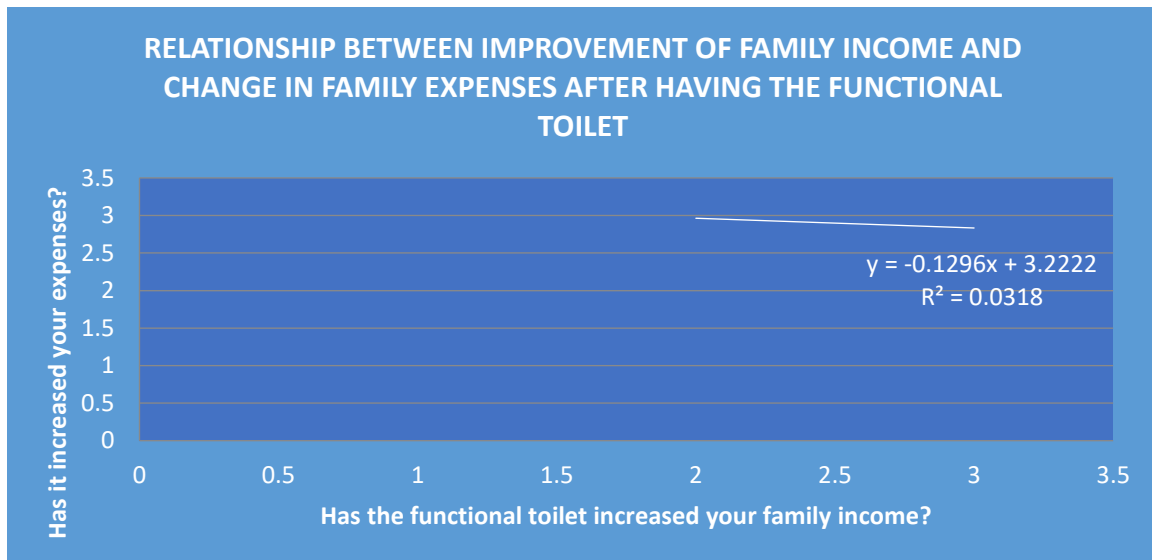


Figure 4.10. The improvement of family income and change in family expenses after having the functional toilet

Correlation between family income and change in family expenses after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.178 with coefficient of determination [ $r^2$ ] being 0.031, this figure is close to zero, which suggests a very weak correlation.

***Hence it can be inferred that there is almost no relationship between change in family income and that of family expenses after having the functional toilet.***

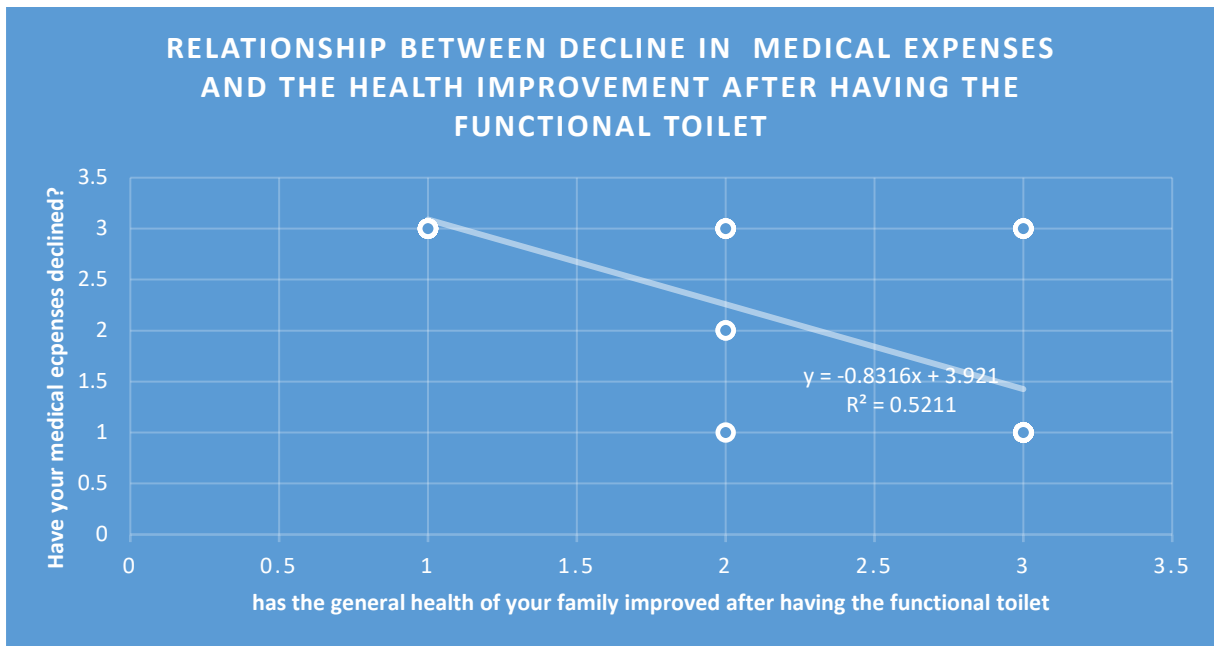


Figure 4.11. The decline in household medical expenses and the improvement in general health after having the functional toilet

Correlation between medical expenses and improvement in health after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.722, with coefficient of determination [ $r^2$ ] being 0.521, this figure is high, that suggests a strong correlation.

*Therefore, it can be argued that the family's improvement in overall health as a result of having a functional toilet has greatly assisted in reducing medical costs.*

#### 4.12. Detailed Findings: School

Table 4.12 a) Name of School interviewed

Name of School	Village
Begumpur Bibipur High School (H.S.)	Begumpur
Bunarali Yousuf Ismail Memorial High School	Buarnali
Dhaniyakuria Girls High School (H.S.)	Dhaniyakurya
Dhaniyakurya High School	Dhaniyakurya
Jadurhati Adarsha Vidyapith	Jadurhati
Jadurhati Rabindra Balika Vidyalaya	Jadurhati
Kachua Sarup Nagar Ismalia MSK	Swarup Nagar
Metia High School (H.S.)	Metia
PanigobraAzizia MSK	Panigobra
Pingaleswar High School	Pingaleswar

Table 4.12.1a) Category of school interviewed

1a) Category of School	%
Higher Secondary	70
Secondary	20
Junior	10
Total	100

Table 4.12.1b) Type of school interviewed

Type of School	%
Co-ed	80
Only girl's	20
Total	100

Table 4.12.2. Number of students

Number of students	Count
300	1
319	1
514	1
694	1
1178	1
1200	1
1284	1
1400	1
1508	1
2408	1
Total	10
Average no. of student:1081	

Table 4.12.3. Number of children per functional toilet

Count of 3. Number of children per functional Toilet	Count
50	1
57	1
70	1
80	1
93	1
100	3
125	1
150	1
Total	10
Average no of students: per functional toilet: (72)	

Table 4.12.4. Does the school have a girl's toilet?

Does the school have a girl's toilet?	
Yes	100%



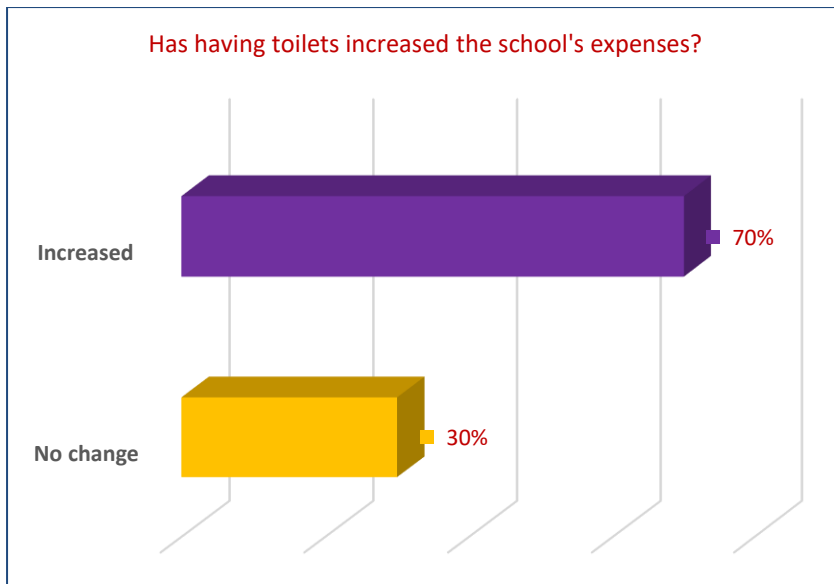


Figure 4.12.5. Has having toilets increased the schools' expenses?

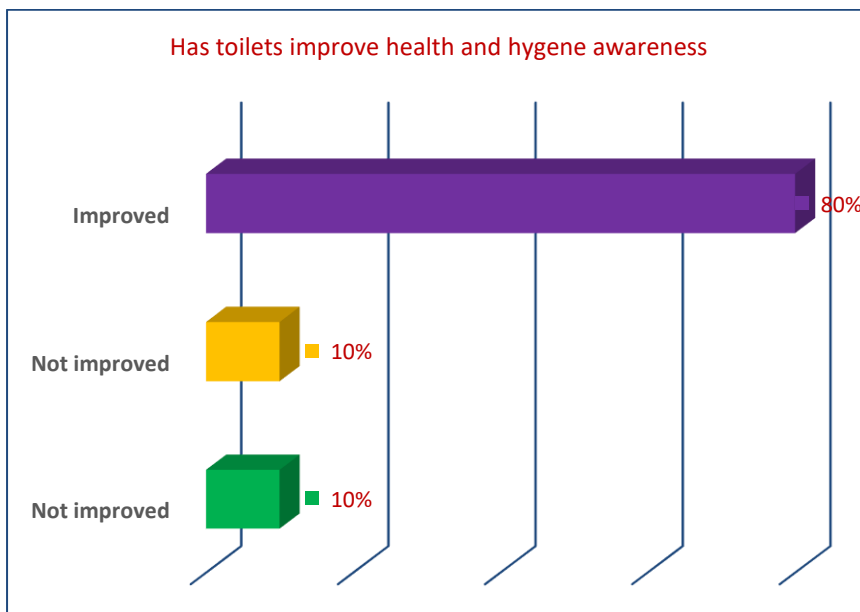


Figure 4.12.6. Have toilets improved health and hygiene awareness?

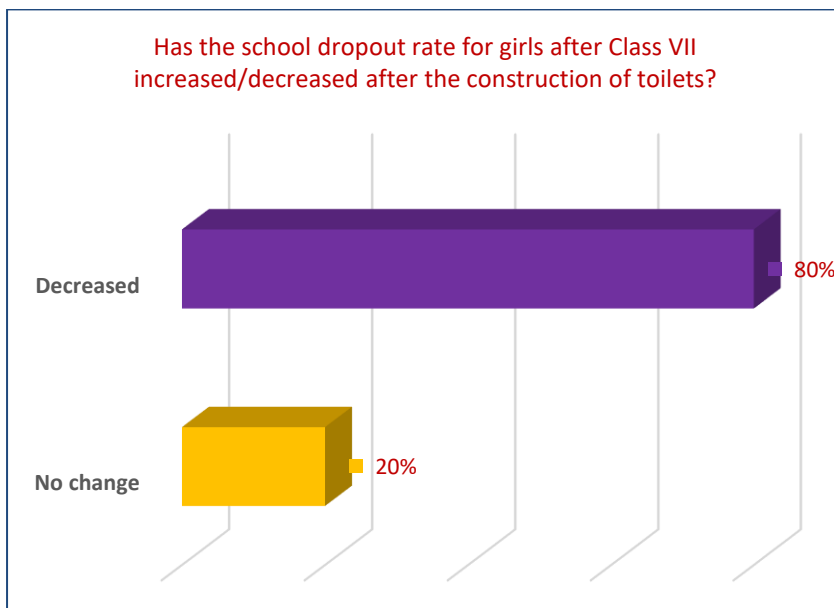


Figure 4.12.7. Has the school dropout rate for girls after class VII increased/decreased after the construction of toilets?

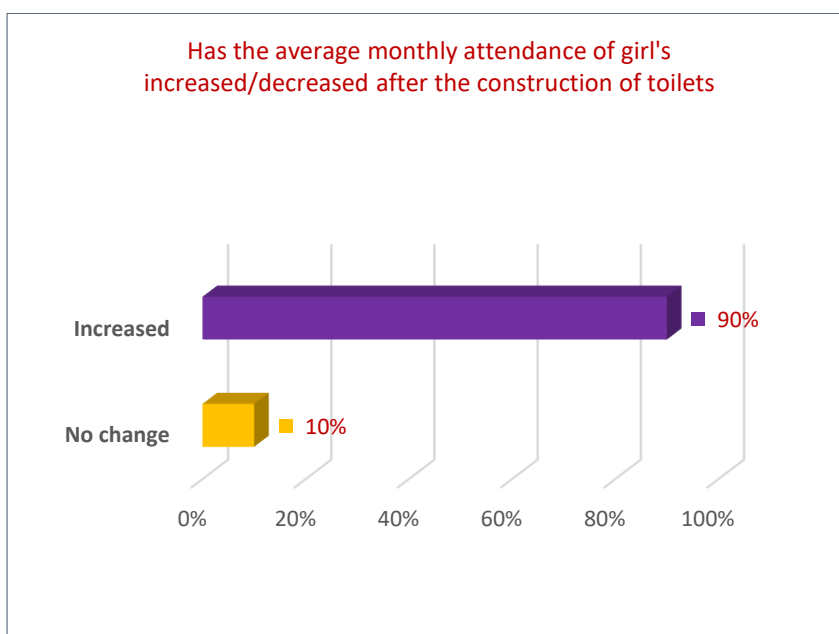


Figure 4.12.8. Has the average monthly attendance of girls increased/decreased after the construction of toilets?

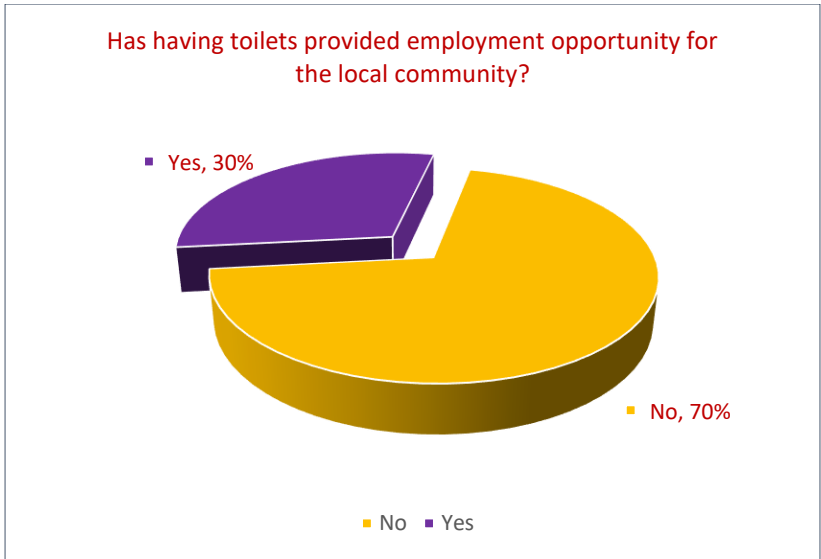


Figure 4.12.9. Has having toilets provided employment opportunity for the local community?

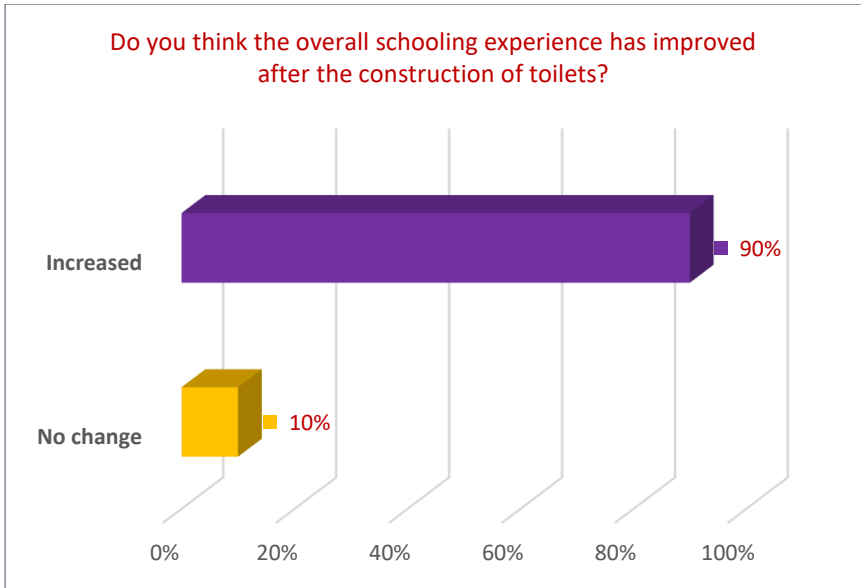


Figure 4.12.10. Do you think the overall schooling experience has improved after the construction of toilets?

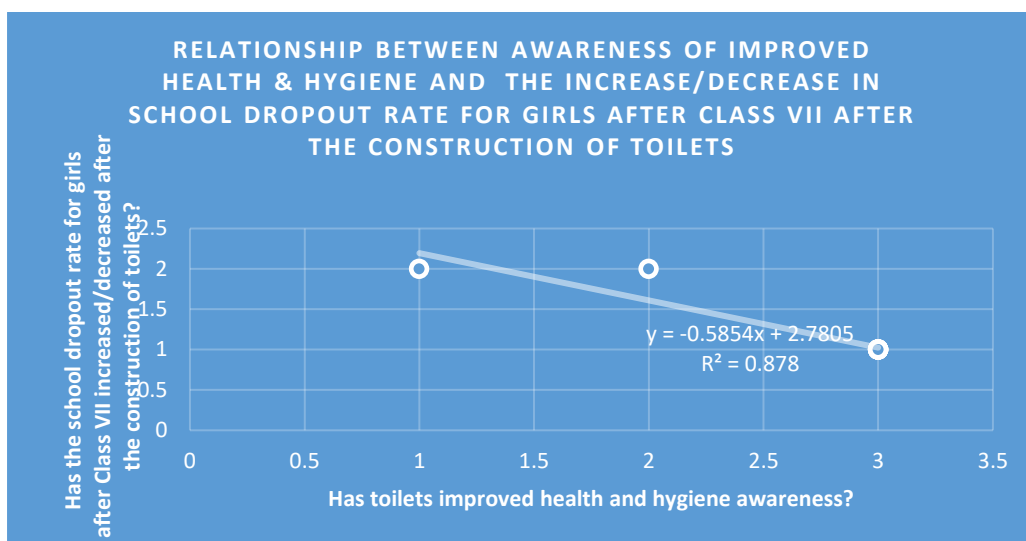


Figure 4.13. The decrease in school drop-out rate for girls after class VII and the awareness of health & hygiene after having the functional toilet

Correlation between awareness of improved health and hygiene and the increase/decrease in school dropout for girls after class VII after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.937. , with coefficient of determination [ $r^2$ ] being 0.878, this figure is quite high, that suggests a strong correlation.

***Therefore, it can be said that the dropout rate for girls after class VII has dropped as a result of increased awareness of enhanced health & hygiene following the construction of functional toilet in schools.***

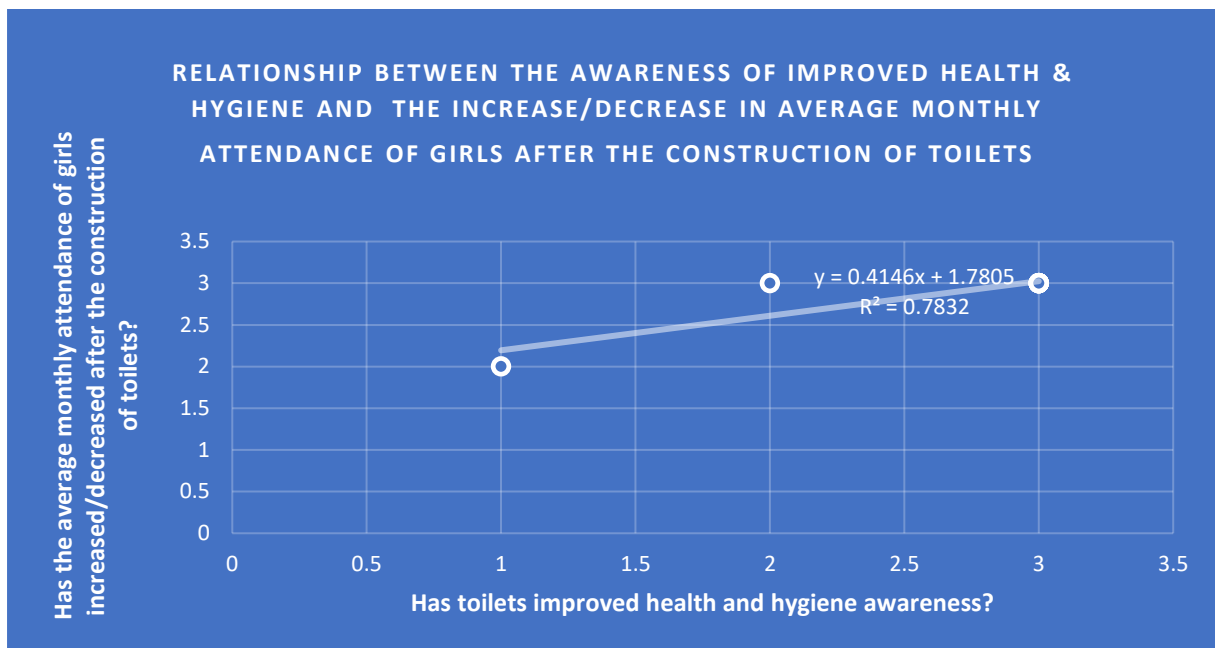


Figure 4.14. The average monthly attendance of girls increased /decreased and the awareness of health & hygiene after having the functional toilet

Correlation between awareness of improved health and hygiene and the increase/decrease in average monthly attendance of girls after having a functional toilet was statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [ $r^2$ ] being 0.783, this figure is quite high, that suggests a strong correlation.

***Therefore, it can be said that the attendance of girls has increased as a result of growing awareness of enhanced health & hygiene following the construction of functional toilets in schools.***

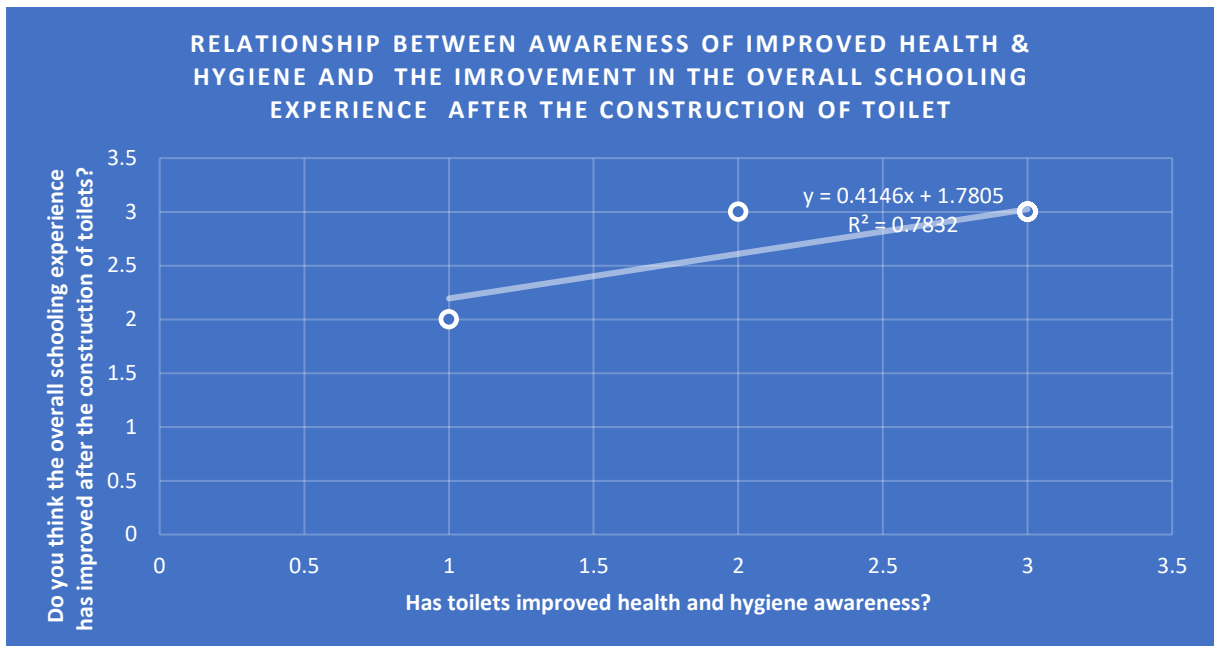


Figure 4.15. Overall schooling experience has improved and the awareness of health & hygiene after having the functional toilet

Correlation between awareness of improved health and hygiene and the improvement in overall schooling experience after having a functional toilet was statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [r<sup>2</sup>] being 0.783, this figure is very high, which suggests a strong correlation.

*Therefore, it can be said that the overall schooling experience has improved after the awareness of enhanced health & hygiene brought on with the construction of functional toilets.*

## **CHAPTER V- DISCUSSION**

### **5.1 INTRODUCTION**

This research study aims to study the effectiveness of the ‘Swacch Bharat Abhiyan’ in terms of the social and economic upliftment of rural women in India. The impact of the programme on various parameters of women empowerment like literacy, employment, security, etc. will be studied and analysed. This may be helpful in better understanding of the policy-making and implementation to ensure the success of this ambitious ‘Swacch Bharat Abhiyan’.

The health and social needs of women and girls remain largely unmet and often side-lined in circumstances where toilets in homes are not available. Further research is critically required to comprehend the generalisability of effects of open defecation on girls and women (Saleem et al., 2019).

The data collected for this research aims to address this recognition of the health and social needs of women and girls and understanding the positive/negative or zero social and economic impact of the Swach Bharat Abhiyan on rural women in India.

This paper aims to understand the social impact of the ‘Swacch Bharat Abhiyan’ with respect to the security of women (or lack thereof, when they leave their homes in the early hours of the morning for their morning ablutions in the fields), improved attendance and dropout rate of girls in schools, etc.

The paper aims to study the economic impact of the ‘Swacch Bharat Abhiyan on rural women in India with respect to its impact on overall household income and expenditure, medical impact and expenses etc.

Through this research, data will be collected with respect to the following questions:

1. Has there been an increase/decrease or no change in overall monthly expenses?

2. Has there been an increase/decrease or no change in the monthly income of women after the construction of toilets?
3. Has there been an increase/decrease or no change in the dropout rate and attendance of schoolgirls in schools that have toilet facilities?
4. Has there been an increase/decrease or no change in the feeling of security amongst women after the construction of toilets?
5. Has there been an increase/decrease or no change on the perceived quality of life of rural women attributable to the implementation of the ‘Swacch Bharat Abhiyan’?
6. Has there been any increase/decrease or no change in fertilizer costs of households with toilets?

The data collected will then be analysed and will help us ascertain whether the ‘Swacch Bharat Abhiyan’ has made a positive, negative, or no impact on the status of rural women in India.

The primary objectives of this research paper are:

Objective 1: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the literacy of women in rural India

Objective 2: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the employment of women in rural India

Objective 3: To examine the effectiveness of ‘Swach Bharat Abhiyan’ on household income and expenditures in rural India

Objective 4: To examine the effectiveness of ‘Swacch Bharat Abhiyan’ on the sense of security in women in rural India

Objective 5: To examine the effectiveness of the ‘Swacch Bharat Abhiyan’ on the overall perceived quality of life of rural women in India.



These parameters will provide us with a better understanding of the ground realities and allow us to offer suggestions on how to impact rural women better through improved policy framing or implementation, so that they may truly benefit from this noble initiative.

## **5.2 SUMMARY OF FINDINGS**

The research aims at two aspects of the impact of the Swachh Bharat Abhiyan on rural women in India- the social and the economic. Hence the findings of the study will also be presented as such.

### **The Economic Impact**

The data suggests that there is a negligible direct positive impact on the family income as a result of the implementation of the program. Only ten per cent of households stated that the construction of toilets increased family income. Among the schools, only about 30per cent of the respondents stated that having toilets provided employment opportunities in the local community.

On the other hand, according to 95per cent of women, functional toilets increased the expenses of the households. This was due to the costs incurred in the maintenance, cleaning and overall upkeep of the facility.

In terms of medical expenses, about 52per cent of the participants believed that the installation of toilets had decreased medical expenses due to a reduction in infections and other hygiene related illnesses. However, the remaining 48per cent of the participants said that their medical expenses had increased although the reasons provided for the increase are unrelated to the toilets.

An important finding of the study was that about 80per cent of the respondents did not think about using the toilet waste as a source of fertiliser or biogas.

## **The Social Impact**

The data collected suggested that most women (85per cent) believed that the presence of toilets had improved their overall quality of life. About 60per cent of the participants reported that the overall health of the family members had improved after the installation of the toilets in their homes.

An overwhelming 98per cent of the women said that the toilets provided them with security in terms of safety from animals, insects and adverse weather conditions.

The data collected from the schools suggested an improvement in the overall schooling experience of girls as expressed by 90per cent of the respondents. About 80per cent of schools shared the idea that having toilets had resulted in increased health and hygiene awareness. The data supported the theory that the proper implementation of the Swach Bharat Abhiyan could have a positive impact on girls' education. 90per cent of the schools reported improved average monthly attendance of girls after the construction of toilets. About four-fifths of the schools also reported lower school drop-out rates in girls after Class VII (i.e. after they attain puberty). The preliminary analysis of the empirical data collected seems to suggest that while the economic impact of the Swach Bharat Abhiyan on rural women in India may not be immediately visible the social impact has been immense. The policymakers may thus try to capitalise on the economic aspects of this program for the future phases of its implementation to make it a wider success. A direct improvement in income and a decline in expenses may incentivise the rural population to further contribute towards the popularity of the program. Also, the greater social impact of the program is a welcome effect as it goes a long way in the elevation of the status and lifestyle of women in rural India. To quote the famous American theologian, Fulton Sheen, "To a great extent the level of any civilization is the level of its womanhood".

The findings thus seem to indicate a much larger social impact of the Swach Bharat Abhiyan on rural women in India than the economic impact. Also, the ecological advantages of this program have been largely unexplored.

## **5.3 INTERPRETATION OF RESULTS**

### **5.3.1 ANALYSIS OF SOCIAL DATA**

According to Kanika Kaul (2015), “It is well recognised that women lacking access to toilets and using open spaces, often wait till dark and drink less water or modify their diet, which has adverse health implications. Moreover, it also increases their vulnerabilities to various forms of violence.” It can thus be argued that one of the most benefitted target groups of the Swach Bharat Abhiyan would be rural women in India. The lack of toilets meant loss of optimal productivity of the women as they would have to wait until dark for relieving themselves or sometimes even modify their eating habits to address the inconvenience of non-accessibility of toilets. Also, the security of the women as they relieve themselves outdoors is a matter of serious concern.

The Swach Bharat Abhiyan aimed at reducing the inconvenience of women caused due to the lack of toilets and also to address the issue of security. According to the data collected as part of this study, an overwhelming 98per cent of women said that the toilets provided them with security in terms of safety from animals, insects and adverse weather conditions. This shows that the program has been successful to a large extent in addressing the security concern of women caused due to the lack of access to toilets.

This data was also corroborated by a survey on the impact of the ‘Swacch Bharat Mission’ carried out by UNICEF and Bill and Melinda Gates Foundation in 2020, which found that

Nearly 93per cent of rural women feel safer from assault by not going out into the field to defecate.

The study titled- Impact of the SBM (G) on the convenience, safety and self-respect of women in rural India –had surveyed around 7000 women across five states- Madhya Pradesh, Bihar, Maharashtra, Uttar Pradesh and Rajasthan in February 2020. The study revealed that an increase in access to household toilets has led to the improvement in the Suraksha, Suvidha and Swabhimaan of rural women (Impact of SBM-G: convenience, safety & self-respect of rural women | swachh sangraha, 2022).

The results of this research are also in line with the findings of the aforementioned study with some variations, possibly demographical &/or geographical. About 98per cent of the women surveyed for this study were of the opinion that they were safer due to the installation of the toilets as they provided them safety from animals, infections and inclement weather, while 93per cent of the women surveyed in Madhya Pradesh, Bihar, Maharashtra, Uttar Pradesh and Rajasthan in 2020 felt safer from assaults by not needing to go out in the open to defecate. Although the reasons provided by the respondents for the feeling of security were different in both the studies the fact that toilets contributed to an enhanced sense of security among most rural women in India cannot be denied.

85per cent of the women were of the opinion that the construction of toilets had improved their quality of life, according to the information collected in this study from the villages of West Bengal. This may be similar (perhaps not exactly) to the pride expressed by 88per cent of the women surveyed in Madhya Pradesh, Bihar, Maharashtra, Uttar Pradesh and Rajasthan in 2020 on the ownership of toilets.

This also bolsters the conclusion drawn from the information collected in this study that a large number of women feel safer due to the construction of toilets (the reasons provided may differ for place to place or due to other extraneous circumstances) and also that toilets contribute to a better lifestyle or a better feeling of lifestyle in rural women in India.

From the findings of the cross-sectional survey, FGDs and the attendance records, it was observed that nearly half of the surveyed adolescent schoolgirls reported that they had been absent during their menstrual period. As reported by most of them, their absence from school was mainly due to physical discomfort during menstruation and the lack of basic facilities such as water, bathroom, and toilet facilities for MHM (Vashisht et al., 2018). (MHM- Menstrual Hygiene Management, FGD- Focus Group Discussion)

This study focussed on the impact of the Swach Bharat Abhiyan on girls' education which is very important component of the social status of girls and women in India. According to the study conducted in 2018, about 50per cent of the girls didn't attend school during their menstruation period and the chief cause, as reported by them, was the lack of toilet facilities. This is indeed a rather sad statistic which caused low attendance among girls in middle school. This could also be a reason for the enhanced drop-out rates for girls in middle school in rural India.

The construction of toilets in schools under the Swach Bharat Abhiyan was expected to address the issues of low attendance and high drop-out rates of girls in middle school (when most attain puberty). The findings of this research paper in the data collected from schools point out that: As opposed to almost half of the girls missing school on the days of their menstruation in 2018 due to the lack of toilets, almost 90per cent of the schools questioned as part of this study showed an improvement in the attendance rates of girls in schools after the construction of

toilets. Also, since the construction of toilets, 80per cent of schools reported fewer girls dropping out after class VII.

This data illustrates the positive impact of the Swachh Bharat Abhiyan on the social status of women in rural India in terms of higher attendance and lower drop-out rates of girls in middle school.

The Correlation between awareness of improved health and hygiene and the increase/decrease in average monthly attendance of girls after having a functional toilet was statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [ $r^2$ ] being 0.783, this figure is quite high, that suggests a strong correlation. Therefore, it could be said that the attendance of girls had increased as a result of growing awareness of enhanced health & hygiene following the construction of functional toilets in schools.

Vishwakarma (2016) is of the opinion that, the availability of toilets in schools is known to be positively correlated with girls' school attendance.

The Correlation between awareness of improved health and hygiene and the increase/decrease in school dropout for girls after class VII after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.937. , with coefficient of determination [ $r^2$ ] being 0.878, this figure is quite high, that suggests a strong correlation. Therefore, it could be said that the dropout rate for girls after class VII had dropped as a result of increased awareness of enhanced health & hygiene following the construction of functional toilet in schools.

According to Vishwakarma (2016), Extensive studies on the correlation between the availability of toilets and girls' education are very important as they can provide valuable insights regarding the efficiency of other policy initiatives undertaken for the emancipation of women.

The correlation between awareness of improved health and hygiene and the improvement in overall schooling experience after having a functional toilet was also statistically analysed. It showed a positive correlation with correlation coefficient [r] of 0.0885, with coefficient of determination [ $r^2$ ] being 0.783, this figure is very high, which suggested a strong correlation. Therefore, it could be said that the overall schooling experience had improved after the awareness of enhanced health & hygiene brought on with the construction of functional toilets.

The strong positive correlation between increased attendance of girls in middle school after the construction of toilets, the strong negative correlation between decline in school drop-out rates of girls in middle school in rural India and also the strong correlation between the enhanced overall schooling experience of girls after the construction of toilets are also very strong indicators of the positive impact of the program on the education and thus the social status of women in rural India.

### **5.3.2 ANALYSIS OF ECONOMIC DATA**

According to Minh and Hung, (2011), Given the current state of knowledge, sanitation is undeniably a profitable investment. It is clear that achieving the MDG sanitation target not only saves lives but also provides a foundation for economic growth.

Monetized costs included household financial and time investments in building and maintaining toilets, and government's investments on subsidies and campaign activities.

Monetized benefits included reductions in medical costs and mortality associated with diarrheal diseases, productive time saved from fewer diarrhoea cases and accessing outside defecation options, and increase in the property value of having a toilet (Hutton et al., 2020).

While there were several economic benefits expected from the Swachh Bharat Abhiyan for rural women in India- the data collected from this study shows that the program has had a limited direct positive impact on the income of rural households in West Bengal. This may be because the employment opportunities in the construction and maintenance of the toilets are quite limited. Only ten per cent of households stated that the functional toilet increased family income because one of the family members was employed for the construction job or other project-related activities.

On the other hand, 95per cent of households responded that their expenses had increased after the construction of the toilets due to cleaning, maintenance and repairs required regularly.

This shows that there has not been a much positive direct impact on household income and expenses due to the implementation of the program.

Even the data collected from the schools regarding changes in income of the community related to the installation of toilets corroborated the findings from the individual households. Only 30per cent of school respondents stated that having toilets provided employment opportunities in the local community.

Among the indirect financial benefits expected from the program is the reduction in medical expenses of households. In this case as well, the data is quite inconclusive. Only about Fifty-two percent of respondents stated that there was a decline in medical expenses. This decrease in medical costs could be attributed to improvement in the general health of the family members. According to the respondents there was a fall in infectious and vector-borne diseases due to a decrease in the level of dirtiness in the community.



The remaining 48 per cent of the respondents believed that having a functional toilet at home had increased medical costs although the reasons for the rise in medical expenses was stated as having family members with illnesses unrelated to toilets. The other cited causes of health problems were related to the climate, water, and workplace injuries.

We can thus assume that although there has been a reported rise in medical costs in a little less than half of the respondents' households it is largely unrelated to the installation of toilets.

Pradhan(2017) claims that Gramin swachh bharat mission, earlier the Nirmal Bharat Abhiyan, is aimed to make rural areas free of open defecation till 2019 for which the cost has been estimated is one lakh thirty four thousand crore rupees for constructing approximately 11 crore 11 lakh toilets in the country. A major dimension of the campaign is a plan of converting waste into bio-fertilizer and useful energy forms, for use in farming.

However, the information collected from the rural women in West Bengal indicated that this dimension of the Swach Bharat Abhiyan had been largely unexplored. Eighty percent (80 per cent) respondents did not think about using toilet waste as biogas or fertilizer. They dug a pit close to the toilet, filled it with toilet waste, and then covered it with soil. This showed that most villages had not been able to utilise the toilet waste as biogas or fertilizer which could have accrued them with agricultural and financial advantages. This could have been be a large area of benefit for the farmers ecologically and economically. Lack of awareness &/or infrastructure were probably responsible for this lacuna in the implementation of this program.

Correlation between family income and change in family expenses after having a functional toilet was statistically analysed. It showed a negative correlation with correlation coefficient [r] of -0.178 with coefficient of determination [ $r^2$ ] being 0.031, this figure is close to zero, which suggests a very weak correlation. Hence it can be inferred that there is almost no

relationship between change in family income and that of family expenses after having the functional toilet.

According to a study by Gandhare et al. (2020), Waste that is not properly managed, especially excreta and other liquid and solid waste from households and the community, is a serious health hazard and leads to the spread of infectious diseases...Statistically, it can be concluded that the successful implementation of SBM can improve the health of society.

The correlation between medical expenses and improvement in health after having a functional toilet was statistically analysed in this research paper. It showed a negative correlation with correlation coefficient [r] of -0.722, with coefficient of determination [ $r^2$ ] being 0.521, this figure is high, that suggests a strong correlation. Therefore, it can be argued that the family's improvement in overall health as a result of having a functional toilet has greatly assisted in reducing medical costs. The results of this study are also in line with the above mentioned study by Gandhare, S.N., Narad, S.K., Hiware, N.N., Patil, M. and Fulzele, P in 2020.

We can thus conclude that, while there may have been a negligible direct financial impact of the Swach Bharat Abhiyan on rural women in West Bengal attributable to the construction of toilets, its indirect impact in terms of reduced medical expenses, reduction in infections etc. cannot be denied. Also, the ecological and economical benefit of using the toilet waste for biogas and fertilizer generation is an area that requires the awareness and infrastructure and hence the attention of the policy makers.

#### **5.4 SIGNIFICANCE OF THE RESEARCH FINDINGS**

The Swachh Bharat Abhiyan was a program initiated by the Government of India to address several social and economic issues affecting the lives of the rural as well as the urban populace in India with a primary focus on sanitation, health and hygiene. The basic objective behind the Swachh Bharat Mission is to create sanitation facilities for all and eliminate completely the unhealthy practice of open defecation. It aims to provide every rural family with a toilet by 2019 (Chaudhary, 2017).

The Swachh Bharat Abhiyan aimed to improve the security, health and general living conditions of women and their families. This research paper aims to establish whether there has been a positive, negative or zero impact of the Swachh Bharat Abhiyan on the social and economic status of rural women in India. The findings of this study will help us understand whether the program has been a success in terms of providing women in Indian villages with a better lifestyle. It will also help us identify the areas where the results have not been quite in line with the expected success and hence require further consideration.

The data collected for this study indicates that the social effect of the Swachh Bharat Abhiyan on rural women has been positive and by and large, widespread. About 85 percent of the participants of the study asserted that their lives had improved after the implementation of the program. Almost all the respondents (98 percent) felt safer after the construction of the toilets. 90 percent of girls in middle school claimed that their overall schooling experience had also improved since toilet facilities were provided in schools. There was a strong positive correlation observed between the attendance of girls in schools and the availability of girls' toilets in schools. The data also showed that the dropout rate of girls in middle school had declined to a great extent after the construction of toilets.

This paper thus provides us with a clearer picture of the social impact of the Swachh Bharat Abhiyan on rural women in India. It will help the policy makers realise the importance of maintaining the momentum of the implementation and also making sure of the sustainability of the program so that the women in Indian villages continue to benefit from the policy.

However, the data collected for this study indicates that the economic impact of the Swachh Bharat Abhiyan on rural women in India is an area of concern. About 80 percent of women had not thought about using the toilet waste for fertiliser or biogas making. This is an area that may require the attention of the policy makers for future planning and execution. The economic and ecological advantage of the utilising toilet waste for biogas or fertiliser production may be advantageous to women, their families and rural societies in general. It can also be employed as an incentive for the villagers towards the program.

The data collected for this study did not provide a very clear picture regarding the direct and indirect financial benefits of the Swachh Bharat Abhiyan. Only about 10percent of the households received higher income as a result of the construction, maintenance and cleaning of the toilets while almost 95percent of them expressed that their household expenses had increased since the installation of the toilets. This increase in the household expenditure may act as a deterrent towards the maintenance and construction of new toilets. This may be area of concern for the policy makers as increased expenses may discourage the financially weaker sections of the society from installing toilets.

The data collected with respect to medical costs vs benefits also presented ambiguous results. Almost 48percent of the women studied, reported that their household medical expenses had increased after the installation of the toilets. Although the reasons provided by them for the increase were not related to toilets, a little less than half of the respondents is quite a sizable

number to be ignored. The health benefits of the construction of toilets in monetary terms may be a very effective tool to convince the rural populace of the advantages of the program. Savings in terms of reduced medical costs may also trickle down to economic benefits for women, further improving their status in rural society.

This paper gains significance from the fact that women empowerment in rural areas is an important goal of the Government of India and any empirical or descriptive data collection in this regard would certainly be welcome. If a direct/indirect relationship between the Swachh Bharat Abhiyan and women empowerment can be established it could provide an important blueprint for planning and implementing future rural developmental projects. This would also help the policy makers in deciding the level of the public, specifically women, involvement in governmental policy implementation.

Eradication of social ills is an important welfare ambition especially with focus on rural Indian women. The study of the social and economic impact of the Swachh Bharat Abhiyan on rural women in India may be used as an important tool in framing future welfare policies. This paper could provide an important perspective on how effective are welfare programmes towards the upliftment of rural society particularly the women, which would in turn provide a good basis for framing future developmental policies.

## **5.5 ALTERNATIVE EXPLANATIONS FOR THE FINDINGS**

While the data collected in this study clearly indicated a strong and positive impact of the Swachh Bharat Abhiyan on the social status of women in rural India, the economic impact was not that clearly visible. A little less than half the women in rural West Bengal said that their medical expenses had increased after the implementation of the program. This is a rather

surprising result as it would be expected that availability of toilet facilities would improve hygiene and sanitation thereby reducing medical costs in rural Indian households. However this perceived rise in the household medical expenses can be explained by the factors other than the direct impact of the Swach Bharat Abhiyan. The reasons for the rise in medical costs as conveyed by the women were primarily the ailments of family members unrelated to toilets. Other reasons provided for increased medical costs were climate, water and accident related. So, the economic impact of the Swach Bharat Abhiyan, especially in terms of medical expenses may be alternatively explained by factors beyond the purview of the Swach Bharat Abhiyan.

### **5.6 LIMITATIONS OF THE STUDY**

The objective of this paper was to study the social impact of the Swach Bharat Abhiyan on rural women in India based on the parameters of literacy, employment and overall perceived quality of life. Data was collected regarding the sense of safety among women after the construction of toilets, their overall perceived quality of life from individual households and the attendance logs and dropout rates for girls from schools. While these parameters are important measures to assess the impact on social the status of women, they may provide a limited viewpoint. Other social and developmental variables may also be studied to provide a more extensive perspective. The economic impact was assessed by collecting and analysing information on the increase/decrease in household incomes, expenditures and also medical expenditures attributable to the construction of toilets. There may be other factors that affect economic status of rural women in India with respect to the implementation of the Swach Bharat Abhiyan which may be analysed to provide a better understanding of the matter.

The sample size for this study was 60 women and 10 schools from rural households of West Bengal. The data thus represents the opinions and ideas of these particular women from these areas which may differ from the ideas and experiences of women from other rural parts of the

district, state or country. It may also not be possible to entirely extrapolate this data over a larger nation-wide or state-wide population. Hence, while this sample size is adequate for the purpose of this study, the limitations of this study is thus the projection and representation of a larger population from a sample size of 60 individual participants and 10 schools.

Since the respondents were women from rural West Bengal the information was collected in the vernacular language of Bengali as most of the participants didn't speak or understand English. However, this data was collected by people well-versed in both languages so there was no distortion of facts attributable to interpretation.

## **5.7 RECOMMENDATIONS FOR IMPLEMENTATION AND FUTURE RESEARCH**

### **5.7.1 PRACTICAL APPLICATION OF FINDINGS**

United Nations Sustainable Development Goal 6 (SDG6) aims to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations (Dandabathula et al., 2019). The 'adequate and equitable' access to sanitation and hygiene especially women and girls is surely an important goal for most developing countries including India. It can play an important role in the social and economic emancipation of women which is a much-welcome goal for most nations.

The findings of this study can play a very important role in the formulation and implementation of future Government of India policies for the rural populace especially women. While the emphasis in the first phase of this program was the construction of toilets in most households of the country and make most villages open defecation free; the future phases may need to

focus on making sure that these toilets are maintained and newer toilets are built to make sure that the benefits reach the most marginalised sections of the society.

According to Williams (2002), 'Practical points for including a gender focus in water and sanitation projects:

- It is necessary to carry out a mini analysis of gender, segregated data. Discuss differences in women and men's roles with reference to fetching, storing and using water, decision making and define inequalities that need to change.
- Facilitate the participation of women in meetings and training sessions, holding events at the most convenient time for women.
- Ensure the participation of women in the decision making, selection of the water source, priorities for the use of water, election of the management committee, the type of system, location of latrines and setting the water tariff.
- The formation and composition of the water management committee is critical for the sustainability of the project. Half or more members should be women (minimum a third women), elected by the community and holding key positions.
- Technical and administrative training should be given to women as well as men. Education in hygiene needs to be directed at men as well as women and involve women as agents of change.
- NGO staff and field workers need to be gender sensitive and know how to apply a gender focus. It is important that the staff involved in the project include women as well as men. A flexible approach is essential, in order to take into account specific needs of the community during the project.
- The necessity to define easily applied indicators to measure the gender impact of the action.'

One of the areas that may require the attention of the policy makers is the economic aspect of the Swach Bharat Abhiyan. The success of this program will depend on the perception of the cost-benefit analysis of the people. If they perceive the costs outweighing the advantages of the toilets then they may not be interested in maintaining them. Sanitation and hygiene is an ongoing process and not a one-time task. The cleaning and maintenance of the toilets will be a recurring expenditure, so unless the households feel that the social and economic benefits are justified they may be reluctant to bear the regular costs. Thus, in the future it may be crucial for the policy makers to think of ways of making the program economically beneficial to the people so that they may be incentivised to continue with the program.



In his article, Sanitation in rural India, MK Singh (2014) claims that, ‘We can conclude that Socio-technological approach towards achieving the MDG goal is required. Using environment friendly appropriate technologies from place to place, promoting environment friendly industries, applying BCC among every stakeholder and effective monitoring and implementation can help us getting our target.’ (BCC- Behaviour Change Communication)

Ecological Sanitation or EcoSan is a safe, environmentally and economically sustainable approach to sanitation. It is especially relevant to rural areas where water has to be fetched from far places to houses. Its three basic principles- prevention of pollution, sanitizing urine and faeces for recycling and safely using nutrients found in human excreta for agriculture and horticulture along with less water requirement, more space and less maintenance makes it appropriate option for everywhere. The model of EcoSan described in this paper is economically feasible and proves sustainable as it can be built within the incentive provided in the Swachh Bharat Abhiyaan, the flagship programme of the Government of India. In rural scenario it is economically attractive because it provides organic fertiliser and humus for nourishing poor soils. These EcoSan toilets do not smell and can be modern and up-market. Since, it is suitable for construction in various geographic locations and its usage is also high, policy level interventions for large scale construction of EcoSan toilets under the flagship programme will help in meeting the problem of open defecation in rural areas (Gupta, 2015).

The utilisation of the toilet waste for fertilisers and biogas generation may be a good means for income generation for the villagers. The Indian rural economy is primarily agrarian and so the availability of natural fertilisers and biogas may be quite beneficial to the villagers. The lack of requisite awareness and infrastructure is probably the cause for almost 80percent of the respondents of this study stating that they hadn’t thought of using the toilet waste for fertiliser or biogas generation. Biogas can be a good source of revenue for the villagers. Also, there may

be substantial monetary benefits of using toilet wastes for fertilisers. Future phases of the Swach Bharat Abhiyan would be more successful if there are greater monetary benefits derived from it.

According to the data collected as part of this study, a little more than half the respondents stated that their medical expenses had declined after the implementation of the Swach Bharat Abhiyan. This is also an area of concern in terms of the rural health care system of the country. The health infrastructure of India needs to take into account the information provided by the rural women regarding the reasons behind the household medical expenses. Although most women agreed that there was less dirtiness in the neighbourhood, the household medical expenditure did not decline to the extent that was expected. An awareness campaign of the health benefits of good sanitation and hygiene may surely be a good supplementation to the program.

The Swach Bharat Abhiyan can also be implemented in conjunction with other rural development programs like MNREGA, Beti Bachao Beti Padhao etc. for better and more widespread penetration. MNREGA is essentially an employment guarantee program for villagers and this may be useful in to provide employment to the villagers for the construction, cleaning and maintenance of toilets. The Beti Bachao, Beti Padhao (Save the daughter, Educate the daughter) is a campaign to reduce female infanticide and educate the girls. As has been seen by the findings of this study, the Swach Bharat Abhiyan can provide a big fillip to the Beti Padhao aspect of the campaign. About 90percent of the respondents in the study stated that the overall schooling experience had improved after the provision of girls' toilets in schools. The dropout rates of girls from middle schools has also shown a decline since the implementation of the Swach Bharat Abhiyan. Thus the importance of the Swach Bharat Abhiyan to encourage

girls' education and this study to highlight this aspect of the program cannot be over-emphasized.

The study on Water and Sanitation in schools: a systematic review of the health and educational outcomes conducted by Jasper and Bartram (2012) came to the conclusion that 'The evidence summarized in this paper supports there being a link between gastrointestinal and other diseases has important implications for children's health worldwide. In order to achieve universal access to education as a right for all children, the underlying factors of water and sanitation provision in the school environment and their impacts on health and educational outcomes must be addressed through more rigorous investigation, political attention, and effective intervention.'

This project aims to study, survey and understand the impact of the Swach bharat Abhiyan on the health and educational aspects of children in school. This will help policy makers to address the problems associated with rural education policy to have more far-reaching and effective outcomes.

According to Mills and Cumming (2016), 'while additional research is required to consider the precise nature of the interactions between poor WASH and violence and psychosocial stress, their magnitude, and how best to measure them, the wealth of case studies and other anecdotal evidence available leave little room to question that well-implemented WASH interventions can reduce vulnerabilities – and the perceived threat of vulnerability. The negative impact on women and girls of limited availability of water and sanitation resources, and the physical and social challenges associated with accessing those resources, are beginning to receive greater attention by the WASH sector, but there is a need for improved monitoring of these dimensions.'

This project may also be instrumental in analysing the role that women may play in ensuring the success of this ambitious program. According to Fisher (2006), ‘women who take up a new role in the planning, design and implementation of water, sanitation and hygiene interventions often find this an empowering experience. Both the women concerned and the wider female community can be seen in a new light, as having skills and potential which were previously denied to them. This general improvement in status within the home and community opens up many kinds of opportunities for women, including different means of income generation, and sometimes, the possibility of going on to occupy other public and influential roles.’

In her article, ‘In Sanitation, Put women in Charge’, Naina Lal Kidwai argues, “There is no doubt that women can help to drive change and bring about lasting change as the jan andolan for Swacchhta, health and sanitation gains momentum.”.

According to Fisher (2006), Putting women at the centre of WASH improvements leads to better service provision through:

- \*better technical design and planning, based on key stakeholder consultation
- \*management accountability and transparency in all aspects
- \*sustainable, safe services
- \*responsibility for efficient generation and administration of funds q value for money schemes
- \*scaling-up of benefits to other areas by empowering women and other women’s groups by example to replicate benefits
- \*more efficient awareness-raising about hygienic practice
- \*better maintaining and repairing of components to ensure the smooth running of schemes.

This may result in a greater and more influential role for women in the planning and implementation of the future policies to ensure greater and more sustainable success of the program.

Fisher (2006) claims that, Putting women at the centre of WASH improvements leads to improvement in the status of women because:

- \*they are recognised as having skills and knowledge that is outside the scope of their traditional roles

- \*they strengthen their voice in their family and community to negotiate their own needs

- \*they become confident enough to take up more challenging public leadership roles their relationship with men becomes more equitable they provide a positive role model for other women in the community

- \*women have successfully challenged gender-stereotypes, especially leadership and technical roles women are often perceived to be better technical workers than men

- \*opportunities are presented for employment, greater autonomy and independence

- \*success based on women's involvement can lead to changes in attitudes in both women and men.

This may also play a large role in the empowerment of women as they contribute towards the planning and implementation of welfare programs. This would also be a welcome step towards the involvement of women in decision making and other influential positions in rural Indian society thus elevating their status in it.

Khanna (2019) is of the opinion that, 'the past experience suggest that the successive national governments, aid organization, and charities have sponsored sewerage and toilet construction to improve access, however, this approach has not brought speedy progress as per expectations. Though the toilets have been built but they remain unused in most places because they are either technically or culturally inappropriate or the householders have not been taught the benefits of them. In recent years, Clean India Campaign or Swachh Bharat Abhiyan (SBA) a flagship programme of Government of India, has been launched to eliminate open defecation, insanitary toilets, eradicate manual scavenging, ensure complete disposal and reuse of solid and liquid wastes, and above all bring behavioral changes. It is a well established fact that

inadequate sanitation facilities and lack of awareness not only result in several health problems but also affect social and economic development of a country. To achieve the desired outcomes women need to be educated on the importance of sanitation both in rural and urban areas by focusing on household behaviours and community action.’

This study may also be useful to governmental and non-governmental organizations in identifying areas and activities that require special attention at the local level to improve the quality of the results of the Swach Bharat Abhiyan and to ensure its greater success.

### **5.7.2 SUGGESTIONS FOR FUTURE RESEARCH**

The rationale behind this research is to study the effectiveness of the Swach Bharat Abhiyan vis-à-vis the various parameters of women empowerment like literacy, health, employment, social upliftment etc.

A decline in the infant mortality rates is an important indicator of inclusive development of any country. One of the main reasons for a high rate of mortality among women and children in India may be the lack of basic sanitation facilities.

Baker et al. (2018), claim that, ‘based on our findings, there is a need to more closely examine the pathways through which lack of WASH access and harassment interact to impact maternal stress and, subsequently, birth outcomes. Additionally, interventions that build social capital and change social norms related to gender-based causes of maternal stress in the context of WASH behaviours need to be evaluated, especially in locations with high levels of gender inequity.’

The impact of the Swach Bharat Abhiyan on maternal health and subsequently birth outcomes is an important area that requires further study and research as it will allow the authorities to plan policies and interventions better. The additional focus on locations with high levels of gender inequity will allow better formulation of policies for the betterment of living conditions of women in the rural areas of the country, thus lead the way for their empowerment.

Fisher (2006) is of the opinion that, 'putting women at the centre of WASH improvements leads to better health for all because:

- \*women have a good knowledge about local water and sanitation practices and any associated problems, which can direct interventions

- \*women's interest in the family's health motivates them to bring about improvements

- \*women use group activities to reach other women and disseminate messages about good hygiene

- \*women are targeting men for involvement in sanitation and hygiene promotion so that they too take responsibility for this aspect of personal and family living.'

Further research may be conducted to assess whether there has been an improvement in the health conditions of women and children which can be attributed to clean and hygienic living conditions as a results of the implementation of the Swach Bharat Abhiyan. The role played by women in the creation of awareness regarding health and sanitation and their impact on the health benefits of the program should also be studied so that the program achieves greater success.

A cross-sectional study conducted by Kuberan et al. (2015) involving individuals over 18 years of age living in Thandalam village, Chennai, India showed that, one-fourth of the total participants were devoid of toilets facilities inside their households; leaving them with the options of using community toilets, open defecation or sharing the toilets with other households which in turn promotes the increase in incidence of water-borne disease.

According to George (2009), to add energy to the TSC, in June 2003, the government initiated an incentive scheme called the 'Nirmal Gram Puraskar' (NGP) for fully sanitized and open defecation-free Gram Panchayats, Blocks, and Districts. Eligible Gram Panchayats, Blocks, and Districts are those that achieve (a) 100% sanitation coverage of individual households, (b) 100% school sanitation coverage, (c) freedom from open defecation and (d) environmental cleanliness...NGP has succeeded in setting off a healthy competition among Gram Panchayats. The award has brought about a silent revolution in the countryside in sanitation. The pride and honour associated with receiving an award from the President of India is a reason in itself for heads of GPs to take a personal interest in covering all households and schools with sanitation facilities under TSC. To meet all the eligibility criteria, they pay attention to eradicating open defecation as well as solid and liquid waste management. TSC- Total Sanitation Campaign, GP-Gram Panchayat

The impact of the Nirmal Gram Puraskar on influencing and stimulating the villages to adopt better sanitation practices is also a sphere that warrants further study and exploration. This will help policy makers to identify the specific policy measures that resonate with the rural populace and will allow them to plan and implement future programs accordingly.

Future studies may thus be conducted to study the advantages and disadvantages of promoting the construction of household vs community toilets to ensure effective results that benefit most.

In their study based on villages in India, Pakhtigian et al. (2022), found that 'the latrine use behavior of women in a hamlet is a strong predictor of both women's and men's sanitation behaviors. In contrast, latrine use among men is, at best, a weak predictor of latrine use among other men and does not affect women's latrine use. These findings suggest that peer influences represent an important mechanism underlying household sanitation behavior, and that policies



that leverage these social effects—by investing specifically in women’s sanitation behavior change, in our specific example—may be more effective and sustainable.’ Future programs may thus be designed keeping the peer-influence of women in mind to achieve the best outcomes. Also, further studies may be conducted to understand the impact of different communication strategies on women directly and in turn on the effectiveness and sustainability of the Swach Bharat Abhiyan.

In their study, Kanda, Ncube and Voyi, (2021) stated that, ‘improved coverage and reduced open defecation were reported but with limited significant effect to the prevalence of diarrhea and trachoma. Recommendations were the need to achieve total coverage to achieve health gains. However, this may need further enquiry if sustained use is not considered. The provision of sanitation services has to go beyond having access to a facility (hardware) to increase coverage. A latrine has to be accepted and effectively and consistently used, starting at household to the community level in rural areas. Various factors that influence latrine uptake have to be considered, including user preference. Sanitation technologies that include collection, containment, treatment, and disposal of fecal matter at once on site may help reduce multiple human exposure routes through the sanitation service chain. This is because health benefits may be realized by considering the whole sanitation service chain from the interface to disposal, including hygiene. However, other factors influence the selection of such technologies. Hygiene becomes critical in reducing human exposure to fecal pathogens while consistently using latrines. Efforts to end open defecation should also discourage having unimproved latrines at home and unhygienic latrine use.’

Future research may thus be conducted to study the direct and/or indirect health benefits of the sanitation program and thus throw light on the importance of the sustainability of the program and finding the means to so thereby ensuring maximum benefits to the marginalised sections of society.

According to Silva et al. (2020), ‘these findings highlight the need to recognize the important role of women in activities related to water and sanitation and their related impacts. Tasks related to lack of water supply and sanitation solutions in rural areas of Brazil also underscore the urgent need to discuss how men and women have been educated, taking into account the social construction of gender and its negative impacts on women's lives and what can be done to ameliorate such glaring differences. Overcoming this reality can only be achieved through public policies that recognize and address, and do not amplify, the role of women. Awareness of a more egalitarian division of culturally established responsibilities is needed. In this sense, the National Program of Rural Sanitation (PNSR) is an example of policy initiative that not only recognizes the fundamental role played by women in relation to water supply and sanitation activities, but also has within its scope clear guidelines and strategies aimed at empowering women, reaffirming and encouraging their participation in the workplace, prioritizing the fulfillment of their demands, and indicating a more equitable division of tasks.’

According to Nawab et al. (2006), in Pakistan, ‘People use cultural lenses for evaluating any intervention, including sanitation. Therefore, for new solutions to sanitation to flourish in rural communities, one has to understand the prevailing cultures, preferences and practices. One has to tailor-make sanitation technology to the local cultural environment. To tackle this challenge, more open discussions around sanitation need to be undertaken in the villages such that people can relate their cultural and religious knowledge and perceptions with scientific knowledge on sanitation, health hygiene and recycling.’ In their study based on ‘Women’s approach to rural

sanitation’, in Bangladesh Islam et al. (2000) conclude that, ‘The learning of this discussion is that women are main actor in sanitation sector and to act on sanitation and adapt in inimical environment for sanitation they formulated and use an approach. To ensure whole participation of women in sanitation project concerned authority should comprehend and apply women’s approach. Then exclusive sanitation practice and sustainability in sanitation with 100 per cent coverage will be ensured.’ Mbatha (2011) concludes ‘that gender empowerment and equality are norms that are needed in the school and community in order to make schooling accessible to all children, especially girls. The GAD approach is a viable theoretical approach to work from because it promotes mainstreaming of gender development activities of government. In the case of Swaziland, this research suggests that there is case for these to be introduced, particularly in education, and water and sanitation, so that current patriarchal practices that oppress women and prevent their voices from being heard on issues that affect them may be addressed.’ GAD- Gender and Development

The study of the successful/unsuccessful implementation of Cleanliness campaigns in other developing countries may also be helpful to policymakers as they can then learn from their experiences and benefit from the knowledge.

Cairncross (2004) is of the opinion that, ‘Latrine designs must respond to what people want, rather than what sanitary engineers believe they should have. In Mozambique, for example, the marketing of a new approach to sanitation began with many visits to existing latrines and consultations with their owners. This ‘market research’ revealed that most people were used to open-air defecation and did not want a superstructure, beyond a matting fence for privacy.’ It is thus important to adopt a bottom-up approach and study the local requirements of the people and plan and implement the program accordingly instead of following a top-down approach and impose universal remedies that may not be applicable to all.

Manual scavenging is a medieval menace still practiced in several Indian villages. The elimination of manual scavenging from rural Indian society would be an extremely welcome effect of the Swachh Bharat Abhiyan. Future research may be conducted to ascertain the effectiveness of the Swachh Bharat Abhiyan in removing the social evil of manual scavenging from Indian villages.

Another social evil still prevalent in several Indian villages is untouchability. Studies that can link the eradication of untouchability with the implementation of the Swachh Bharat Abhiyan will give an additional boost towards the effective implementation of the program.

The successful implementation of the Swachh Bharat Abhiyan may also be helpful in reducing the ill-practice and influence of the caste system in rural India as toilet usage is an egalitarian requirement of all castes and strata of society. The impact of universal sanitation on the rural caste system may also be analysed to get a more holistic perspective on the social effect of the Swachh Bharat Abhiyan on rural India.

In their study, Freeman et al. (2012), found compelling evidence of the impact of school-based WASH improvement on school absence for girls. Additional work is necessary to explain the mechanism of impact on girls: is it privacy, menstrual hygiene management, health, or is there some other reason.

According to Fisher (2006), 'putting women at the centre of WASH improvements leads to more girls attending school because:

- \*they no longer have to travel long distances to collect water for their families therefore giving them time to attend school

- \*where schools have clean water supplies and private toilet facilities for girls, they are more likely to attend school

\*menstruating girls are able to deal with this in a discreet way, saving themselves public embarrassment and reducing the number of girls forced to drop out from school

\*female teachers are easier to recruit and retain, if schools have good water and sanitation provision.’

Specifically, in India, further studies need to be conducted to analyse the reasons behind the correlation between improved school attendance of girls and the implementation of the Swach Bharat Abhiyan. This will provide us with a clearer picture of the reasons behind the results of this study and a better understanding of the ground realities. Also, the impact of the role of women in the construction of toilets in schools and their success/failure thereof in influencing girls’ literacy rates and attendance rates in school may be studied and analysed to aid future policy formulation and execution.

Cairncross (2004) claims that, ‘The product must be delivered to the right place; in particular, a latrine must be installed in the customer’s own home. This means that the supply chain has to reach every household. Sanitation programs in Lesotho, Benin and elsewhere have trained local masons not only to build latrines, but also to do their own marketing.’ The last-mile reach of the program must be planned carefully so that it reaches and benefits the most remote places and people.

Life expectancy rates are also a good measure of the medical benefits of the Swach Bharat abhiyan for rural women which may be attributed to the program. Any correlation between better health conditions and the Swach Bharat Abhiyan, if established, may help policy makers to formulate future health and hygiene awareness programs in rural India. This study can also lead to the social empowerment of women as decision makers as they take up bigger roles in bringing about other social changes in rural society as well.

In their study, Ademiluyi and Odugbesan (2008), concluded that, ‘full involvement of communities in all stages of programme implementation and management is the correct pragmatic approach for the present. However, this approach does not divest Governments and NGOs of their responsibility for continuing and evolving support of the programmes which they promote. As communities change, and the needs of their water and sanitation systems change, the appropriate type of support – education, training, financial subsidy, technical assistance, maintenance, even rehabilitation - should evolve. Without support, however, few community-based water and sanitation systems will achieve anything approaching permanence.’ This study on the Impact and Sustainability of community and water supply and sanitation programmes in Nigeria throws light on the importance of community involvement for the sustainability of the sanitation programs. Further research in the field of community involvement and effecting greater community involvement in India may be conducted to allow for better implementation of the Swach Bharat Abhiyan and also allow for the efficient reach of the program benefitting most.

An extremely alarming statistic is the 87percent rise in crimes against women from 2011 to 2021, according to the National Crime Records Bureau. The security of women and children as they have to leave the safety of their homes in the early, dark hours of the morning for their daily toilet needs may be grave cause for concern.

Fisher (2006) claims that, ‘putting women at the centre of WASH improvements leads to greater privacy and dignity for women because:

- \*women’s particular needs are taken into consideration

- \*symptoms associated with menstruation, pregnancy and child birth can be managed discreetly

- \*women can relieve themselves when they need to, rather than waiting until they can have some form of privacy

\*women suffer less harassment and no longer have to endanger their health by delaying defecation and urination.

\*women's exposure to sexual abuse and other forms of violence is reduced

\*personal hygiene is easier to maintain, giving women greater confidence and self-esteem in maintaining their own cleanliness.'

An important area of research that may be conducted is thus the presence or absence of any correlation between the construction of toilets and crimes against women in Indian villages. Studies may also be conducted to assess the influence of women's involvement in the sanitation policies and implementation and the success of the program in addressing these problems faced by their gender.

According to Vogel et al. (2022), as a country with diverse cultural and economic regions, the experience of women in India varies from the diverse urban localities to the rural areas. Because there is such a variety of cultures, social stigmas, and levels of access to resources within the country, no singular product or direction of aid could benefit every woman in the country.

It is thus important to study the geographical and regional variations in the effectiveness of the Swach bharat abhiyan and its impact on the lives of rural women in India. These area-based differences may play a crucial role in formulating local sanitation policies for better results as they can be adapted to the local conditions and hence yield better results in terms of impact most of the target population. Future research may thus be conducted to study the differences in the impact of the Swach Bharat Abhiyan on the status of rural women in India and also the differences in the sanitary requirements of the local populace.

According to Deshpande et al. (2020), 'targeted rural interventions might be needed to serve those with the lowest levels of access, for whom increases in access have not been as substantial. Ethiopia, for example, was able to increase the lowest levels of access to improved

water facilities by 2017. In remote communities where a small number of people continue to have no access despite a high national access level, local-level investments in infrastructure are probably most suitable to address this disparity.’

Future studies may be conducted to assess and understand the varying levels of performance of the sanitation programs launched by other countries and then draw conclusions and lessons from their successes or failures.

Dwipayanti (2019) states that, ‘this study highlights that in rural Bali, local values of harmony and purity, and culturally defined roles can influence sanitation practice across the life stages and programme implementation. Different individuals have a variety of considerations and motives, based on local cultural values of harmony and purity, which can modify perceived risk, barriers and set priorities in regard to acceptance, construction and maintenance of toilet facilities. In addition, a community's particular definition of community roles could affect the methods for involving different role-players in effective participation. Any sanitation programme needs to work *with* these values and norms. This means adapting the sanitation practice to the local needs and values and making the implementation and maintenance process fit with local norms and customs.’

It is thus important to observe and study the local customs and rituals and the role they play in individual and community decision-making as they may have a crucial bearing in the success of the implementation of the program and also its sustainability. Planning the policies at a micro level may need a good understanding of the local conventions and practices.

Future studies may be conducted to assess and understand the varying levels of performance of the sanitation programs launched by other countries and then draw conclusions and lessons from their successes or failures.



According to Botting et al. (2010), ‘future research would benefit from the accessibility of sub-national level monitoring of progress in water and sanitation access as well as health surveillance. Since country-level data is often derived from census data, it is highly likely for many countries that district and even city-level data is available, but not accessible.’

The ecological and economic benefit to rural India in terms of using toilet waste for bio-gas, organic fertiliser manufacturing etc. may also be an area of future research. This will help policy makers to find other means of incentivizing the villagers towards the implementation and maintenance of the program.

The effectiveness of the Swachh Bharat Abhiyan in reducing communicable diseases in rural India may also be studied to assist the medical experts of the country in formulating and implementing future health-care policies.

According to Scherer et al. (2021), ‘specific guidance on the rights of children and women with disabilities is limited and needed in WASH policy and programming. Programs did not reflect the same rights as endorsed in policy documents, and the reasons for this should be explored further in qualitative research. Other countries would benefit from conducting similar analysis to identify gaps in their WASH policies, of which to address.’

India has a rather dismal record in terms of providing provisions for people with disabilities, including the basic facilities like sanitation and hygiene. Future research may thus be conducted to assess the rights of women and children with disabilities in terms of health and sanitation provisions and programs so that future policies may be formulated keeping their benefit in mind as well.

## **5.8 CONCLUDING SUMMARY**

Perez et al., (2012) state that, ‘Over the last 30 years, most rural sanitation projects have had pockets of success, but were small in scale and could not be scaled up. Learning how to expand on the successes of small-scale projects to increase access at large scale has been an enduring challenge. Project outcomes often fail the sustainability test once external funding ceases, and the benefits, even if sustained, remain limited to project areas. Despite growing political will to do more about rural sanitation, the lack of evidence and examples of effective and sustainable large-scale rural sanitation programs has constrained governments and development partners. In an attempt to help address these issues, starting in 2007, the World Bank's Water and Sanitation Program (WSP) provided technical assistance to help governments design, plan, implement, and monitor national rural sanitation programs that start at scale and are sustainable. This initiative was carried out in three countries, India, Indonesia, and Tanzania. To increase the supply of sanitation products and services, efforts were made to build the capacity of local builders, manufacturers, and suppliers of sanitation products and services. In addition, in all three countries, national governments have developed, reformed, or improved national sanitation policies to become demand-responsive, and local governments have strengthened their capacity to facilitate community-led efforts to stop open defecation and to support the local private sector to build improved sanitation facilities.’

Pandya and Shukla (2018) are of the opinion that the economic, social and political position of women can be improved through creating the positive impact of water and sanitation service sector as it can address the issue of inequality. The effort to improve sanitation and water supply services would really help to improve the security and health of not only women but also of their families.

Eradication of social ills and economic inequality is a very important welfare ambition, especially with the focus on rural Indian women. The primary focus of this study pertains to the success/failure of the 'Swachh Bharat Abhiyan' and its implementation with respect to its impact on the status of rural women in India. This paper aims to analyse and study the success or failure of the Swachh Bharat Abhiyan in addressing and solving some of the myriad problems faced by women in rural India.

According to Williams(2002), 'it is important that projects in water and sanitation consider women's strategic necessities, such as participating in decision making, access to and control of resources, economic production, confidence and capacity building, as well as practical necessities - supplying water, constructing latrines. Carrying out water and sanitation projects with a gender focus and community participation water projects increases the success and sustainability of the project, creates a basis for co-operation between women and men, and at the same time a framework for exploring and confronting inequalities. Women's participation in water projects and water management committees impacts at various levels within their private, community and public lives as well as empowering through increasing self confidence, negotiating abilities and technical skills.'

According to Munamati et al. (2016), 'the consistent results across the different regression equations strongly confirm the association between sanitation success and education. The detections of this study are also quite consistent with the aforementioned findings. This study throws light on the strong and positive social impact of the Swachh Bharat Abhiyan on rural women in India with a focus on West Bengal. This may be useful as an important input in formulating future phases of this program and also other women emancipation programs for rural India. The high hygiene awareness in schools post the implementation of the Swachh Bharat Abhiyan is a good measure of the successful implementation of the program and its

positive effect on the vulnerable sections of rural society. This information can be used as a driving force towards other positive social changes as well as enlightenment leading ultimately to the empowerment of the weaker sections of rural society in India. The positive impact of the campaign in terms of girls' education was also highlighted by the data collected in this study and it is an important indicator of the effectiveness of this program in effective good and positive social changes in rural India.'

In his study Gupta (2015) claims that, '20 EcoSan toilets were constructed in hard rock and water scarce areas in 11 different villages from Chhattisgarh and Madhya Pradesh State. These toilets have shown 100% usage, where the traditional toilets have failed and demand is coming for construction of more toilets. Since, now these toilets can be financially accommodated under the provisions of the Swachh Bharat Mission and the rising acceptability of the toilet amongst the community, it can be expanded in the larger community.' The ecological aspect of the Swachh Bharat Abhiyan was shown to be quite minimal in this survey. This positive impact and its benefits to the rural people specifically and to the overall environment as a whole needs to be communicated to the people as it may act as an incentive towards its better implementation and adoption.

The economic impact of the Swachh Bharat Abhiyan on rural women in West Bengal was not quite unambiguous in the data collected for this study. This facet of the program may need further attention and focus to make it more effective and to achieve greater success.

Moorthy (2006) claims that, 'Lessons learnt from experiences on Gender, Hygiene, Sanitation and Water Supply programmes in Bihar • Gender and the role of women is a central concern in hygiene, water and sanitation. • Specific, simple mechanisms must be created to ensure women's involvement. • Gender analysis is integral to project identification and data collection. • Attention to gender needs to start as early as possible. • Ensuring both women's and men's

participation improves project performance. • A learning-by-doing approach is more gender responsive than a blue print approach which assumes that everything is known & can be planned in advance. • Projects are more effective when both women's and men's preferences about "hardware/choices of technology" are addressed. • Women and men promote project goals through both their traditional and non-traditional roles. • NGOs and especially women's group can facilitate a gender balance approach. • Gender-related indicators should be included when assessing project performance. • Gender issues are important because the influence sustainability and effective use of facility.'

The study of the economic and social impact of the 'Swacch Bharat Abhiyan' on rural women would help the policymakers in deciding the role of women in governmental policy framing and implementation.

## **CHAPTER VI- CONCLUSION**

### **6.1 OVERVIEW**

As per the 2011 Census of India, 68.84% of India's population lived in villages; among those, only 32.70% of the households had access to toilets. Among the sections of society that were probably the worst affected by the lack of toilet facilities were rural women in India. The inconvenience and the security threat of relieving themselves in the open during the early hours of the day, the adverse health effects of poor access to toilets, the negative impact on attendance and overall girls' education during menstruation and the difficulties faced by them due to the lack of this basic human amenity, were just some of the many problems that women, especially in rural India faced before the launch of the Swachh Bharat Abhiyan.

The Swachh Bharat Mission - Gramin (SBM-G) was launched in October 2014 with the target of achieving an open defecation free (ODF) India by October 2019...To date there has been quantitative research however little work has looked in depth at the diverse range of drivers of change within communities and households. There has also been a conspicuous lack of voices from the villages themselves (Abraham et al., 2018).

This research paper aimed at filling this gap in the existing research and estimating the Social and Economic Impact of the Swachh Bharat Abhiyan on rural women in India. Data was collected from rural women in West Bengal regarding the effect of the Swachh Bharat Abhiyan on their social status and also their economic position. This data was then collated, studied and analysed to assess the presence/absence of a correlation between the Swachh Bharat Abhiyan and various parameters of women empowerment in rural India. This study would aid policy-makers in better planning and efficient implementation of the programme keeping in mind the

gender perspective which may have a mutually beneficial relationship between the empowerment of women and sanitation in Indian villages.

## **6.2 SUMMARY OF FINDINGS**

Khanna and Das (2016) are of the opinion that, ‘while the topic of women and water, sanitation and hygiene is a widely accepted concern among academics and activists, it continues to be an issue in developing countries with serious consequences. Based on a qualitative research conducted in rural Uttar Pradesh, India, the paper affirms that sanitation issues for women and girls are compounded by inequitable gender norms that put them at greater risk of experiencing violence and multiple health vulnerabilities. Women, despite having a high demand for safe toilet facilities, continue to practise unsafe sanitation. The findings highlight the role of three structural constraints as the key factors influencing toilet construction and use: poverty, inadequate sanitation policy and its implementation and gender-based power dynamics at the household level. The paper concludes by emphasising the relevance of engendering sanitation programmes and policies by involving women and girls in the planning process to ensure that dignified and gender-sensitive sanitation solutions are developed. The paper also stresses the need to have measures for strengthening and effectively implementing a sanitation policy for the poor and for programmes to work with both men and women to address gender power relations which influence toilet adoption and use.’

This paper aimed to assess the social and economic impact of the Swachh Bharat Abhiyan on rural women in India.

The social impact of the Swachh Bharat Abhiyan on rural women was assessed on the basis of parameters like literacy, employment, perceived quality of life etc. The economic impact of the

Swach Bharat Abhiyan was assessed by observing the changes in household income and expenditures attributable to the implementation of the program.

### **6.2.1 Social Impact**

According to Lidonde (2004), 'school dropout and low literacy rates, especially among female children, can frequently be attributed to poor sanitation and health conditions in schools: Girls, who are already marginalised in accessing education, keep suffering because of inadequate sanitation facilities that allow them no privacy, especially during their menstruation period. The lack of private sanitary facilities for girls discourages parents from sending girls to school, contributes to the drop out of girls at puberty and is a contributing factor to the production of fewer women teachers - the teachers most needed and best placed to encourage girls to attend school. The low level of literacy amongst women, as a result of girl drop-out, aggravates prejudices based on inferiority and superiority complexes between men and women. By promoting girls' attendance and retention in school the sanitation project instils sound cultural patterns of conduct for the future.'

The findings of the study indicated that there had been a largely positive and widespread social impact of the Swach Bharat Abhiyan on rural women in India. A large number of women (about 85 percent) claimed an improvement in their quality of life after the implementation of the program. Almost all the respondents (98 percent) felt more secure after the construction of the toilets. 90 percent of girls in middle school claimed that their overall schooling experience had also improved since toilet facilities were provided in schools. The study also showed a strong positive correlation between the attendance of girls in schools and the availability of girls' toilets in schools. It was also observed from the data that the dropout rate of girls in middle school had declined to a great extent after the construction of toilets.



In their research on ‘Women's role in sanitation decision making in rural coastal Odisha, India’ Routray et al. (2017) found that, ‘Though governments and implementers emphasize women’s involvement in sanitation programmes, socio-cultural factors and community and household level dynamics often prevent women from participating in sanitation-related decisions. Measures are needed for strengthening sanitation policies and effective implementation of programmes to address gender power relations and familial relationships that influence latrine adoption and use.’

### **6.2.2 Economic Impact**

Burger and Esrey (1995) assert that, ‘in addition to improvements in food preparation and processing, women may also increase their income by devoting more time to learning and engaging in income-producing activities. Thus incomes may increase, and the increased purchasing power of women could lead to increased nutrient intake, not only of children but of mothers as well if more food is bought and consumed.’

The results of the study indicate that the Swach Bharat Abhiyan has had a limited direct positive impact on the income of rural households in West Bengal, while the program was expected to provide several economic benefits to rural Indian women. This could be because not many employment opportunities were generated in the construction and maintenance of the toilets. Only ten per cent of households stated that the implementation of the program increased family income.

On the other hand, a large number of households (95per cent) responded that their expenses had increased after the construction of the toilets due to cleaning, maintenance and repairs required regularly.

The data collected from the schools regarding changes in income of the community attributable to the installation of toilets also corroborated the findings from the individual households. Only 30per cent of school respondents stated that the Swach Bharat Abhiyan had provided employment opportunities to members of the local community.

The findings of the data, with regards to the indirect financial benefits like reduction in medical expenditure of households, expected from the Swach Bharat Abhiyan were quite inconclusive. Only a few more than half the respondents (about 52percent) stated that there was a decline in their medical expenses. This decline in medical costs could be attributed to improvement in the general health of the family members. According to the respondents there was a decline in infectious and vector-borne diseases due to a better hygiene and sanitation in the community. The remaining 48per cent of the respondents claimed that having a functional toilet at home had increased their medical costs. However the reasons for the rise in medical expenses was stated as having family members with illnesses which were unrelated to toilets. The other cited reasons of health problems were related to the climate, water, and workplace injuries.

This research paper can thus safely conclude that although there has been a reported rise in medical costs in a little less than half of the respondents' households, the rise is largely unrelated to the installation of toilets.

This study has also found that the ecological and economic advantage of using toilet waste as biogas and/or fertilisers is an area that hasn't been explored much in the implementation of the Swach Bharat Abhiyan. Eighty percent (80per cent) respondents did not think about using toilet waste as biogas or fertilizer.

The results of this study thus show that there has not been a much positive direct impact on household income and expenses attributable to the implementation of the program.

### **6.3 RECOMMENDATIONS FOR FUTURE RESEARCH**

In their discussion paper, Burt et al. (2016) conclude that, inadequate access to sanitation in a community is an inherently gendered problem, requiring an explicitly gendered solution. Pursuing the human right to sanitation and gender equality requires that policymakers and practitioners incorporate women's voices and women's unique needs in tracking progress towards this goal, project planning and infrastructure design, and in the creation of financing options and government partnerships. Safe sanitation is a gateway service for the enjoyment of other human rights; it is a basic necessity that pulls down other development goals when it is neglected.

The purpose of this research was to study the effectiveness of the Swachh Bharat Abhiyan with respect to the various parameters of women empowerment like literacy, health, employment, security etc. Future research may be conducted regarding the effect of the Swachh Bharat Abhiyan on other human developmental indices to get a larger and more extensive perspective.

The absence of toilets in rural households may be a reason for the high rate of mortality among infants and women. A decline in the infant mortality rates is an important indicator of good and inclusive development of any country. Future studies may be conducted to understand whether there has been an improvement in the health conditions of women and children attributable to clean and sanitary living conditions as a result of the implementation of the Swachh Bharat Abhiyan.

Manual scavenging is a medieval scourge still practiced in several Indian villages. The eradication of manual scavenging would be an extremely welcome effect of the Swachh Bharat Abhiyan. Future research may be conducted to study the effectiveness of the Swachh Bharat Abhiyan in removing the social evil of manual scavenging from Indian villages.

Manual scavenging is often associated with untouchability which is still prevalent in several Indian villages. Studies that can link eradication of untouchability with the Swachh Bharat Abhiyan will give an additional fillip towards the effective implementation of the program.

The impact of universal sanitation on the rural caste system may also be studied to throw light on the social effect of the Swachh Bharat Abhiyan on rural India.

The effect on life expectancy rates attributable to the Swachh Bharat Abhiyan is an important indicator to ascertain the medical benefits of the program on the people. Any correlation between better health conditions and the Swachh Bharat Abhiyan, if established, may help policy makers to spearhead health and hygiene awareness in rural India. This can also lead to the social upliftment of women as decision makers as they take up bigger roles in bringing about other social changes in rural society as well.

According to Baden (1999), the widespread adoption of the community participation approach to WSS activities should not be seen as a panacea; strengthening women's participation requires specific strategies. A gender based approach is needed to ensure that women's work or financial burden is not increased without commensurate gains. (WSS-Water supply and sanitation)

Future research may thus be conducted to strategize and plan the involvement of women in policy framing and execution by taking into account the financial, physical and social impact of the programme on the status of rural women.

According to the National Crime Records Bureau, there has been an 87percent rise in the crimes against women from 2011 to 2021. This is a rather alarming situation. An important area of research that may be conducted is thus the presence or absence of any correlation between the construction of toilets and crimes against women in Indian villages.

In their study Ademiluyi and Odugbesan (2008) concluded that, ‘the achievement of sustainability requires incentives for all stakeholders involved in use, maintenance, financing, and continuing support of water and sanitation services.’

The sustainability of any programme is dependant of several factors chief among which is the perceived benefit by the various stakeholders. It is thus important to assess and observe the involvement of all the stakeholders in the planning and implementation stage of the Swach Bharat Abhiyan and future research may thus be conducted in this area to ascertain the sustainability of the programme.

‘The high cost of constructing a suitably large latrine pit contributes to the slow adoption of latrines. Our interviews suggest that the way in which a small group of wealthy and influential villagers build latrines reinforces open defecation among the many poor, who cannot afford such expensive latrines’ (Coffey et al., 2015). It is thus important for policy makers to explore the perceived economic costs and benefits of the Swach Bharat Abhiyan for the rural populace so that they may be incentivised to build and maintain toilets. Also, efforts to make the toilets more affordable by subsidies or cost reduction will also help in reaching the weakest sections of society.

According to Pettersson and Wikstrom (2012), ‘in large parts of the world, the lack of proper sanitation entails disastrous health effects which to a large extent could be prevented by available, context adapted, sanitation facilities. Bad sanitation is also wasteful. Human excrements contain the most important nutrients necessary for plants to grow and tend to end up in rivers, leading to eutrophication, instead of being used productively. Studying a project in Mali where we collected demographic, economic and farming data from 618 households, of which 155 benefitted from the construction of a so-called EcoSan dry toilet, we find that the

use of human fertilizer have no effect on household wide agricultural productivity, though it seems to decrease the use of artificial fertilizers.’ The reduction in the use of artificial fertilizers is good both ecologically and financially for the farmers as it reduces the cost of ways of increasing the fertility of the soil. The experience of eco-friendly sanitation programs in Mali can provide valuable inputs to Indian policy makers in prescribing programs for the country.

#### EcoSan- Ecological Sanitation

The public sector plays a very crucial role in this welfare program so it is important to study and monitor its contribution in the planning and execution of the campaign. Cairncross (2004) claims that, ‘The public sector must understand existing demand for sanitation, and what limits it; overcome those limits, and promote additional demand; stimulate development of the right products to meet that demand; facilitate the development of a thriving sanitation industry; and regulate and coordinate the transport and final disposal of wastes.’

According to Sarkar and Bharat (2021), water and sanitation missions cannot predominantly be a Central Government programme with construction targets. State-level annual reports in legislatures can ensure better scrutiny and accountability of initiatives.

An effective institutional framework is needed which, on the one hand, enables communication vertically between the SDG-coordination nodes at Central and State levels and, on the other hand, enables sectoral policies (such as water and sanitation) to communicate horizontally between the sectors and the SDG-coordination nodes at Central and State levels. The investment in the water and sanitation sectors has increased manifolds through the Central Government schemes in recent times, which is a crucial factor supporting the policies for an enabling environment. The optimisation of all the SDGs in an integrated manner requires that state-level policies with regard to the other SDGs be also taken into cognizance. Sustainable Development Goals (SDGs).

It is thus important to explore the coordination between the macro and micro goals of the central, state and local governments and also the possible synergies between the various SDGs so that multiple goals can be achieved and most people benefit.

Worldwide, 892 million people practice open defecation, most of whom live in rural areas of South Asia and Sub-Saharan Africa. Community-Led Total Sanitation (CLTS) is the most widely deployed approach to generate demand for, and use of sanitation facilities. CLTS relies on behavioral change and community self-enforcement to end open defecation. Since its genesis in Bangladesh in 1999, CLTS has spread to approximately 60 countries, mostly in Asia and Africa, and is employed by the majority of development organizations operating in rural sanitation (Zuin et al., 2019).

The role of Community led sanitation programs in the effectiveness of the Swachh Bharat Abhiyan should be studied and explored further. This may help the government and policy-makers to plan and envisage their role in the planning of future programs for maximum outreach and success.

Patil et al. (2013) found that there was also an income differential in the construction and adoption of toilets. 'The study also found that subsidies provide a strong incentive for rural Indian households to build toilets and reduce open defecation, particularly among poor households who received the largest subsidy. Households below the poverty line (BPL) were far more likely to build toilets (+31%) than non BPL households (+15%). Nevertheless, the use of constructed toilets appears to lag behind their construction: although BPL households were less likely to report daily adult open defecation (-19%) compared to non BPL households (-6%), these reductions were not commensurate with the increase in toilet construction. These results suggest that subsidies likely accelerate toilet construction, but are insufficient to guarantee use.' Future research may thus be conducted on the role of subsidies in incentivising

the rural populace to construct toilets and also its limitations in terms of incentivising behavioural changes commensurate with their regular usage and maintenance.

The WASH (water, sanitation and hygiene) sector typically focuses on changing the physical environment to improve sanitation, however women had concerns beyond this dimension. The WASH sector can change the physical environment to mitigate concerns related to other dimensions. To address social environment concerns, women should decide where to place toilets to optimise accessibility and safety; low-cost lights could be installed for safer, independent use and locks could enable privacy. To address personal constraints, water could be available within toilets to eliminate fetching, walkways could be constructed to prevent falling and elevated seats or rails could aid the elderly, infirm and pregnant. Furthermore, sanitation programming should include messaging that aims to ameliorate the sanitation constraints women face because of their gender (Caruso et al., 2017).

According to a study on the impact of a school-based hygiene promotion and sanitation intervention on pupil hand contamination in Western Kenya, potential gender differences in sanitation and hygiene behaviours need to be better understood so that WASH intervention strategies can be appropriately developed to address the unique needs of both girls and boys. Future WASH intervention trials should attempt to better understand the specific mechanisms by which school attendance is impacted, as assumptions about disease reduction may not hold (Greene et al., 2012).

Studies may also be conducted to observe and address local issues that may influence the implementation and success of the Swach Bharat Abhiyan. An analysis of the differences in the success of the program in terms of implementation and sustainability from region to region will allow the policy makers to identify local issues that may require special attention.



According to Coffey et al. (2015), ‘despite the fact that young women are more likely to use available latrines than men or older women, this behaviour may not necessarily reflect their own preferences. The behaviour of young women in rural north Indian villages is highly regulated; higher-ranking family members often perceive a duty to prevent or discourage young women from leaving the area near the home for any reason, including defecation. As a result, latrine use among young women may, in many cases, reflect a constraint rather than a preference.’ It thus emerges that social awareness and behavioural changes play a crucial role in the success of this program. The government should thus focus its attention towards shaping the community’s attitude towards women and their rights and also advertise the benefits of sanitary practices for women in particular and the society in general to effectively contribute towards their empowerment.

According to a study by Vyas and Spears (2018), ‘the association between sanitation and religion also more than accounts for the difference in rural open defecation rates between South Asia and sub-Saharan Africa, where 40 per cent of households defecated in the open in 2005. South Asia’s rural open defecation rates are expected to be even lower than sub-Saharan Africa’s because South Asians are richer on average.’ It is thus important to explore the existence or absence of a correlation between sanitation and religion further. This will help in deciding the road map towards initiating social and behavioural changes required for the success and sustainability of the program.

According to Tribbe et al. (2021), ‘the role of women emerged in Ghana as an important factor in sustaining latrine coverage and use, both in their role in influencing household decisions, and as natural leaders within the community. Regardless of context, as a community-based approach, CLTS requires continuous engagement of both local leaders and community members, with whom the capacity for sustaining outcomes ultimately resides. In addition to

monitoring latrine coverage targets, assessing community contexts prior to and during implementation will help implementers assess the likelihood of sustainability, and reinforce internal mechanisms for success before programs conclude. Future research could also explore opportunities for tailoring implementation strategies to specific community contexts.’ CLTS-Community Led Total Sanitation

A study of the relative successes and failures of other less-developed or developing countries in their respective Sanitation programs can provide the policy-makers a fresh perspective and newer ideas regarding various aspects of the program. They can also benefit from studying case studies of the program implementation in various communities with similar or different challenges and draw valuable lessons from them.

Graham and Polizzotto (2013) are of the opinion that, efforts are needed to better understand the effects of population pressures and climate change in order to make more informed decisions that optimize latrine and groundwater use and improve environmental and human health.

According to a study by Hu et al. (2016), ‘the results show that the Eco-San systems are beneficial to resource efficiency, agricultural use of the organic matters and nutrients, and energy recovery although some shortages exist (e.g. high cost, cultural constraints, and complex operation and management).’

Future research may also focus on the ecological and economic benefit to rural India in terms of using toilet waste for bio-gas, natural fertiliser manufacturing etc. This will help policy makers to find other means of incentivizing the villagers towards the implementation and maintenance of the program.

According to Scherer et al. (2021), ‘people with disabilities and as women and girls face barriers to accessing water, sanitation, and hygiene (WASH) services and facilities that fully meet their needs, especially in low- and middle-income countries. Women and girls with disabilities experience double discrimination. WASH policies should support and uphold the concepts of disability and gender inclusion, and they should also act as a guide to inform WASH programs and service delivery.’ Studies to study the impact of the Swach bharat abhiyan on women and children with disabilities is thus important to address the problems faced by them and improve their quality of life.

The effectiveness of the Swach Bharat Abhiyan in reducing infectious diseases in rural India may also be studied to assist the medical experts of the country in formulating and implementing future health-care policies.

Menstrual hygiene management in the water and sanitation can be linked to and supportive of the Sustainable Development Goals (SDGs), including SDG 3 (physical health and psychosocial well-being), 4 (quality education), 5 (gender empowerment and equality), 6 (water and sanitation), 11 (sustainable cities), and 12 (responsible consumption and production for the environment). As is the case with MHM programs, addressing menstrual waste management calls for an inter-sectoral approach across drawing upon the roles and strengths of the health, education, and sanitation sectors (both government and non-government) (Elledge et al., 2018).

In their study, Elledge et al. (2020) claim that the findings suggest more can be done to encourage and promote gender-informed thinking in research and development in the water and sanitation sector.

Montgomery and Elimelech (2007) are of the opinion that, ‘integration of engineering and public health through collaboration on research and project work, combined with meaningful

partnerships with local communities, will enhance the sustainability of water and sanitation efforts. Health risks and outcomes can only truly be understood and addressed by understanding the relative influence of the environment, in conjunction with social, economic, and demographic factors. Interventions must reflect the needs and the capacity of local communities to carry out operation and maintenance. Low-cost household water and sanitation technologies provide a viable alternative to centralized systems that in many cases have failed to meet the sustainability criterion.’

While the larger framework of the policy design may come from the Central agencies its implementation at the grass roots level is dependent on local factors. It is thus important to take local demographic, social, economic and environmental elements into consideration when designing policies for greater and better impact and sustainability. Future research may thus be conducted to assess the ground realities at the local level to enable better policy-framing and implementation.

Hyun et al. (2019), advocated a cross-disciplinary review to get a holistic picture of the success/failure of the sanitation programs in addressing the problems affecting the most vulnerable sections of society. ‘In broad strokes, the engineering perspective approaches the separation of humans from waste through the design and implementation of physical technology. Public health research investigates human health risks and seeks ways in which to promote safe sanitation practices. Environmental science approaches this purpose through monitoring and management, but of the larger environment. Economics optimizes costs and benefits to see this purpose realized, while planning seeks to realize it through efficient, and hopefully equitable, service provision and governance. The social sciences consider this purpose fully realized only when human rights, gendered needs, and dignity are protected and

affirmed. Additionally, many scholars and practitioners, not only from gender studies but also from health, microbiology, and engineering, are calling for the social taboos that still haunt sanitation to be publicly confronted. These approaches and their specific contributions are central within each disciplinary perspective, but they are not as apparent, and thus not as central to scholars and practitioners across the sanitation sector. Seeing, understanding, and valuing these differences can facilitate constructive conversations across epistemic communities and collaborations toward sanitation interventions that simultaneously serve multiple, and mutually compatible, purposes for all.’

According to a study by Orgill-Meyer et al. (2019), ‘while government and donors continue to work to increase sanitation coverage among the poor, they typically devote less attention to maintaining investments. Our findings are particularly important in the context of the current Swachh Bharat Mission programme in India, which primarily focuses on infrastructure provision. Given the high cost of the programme, it is important that policy-makers do not neglect the elements required to ensure persistent declines in open defecation and hence longer-term benefits.’

Future policies of the Swachh Bharat Abhiyan may need to focus not just on the construction of the toilets but also their maintenance. The long-term effect of the campaign will ensure the sustainability of the program so that its benefits reach most.

#### **6.4 CONTRIBUTION OF THE RESEARCH**

Swachh Bharat would make a significant impact on public health and in safeguarding the income of the poor, ultimately contribute to the national economy (Chaudhary, 2017). This paper provides us with a clearer picture of the social and economic impact of the Swachh Bharat Abhiyan on rural women in India.

Dankelman (2009) claims that, ‘without a gender perspective in sustainable sanitation and hygiene policies and efforts, unexpected side effects can occur, such as adding extra burdens for women or men or facilities are constructed that do not meet the needs of women and girls. On the other hand: mainstreaming a gender perspective into the sector can add to its effectiveness and efficiency.’

It is thus important to take into consideration the gender perspective to ensure the effective and efficient implementation of the programme and ensure its success and sustainability. This research helps us to understand the impact that the Swachh Bharat Abhiyan has on the social and economic status of rural women in India and thus studies the implementation of the programme from a very valuable gender perspective.

According to a study conducted by Bisung and Elliott (2016), ‘results reveal deep feelings of anxiety and frustration, embarrassment, negative identity, feelings of marginalization, and lack of self-efficacy. These stressors were a byproduct of daily lived experiences associated with lack of access to safe water and adequate sanitation, as well as the coping strategies people adopted. The paper suggests that benefits of water interventions transcend disease reduction to improved wellbeing through complex social pathways. The findings contribute to knowledge gaps within the water–health nexus and direct policy responses toward largely unexplored psychosocial concerns associated with water and sanitation.’

This project helps to identify areas of concern in terms of the feelings of insecurity , marginalisation etc. that rural women feel due to the lack of access to proper sanitation and hygiene facilities and the extent to which the Nirmal Bharat Abhiyan has been able to alleviate them.

Kayser et al. (2019) assert that, ‘women are largely responsible for household water, sanitation and hygiene management; they bear a disproportionate burden when these basic services are lacking, and face health, security and psychological vulnerabilities due to inadequate access and decision-making control. We emphasize the need for measurement at the intersection of gender equality and water, sanitation and hygiene to guide SDG monitoring and achievement.’

This projects aims at identifying correlations between the various aspects of rural women empowerment and the implementation of the Swach Bharat Abhiyan. This will help in better planning and implementation of the programme as it takes into account the section of the society that is probably the most affected by the lack of sanitation facilities thus benefitting the ones who need it the most.

According to Pearson and McPhedran (2008), ‘the health benefits of household sanitation have been well documented and are often considered to be the most crucial impacts but sanitation is also important for other reasons. Sanitation gender, education, disability, economic and environmental implications to those it serves. It is important to note that often it is these non-health issues that act as drivers for the usage and installation of sanitation facilities, particularly at household level. It is therefore essential to look at the non-health benefits of sanitation in order to successfully implement sanitation programmes, particularly in the social marketing of sanitation to a community.’

From a practical perspective, it can be concluded that, it will help the policy makers to identify the strong and weak points of the program and the implementation of the Swach Bharat Abhiyan. This will aid in better future policy planning and execution so that it benefits the weaker sections of Indian rural society especially the women and helps in their empowerment.

Operationalizing the SDGs requires major adjustments in the rationale, planning, operation, and capacity of service delivery for all. Although there have been key advancements in the individual sectors of water, sanitation, and solid waste for development as discussed in this review, coordination and integration remain distant goals. Uncoordinated approaches in the different sectors have created cross-contamination as well as inefficiencies in service delivery and have led to an underutilization of the potential for resource recovery. Similarities in the enabling environment, decentralization, community inclusive planning, governance and the close coordination requirements call for an integrated approach (Narayan et al., 2021).

This project will also help policy makers identify areas that require special attention and treatment and enable the local populace especially the women to advise them and guide them with local solutions for the better implementation and success of the program.

It is useful to take a gender approach in water sanitation to recognize and respond to male female differences in demand, work and opportunities in the different population strata. It helps redress the sanitation imbalance and offers new chances for men and women to jointly manage their own environment and programs (Tam, 2012).

This research helps us to analyse the social and economic impact of the Swach bharat Abhiyan on rural women in India and thus helps us to analyse the gender imbalances in the programme and help policy makers adapt to the requirements of the different sections of the society

From a theoretical viewpoint, this research helps us fill the gap in the literature available for a comprehensive understanding of the effectiveness of the Swach Bharat Abhiyan. Not much information regarding the impact of the program on rural women in India is available and this research aims to address this lacuna.



This research aims to establish a correlation between the construction of toilets and a reduction in school drop-out rates, and also an improvement in attendance of girls in schools. If there is a direct and positive correlation between the existence of toilets and girl's education, this may have a bearing on the 'Sarva Shiksha Abhiyan' or the 'Beti Bachao, Beti Padhao' mission so that a symbiotic relationship may be established between them.

Sarkar and Bharat (2021) are of the opinion that, 'considerable efforts have been made by many of the Indian states in spearheading to achieve the SDG water and sanitation targets. Some of the states are making progress towards aligning it with other SDGs at the state and local administrative levels. This synergy among the various stakeholders, including state, district and city governments, academia, private sector and CSOs under programmes such as the SBM, JJM and AMRUT, should be strengthened for achieving better WASH outcomes and SDG targets.' *Jal Jeevan Mission (JJM), Swachh Bharat Mission (SBM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT)*

This paper may also be useful in integrating or dissociating the Swach Bharat Abhiyan with other women-oriented governmental policies for more extensive and better coverage. The analysis of the impact of the mission on the social and economic status of women may also be helpful in ascertaining the role of women in the implementation of the program as the success of the Swach Bharat Abhiyan and the empowerment of women may have a reciprocal cause and effect relationship.

According to Laryea et al. (2008), 'even though women need to work along-side men in rural water and sanitation projects, men should first of all be made to appreciate the crucial role of women in order for them to fashion out appropriate strategies to involve their women counterparts effectively. The involvement of the women should be facilitated by social workers

who have to ensure that outside workers do not disturb the socio-cultural milieu where the women live and operate. The women should not be addressed in isolation but as part of the complete network of relations of rural societies. Engineers who often design the water and sanitation projects should be provided with some basic aspects of software packages for them to appreciate the need to incorporate such concerns into the design and planning. During promotion and mobilization, it would be worthwhile to explore the possibility of using women to “sell” the projects in order to receive better attention and patronage of women in rural communities.’

A study of the success or failure of the Swachh Bharat Abhiyan in eradicating the social and economic grievances of rural Indian women is crucial to throw light and study the reasons behind the success/failure and also provide a pathway for future policies and programs.

According to McMicharel (2019), ‘there is a need to better understand the differential impacts of different types of WinS programmes for broader health and educational outcomes, the extent to which students operate as change agents in wider communities, the role of independent variables including gender and socio-economic status, and the effect of targeted initiatives on menstrual hygiene management and girls’ school attendance. Further, there is value in conducting process evaluations that identify opportunities and challenges within program implementation, including theories of change and intervention fidelity. Political will and financing and effective delivery of interventions will be required to ensure universal access to WASH in Schools including in low-income countries.’ WASH-Water Sanitation and Hygiene. WinS- WASH in schools.

This project may also be useful to non-governmental organizations to identify areas and activities that require special attention at the local level to improve the position of rural women in India.

Job creation although not the primary objective would be a welcome secondary effect of the program. This paper may be useful to the policy makers by helping them link or delink it with rural employment guarantee programs to ensure sustainable employment of the rural populace and also the sustainability of the Swach Bharat Abhiyan.

The study of the ecological impact of the Swach Bharat Abhiyan on rural society may also help the policy makers in deciding the future focus areas of the programs and also explore other avenues of monetising the benefits of the program and incentivizing the villagers.

## **6.5 CONCLUSION**

Brocklehurst (2014) holds the opinion that, ‘there is no time to be lost. If generations of children are to be saved from the stunting and ill-health that poor sanitation causes, and generations of women and girls are to be saved from the indignity and risk that open defecation entails, then addressing sanitation must be one of India's highest priorities.’

In their research on ‘The toilet tripod: Understanding successful sanitation in rural India’, O’Reilly and Louis (2014) conclude that, In the case of sanitation its multi-scalar nature includes: international protocols such as the MDGs; national programs such as the Total Sanitation Campaign; local and regional sanitation policies such as sanitary marts; funding for sanitation at the local, regional and national level; local mobilization of human resources. The dynamic, interactive nature of political will was crucial to the successful adoption of toilets. The local government was proactive at both block and panchayat levels, but without the economic resources, pressure in the form of awards and deadlines, and the involvement of local and national NGOs, local administrators would have been ineffective. Meeting targets and winning the award was an issue of local pride, but also of pressures at other scales. Training of local officials and elected and informal leaders occurred at local, block, and district levels.

Global, national, and state-level discourses also played a role in pressure and education, for example, discourses like the MDGs (global); Total Sanitation Campaign (national); Clean Village Award (state); and Open Defecation Free (ODF) campaigns (state and local). During research, political will was most visible at the state, district, block, Panchayat and local levels but the actual impetus for many of the sanitation interventions were fuelled by national level programs such as the Total Sanitation Campaign (TSC) and the Clean Village Award also known as the Nirmal Gram Puruskar (NGP). The role of the international funding and targets played an important role at all levels. The influence of these institutions was diffuse. International funding and targets were rarely mentioned during household and informational interviews. However, during dissemination of our findings to policy makers and other stakeholders, it became clearer that the urgency of meeting MDG sanitation targets and the pressure applied by the international community on the governments were important factors sustaining political will. For example, targets set by international institutions gave rise to state and district level targets. Multiple initiatives by the government, e.g., TSC, NGP, and 100 percent Open Defecation Free (ODF), were sustained over decades. Subsidies were used to get people to build toilets, and toilet adoption was later supported with education, community mobilization, and sanctions. The state leveraged local informal (e.g., respected former NGO fieldworkers or women's group members, etc.) and formal leadership and institutions (panchayat officers, some of whom were associated with local NGOs) to educate and mobilize citizens. Sanitation messages and sanctions were supported from all sides, i.e., from both elected and unofficial leaders, and local NGOs that had gained local trust. While the particular intervention histories and political contexts varied between states and study sites, political will played out in very similar ways. In West Bengal block-level and local-level governments (e.g.,

block development offices and GPs, respectively) worked collaboratively with NGOs to implement sanitation interventions.

According to Minh and Hung (2011), ‘it is clear that achieving the MDG sanitation target not only saves lives, but also stimulates gender equality, supports environmental safety, bolsters education, and provides a foundation for economic growth.’ Policy makers, development partners, as well as the general population, should act now to improve the current sanitation situation, especially in developing countries.

Kumar et al. (2011) are of the opinion that, ‘implementation of low-cost sanitation system with lower subsidies, greater household involvement, range of technology choices, options for sanitary complexes for women, rural drainage systems, IEC and awareness building, involvement of NGOs and local groups, availability of finance, human resource development, and emphasis on school sanitation are the important areas to be considered. Also appropriate forms of private participation and public private partnerships, evolution of a sound sector policy in Indian context, and emphasis on sustainability with political commitment prerequisites to bring the change.’ IEC-Information, Education and Communication

Hu et al. (2016) are of the opinion that, ‘the Eco-San systems should be recognized as a new, promising, holistic and sustainable approach to provide safe and decent sanitation, reduce poverty, contribute to food security, preserve our environment, and maintain the natural basis of life. Thus, rural environmental management will gradually change from past treatment to a future resource recycling.’

Laryea et al. (2008) are of the opinion that, it is about time, providers of water and sanitation facilities moved away from seeing women merely as passive spectators and recipients of “hand-

outs” but rather recognise them as active participants in the design, planning, promotion, mobilisation, construction and follow-up phases of water and sanitation projects.

This research aimed to study the Social and Economic Impact of the Swach Bharat Abhiyan on Rural Women in India. Several social and economic parameters to measure the improvement/decline in the status of women were identified. Information was then collected from 60 women and 10 schools from villages in West Bengal. The data was then analysed and inferences were drawn regarding the effect of the Swach Bharat Abhiyan on the social and economic status of rural women in India.

The findings of the research indicate a strong positive and far-reaching social impact of the Swach Bharat Abhiyan on rural women in West Bengal. Their sense of security, their overall perceived quality of life, their overall schooling experience and impact on girls’ education had all shown a strong and positive improvement with respect to the implementation of the program.

However, the findings of the research with respect to the impact of the Swach Bharat Abhiyan on the economic status of rural women in India has been quite inconclusive. Contrary to expectations, the program has not been able to raise the income levels of most rural households while increasing the expenses in most. The indirect economic impact measured by changes in medical expenditures also did not provide conclusive results. The number of households claiming that their medical expenses had reduced as a result of the implementation of the program were just a few more than those claiming that their medical expenses had risen as a result of the program. However, the reasons provided by the respondents for the rise in medical expenditure could not essentially be attributed to the Swach Bharat Abhiyan.

However, the data did present a rather bleak picture regarding the ecological aspect of the program implementation as most of the households were not aware of the possibility of using the toilet waste as fertilisers or biogas.

It thus emerges from this study that while the Swach Bharat Abhiyan has been a very successful and effective program by the Indian Government to provide basic amenities like sanitation to one of the largest populations in the world, its impact on the neediest sub-sections of this populace may be a mixed bag. The empowerment of women is an important objective of most countries and good health and hygiene programs may be a great facilitator towards that objective. As observed from this study, the social impact of the Swach Bharat Abhiyan on rural women has been immense. This shows that there is scope for further research and integration of the goals of the sanitation programs with women empowerment policies as a mutual correlation may increase the efficacy of both the campaigns. On the other hand, the data to measure the economic impact of the Swach Bharat abhiyan on rural women in India was largely inconclusive. This implies that further studies are required to align the program with the financial upliftment of rural societies and specifically the rural women. Financial benefits also act as good incentives for the adoption of policies and this may provide a symbiotic relation between sanitation programs and rural financial empowerment instruments. This study recommends the focus to not only be on the construction of toilets but also on the behavioural changes required for the sustainability and maintenance of the toilets as well as the program. The importance of spreading information and communicating with the local people to understand their local problems cannot be understated. It is also important to realise that while the policy making may be done at the national level its implementation should be planned and undertaken at the local level to address the local issues and problems. This allows for greater acceptance of the solutions and also improved efficiency of the program. A greater role for

women in the planning and implementation of the program will also address the twin goals of efficient sanitation solutions and women empowerment. This study illustrates the absence of effective communication regarding the ecological aspect of the Swachh Bharat abhiyan to the rural population as most of them were quite unaware of the benefits of using organic manure or bio-fuel as advantageous by-products of this program. This is another important area that deserves the attention of the policymakers so that they may plan future policies keeping the improved environmental health of India and the social and economic benefits of the citizens in mind.

Koonan (2019) is of the opinion that, ‘there is still a long way to go to ensure that women’s sanitation and hygiene needs are adequately met. To bring about this shift, some crucial changes are necessary. First, sanitation interventions must contribute to the larger goal of gender equality and must not lead to the violation of women’s fundamental rights. Gender equality must be recognised as an overarching organising principle of sanitation interventions in India. This is relevant particularly in the context of criticisms against the use of gender-biased messages and the neglect of women’s sanitation needs by implementing agencies. Second, the ongoing sanitation interventions view women’s sanitation and hygiene needs, by and large, as an infrastructural issue. While inadequate infrastructure is an important concern, structural factors also require urgent attention. For instance, social taboos around menstruation are as important and relevant as inadequate facilities for MHM. Therefore, awareness programmes under SBM need to also focus on structural factors, such as inequitable gender norms that govern the society. Implementation agencies at different levels should also view sanitation interventions from a broader perspective rather than just as a campaign to eliminate open defecation. Third, one of the major reasons for the violation of gender equality while implementing sanitation interventions is the pressure on local implementing agencies to



achieve ODF targets in a time-bound manner. The central government must ensure that SBM prioritises gender issues and that achieving ODF status does not come at the cost of rights and freedoms of women. Fourth, the lack of adequate participation by women could be a reason for the existing male bias inherent in sanitation interventions in India.’ MHM-Menstrual Hygiene Management, SBM- Swachh Bharat Mission

According to Ali (2015), ‘at the grass-roots level, it is not policy-making but implementation that needs to be focused upon, and this requires the wide range of talents varying from technical to soft skills. Here the challenge is more in terms of operations and maintenance on an ongoing basis. If user groups like the Village Water Supply and Sanitation Committee have to be made responsible for operation and maintenance, they should be given appropriate orientation and technical training besides adequate financial and management support from the district/state authority.’

Ofong (2001) recommends that, in designing innovation strategies for water and sanitation for the poor, great consideration should be given to the rights of women. They have the right to a better life by having access to affordable water and sanitation. They are said to be the poorest of the poor. The issue of water supply and sanitation sector reform should also be tackled from the viewpoint of both genders. The blue- print should spell out clearly how women will be involved.

According to Hauhnar (2017), ‘the present study attempts to understand the role of rural women in sanitation practices in Mamit District of Mizoram. Rural sanitation is still a great challenge that requires more attention as mere awareness is not enough in improvement of sanitation. The improvement of housing also plays an important role in the overall household sanitation since people who lead better lives have better access to sanitation. Although there is a good level of awareness and good sanitation practice among the studied women respondents, better social

and gendered approaches need to be emphasized so that the needs of the marginalised can be dealt with adequately. The Mizo community has always given great importance to hygiene and sanitation from the early times but cultural dynamics must also be considered as the role played by men and women at the household and community level is clearly divided. Women still remain the victims of poor sanitation especially in terms of their health and their need to have a proper toilet when they are menstruating.’ We can thus observe that a large number of inter-state and inter-national studies on the role and impact of sanitation campaigns on the status of rural women conclude that there exists a strong and positive correlation between the empowerment of women and the existence of toilets. These studies emphasize the importance of the gender perspective in the planning and implementation of the program so that they benefit most of the people especially the most needy.

Salute the feminine and give it true voice, space, and power in WASH: Long suffering, silent managers of WASH services on the ground – women, adolescent girls and boys, need to be accorded their due voice, resources, and defining roles. There is no better formula for sustainability with empowerment (Bongartz et al., 2016).

The findings of this research firmly indicate an effective and beneficial social impact of the Swach Bharat Abhiyan on rural women in India while the findings are rather inconclusive with respect to the economic impact of the Swach Bharat Abhiyan on rural women in India. Further research on the basis of other parameters of human development may be able to provide a clearer and extensive picture about the effectiveness of the program in improving the social and economic status of rural women in India. Further research may be conducted to explore the economic and ecological benefits of the Swach Bharat Abhiyan so that it positively impacts the overall quality of life of all Indian women.

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## **APPENDIX A**

### **CONSENT FORM**

#### **TITLE OF STUDY**

### **THE SOCIAL AND ECONOMIC IMPACT OF 'SWACCH BHARAT ABHIYAAN' ON RURAL WOMEN IN INDIA**

**(STUDY WITH FOCUS ON VILLAGES IN WEST BENGAL)**

#### **PRINCIPAL INVESTIGATOR**

Name:

Phone number:

#### **PURPOSE OF STUDY**

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to understand the Social and Economic Impact of the Swachh Bharat Abhiyan on rural women in India. The research aims to understand whether there have been any social &/or economic benefits or disadvantages of the implementation of the Clean India Mission on the lives of women in Indian villages.

#### **STUDY PROCEDURES**

Information will be collected from villages in West Bengal, India regarding parameters like medical expenses or benefits, social benefits, if any etc.

This information will then be collated and analysed statistically to derive conclusions regarding the existence of any correlations between the Swachh Bharat Abhiyan and any improvement/decline in the status of rural women in India.

The data will be collected in the form of questionnaires which will take approximately 10-15 minutes of the participant's time.

The identity of the participants will not be disclosed.

### **RISKS**

You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

### **BENEFITS**

There will be no direct benefits to you from this study. However, we hope that the results from this study may help policy makers understand the on-ground effects of their programs and help them plan and implement future missions better.

### **CONFIDENTIALITY**

Your responses to this survey will be anonymous. Please do not write any identifying information on your survey.

### **VOLUNTARY PARTICIPATION**

Your participation in this study is voluntary. It is up to you to decide whether to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

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### **CONSENT**

I have read, and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_