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CHALLENGES IN ACCESSING WATER AND SANITATION: A CASE STUDY OF GOLPURI, MEWAT, HARYANA

Monika Jain and Sushmitha Baskar*

Environmental Studies, School of Interdisciplinary and Transdisciplinary Studies (SOITS),
Indira Gandhi National Open University (IGNOU), Maidan Garhi, New Delhi 110068.

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Abstract
The development of any country is thought to be largely dependent on access to clean water and sanitary facilities. Any of them cannot be analysed in isolation because there has always been a strong connection between two. Every developing nation, like India, should be concerned when a sizable rural population continues to experience problems with water and sanitation. The government implemented numerous effective projects to address this issue. The Swacch Bharat Project (Gramin), started by the Honourable Prime Minister Shri Narender Modi ji, has built a significant number of toilets in rural regions throughout the course of this five-year period (2014-2019), although the issue of subpar sanitation in villages still exists. Rural women continue to experience pain and have several sanitization-related difficulties. The construction of toilets alone will not suffice to address this serious and deeply ingrained problem. The community's long-standing customs that have persisted may be one of the reasons.

Despite the efforts of the government and local NGOs, citizens in the Indian state of Haryana's Mewat area still experience sanitation issues. Also, we noted that the infection was more common in the female population than the male population. Those who utilised open defecation exhibited greater positive results for parasite infection. It was discovered during the study that the usage of toilets depends on a number of different criteria, including physical structure, accessibility (distance), water supply, and most crucially, habit or behaviour of users.

This study focuses on the problems with cleanliness and the waterfront that the locals in the study region confront. Even though open defecation continues to be a major source of water contamination and the spread of communicable diseases have immediate negative effects on public health, our research supports the hypothesis that the area's significant female participation in livestock and agricultural management as well as improper waste disposal practises may all contribute to the area's infection prevalence.

Keywords
Water, Sanitation, Open Defecation.

INTRODUCTION

Sanitation is most essential for health and wellbeing. Open defecation is directly linked to poor sanitation conditions. This results in improper disposal of human excreta hence poor environment Quality. The spread of contagious bacterial and viral illnesses is associated with poor environmental quality and sanitation. Both human health and a country's socioeconomic development are significantly impacted by this. Most rural people at risk are women and children. The health of the rural population is adversely affected by unscientific living conditions like improper sanitation, open defecation, shortage of water, and poor quality of water, lack of proper solid & liquid waste management. In majority of the villages and especially in North India people do not have safe access to sanitation facilities. Lack of sanitation is responsible for causation and spread of several diseases and illness conditions.

CONTACT *Corresponding author: *sushmithab@ignou.ac.in*
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For millions of people and animals, diseases brought on by worms and germs in faeces are a constant source of suffering. Cholera is a severe sanitation-related sickness that can spread quickly and cause unexpected death in large numbers of individuals. Children are particularly vulnerable to sickness due to poor sanitation. Approximately 892 million people globally defecate in the open (Saleem et al. 2019). This can transmit several infectious diseases and women are the most vulnerable. The human excreta are reported to host viruses, virions, parasitic eggs, protozoan cysts, and bacteria.

Another study focusing on the importance of gender-responsive sanitation facilities has also been investigated (Caruso et al. 2017). These results demonstrate that toilets may restrict social freedoms, highlighting the fact that sanitation encompasses more than just a physical structure and calls for wider social standards that are currently disregarded by large-scale sanitation initiatives. A recent study highlighted that in many countries, social or cultural norms prevent girls and women from using the same sanitation facilities as male relatives or prohibit the use of household facilities on the days women and girls menstruate (Wendland et al. 2018). According to a review on the "Health and Social Impacts of Open Defecation on Women," women and girls are frequently at a disadvantage because of many socio-cultural and economic factors that prevent them from having the same rights as men. (Saleem et al. 2019). Studies have also shown that actions like carrying water and going long distances to find appropriate urination places are signs of additional burdens that can be physically taxing and unpleasant for women, especially pregnant women.

Swachh Bharat Abhiyan initiated by the government of India on the birthday of Mahatma Gandhi is a noble initiative. In 2014, the prime minister announced the goal of eliminating open defecation by 2019. Under the Government's Swachh Bharat Mission, a large number of individual household latrines have been built in rural areas, but we still have a long way to go in order to achieve the Swachh Bharat Mission. In May 2019, more than 5, 60,041 out of 6, 50,000 villages; 617 districts and 30 states have been declared open defecation free (ODF). This speed of construction is quick. We cannot question the authenticity of government data. However, based on our experiences and previous studies, we can say that there is a lacuna in the whole process of collecting data and declaring a village or a panchayat ODF. First of all, the government is primarily focused on building toilets and pays little attention to empowering the public with knowledge about use and upkeep. Second, there is less emphasis on behaviour modification among rural populations. Thirdly, prior to 2014, the government incentivized below poverty line (BPL) families to make toilets, while other program studies demonstrated that the BPL list itself was subjected to large inclusion and exclusion errors. Fourthly the people who got the incentive to build toilets tricked the officials by showing the photographs of the same pit time and again and got the money credited in their account. Hence, we can say that ground realities are different than what appears on the paper. People are still unaware and ignorant about the ill effects of defecating in the open. We will present a social study of the area and demonstrate our study with pertinent data.

Objectives of the study

The study aimed to:

- To analyse the quality and access to basic sanitation in the area.
- To analyse the problems associated in absence of good quality toilets and access to clean drinking water.

Study and Sampling Area

District Nuh is one amongst 22 districts of Haryana. Residents of the area are predominantly MEO, Muslim community. Residents primarily work in agriculture, but a significant portion also perform labour and driving duties. Initially the district name was Mewat (came in Existence in 2005) with headquarters Nuh. Later in 2003 the district name changed from Mewat to Nuh. The district has a total area of 1874 sq.km with 357 village panchayats and 531 villages (Figure 1). Mewat has a very low literacy rate, especially for ladies. For Muslim women in Mewat, the literacy rate ranges 1.76 % to 2.13 %, the lowest in the country (Census, 2011).

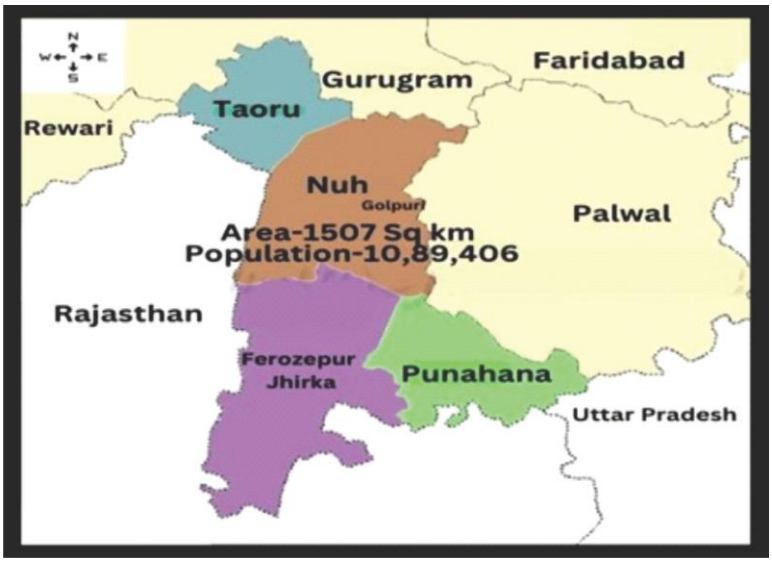

Figure 1: Map of the study area, Nuh.

Not very far from Gurgaon, this area is still lagging on sanitation and hygiene front. After independence, Mewat remained a backward region (Aspirational Districts Baseline Ranking, March 2018, NITI Ayog) also National Family Health Survey (NFHS, 2015-16) indicates the district to be low on every parameter. The majority of those who suffer in this area are women. The women in the neighbourhood are uneducated about their social rights and socially and economically underdeveloped. They spent the most of their time taking care of household duties and working in the fields to cultivate crops. In fact, there are times when they are only permitted to use restrooms after men (as per field reports). We have selected Golpuri village as our study area in district Nuh which is situated on the eastern side with a distance of 6 km from district Nuh.

Methodology

Nuh district consists of several villages. We selected Golpuri village a women-oriented study area. This study mainly focuses on women, so our study participants were women either one-on-one or in groups. We have taken a sample size of around 50 houses, and the method of selection was simple random sampling. We have framed a Questionnaire having series of questions related to availability of toilets, on sanitation practices, attitudes towards OD, latrine ownership and use, and the reasons for non-adoption and/or non-use despite the financial assistance and social marketing efforts of SBA-G, water availability and use. Other tools and techniques used in the study include (a) Key Informant Interviews (b) Community meetings (c) Focus group discussions and (d) Non-participant observation. The first step was to arrange a discussion with Key informants of the area that involved a series of exploratory, open-ended discussions, in groups or one-on-one (Figure 2). Stakeholders for this activity include sarpanch of Gram Panchayat, Aanganwadi workers, Asha workers, active women group, caste leaders etc. Door to door campaigns and community interactions were organised in our second step. This activity helped us to understand the problem in depth. As sometimes women hesitate to discuss her problems in groups, this activity was the way to build our rapport with them. Our third step involved Focus group discussions organised with women as well as with men. A man is considered as the main decision maker in the family so his viewpoint is also found important to draw conclusions. Our fourth and main step was a questionnaire interview with 50 families where the main respondents were the women of the family. This survey gives a clear picture about toilet usage and maintenance.

Fig. 2: Survey and meetings held with people in the Golpuri Village, District Nuh.

Some major observations found during the survey and discussions were as follows:

- Village surveyed has no proper drainage system.
- Most of the toilets found were single pitted toilets.
- Community has misconceptions and issues related to cleaning of pits/ toilets.
- Whole village has only one hand pump and the sources for the water is hard in nature and cannot be used for drinking purposes.
- Village has a presence of a pond that which is in a pathetic condition.
- There was no primary Health centr found in Golpuri.
- Sanitation infrastructure in the school was not found in good condition.
- The water boosting station and drainage system in the village was unscientific (Figure 3).

RESULTS AND DISCUSSION

The present research deals with challenges in accessing sanitation and drinking water among the community of Golpuri village, Nuh Haryana. During the visits we found a lack of proper sanitation, infrastructure, water, and hygienic usage of the village. There were many misconceptions

Fig. 3: Water boosting station and drainage system in the village.

amongst the villagers related to use of sanitation facilities. Our findings indicate a clear picture related to the myths and taboos about the sanitation and challenges in accessing these facilities.

(A) Toilet Availability and usage

We visited the village and conducted the preliminary analysis as per our methodology mentioned above. We have targeted 50 houses for an interview. Interviews were organised one-on- one in individual houses where women partners were interviewed related to their toilet usage and problems associated with that. The outcome of the study reveals that results of SBM-G are very clearly seen on ground. There is a drastic increase in toilet numbers and usage but still people defecate in the open and live in unhygienic conditions. It might be due to some loopholes and lacunas in the implementation part of the project. Out of 50 houses surveyed we found 18 toilets were poorly maintained and 20 have structural issues. In 8 houses we did not find any toilet. Only 4 toilets were found that were in good condition. In other words, we can say that people have facilities but use and maintenance was not proper (Figure 4).

We observed the following reasons for less usage of sanitary infrastructure.

- During the visit, a sizable village community group was at work as labour, and the house's financial situation was not favourable. They found it difficult to set aside money for sanitation in this situation.
- Many homes are cramped since there wasn't enough room for building. For two or three households, there was just one toilet available in that situation. The usage is constrained by this constraint. This condition restricts the usage.
- Many toilets were found with structural damages with time they became defunct.
- The majority of the toilets were single pit toilets, and locals had anticipated increased usage would result in early pit filling.
- Water is once again a key issue in the area; without it, toilets could not be cleaned or maintained.
- Many elderly people reported they feel more comfortable in the field as compared to a closed congested room (toilet)
- Toilets had little to no upkeep, yet there were many users because of huge families. Due to these issues, using the restroom was not a healthy option but rather a place for infection.
- Lastly, the survey also indicated that villagers have minimal knowledge on proper sanitation behaviour.

(A) Water availability and Use

Without this vital natural resource water, human life is unimaginable. The primary supply of fresh water used by humans for many purposes is groundwater; if it becomes polluted, we may have problems. A report on drinking water quality by Khurana et al. claims that there is a significant

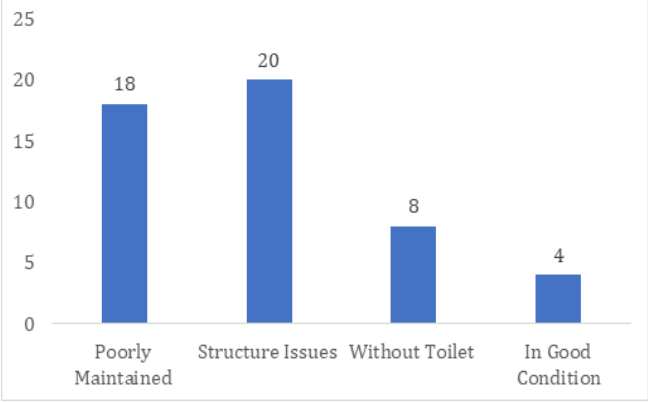

Figure 4: Condition of toilets in Golpuri.

health cost associated with poor water quality. Around 37.7 million Indians are thought to be affected by waterborne diseases every year, 1.5 million children are thought to die from diarrhoea alone, and 73 million working days are thought to be missed as a result of waterborne illness. An estimated $600 million in economic costs are incurred annually as a result.

Nuh region, contains saline water. During our visits to Golpuri we observed that other than toilet facilities, water was the next major concern in the area (Figure 5).

We observed several issues related to water given below:

- All surveyed families have issues with water supply. As per locals there was no water supply from government sources although the village is covered with a water pipeline.
- Village has a government water chamber and booster station but with no water (Figure 3).
- For drinking water needs purchase of 20 litres water bottle in Rs 20/- was common among most families.
- For domestic use tanker water costs approximately Rs 700/- per 1000-liter tanks.
- Villages have only one hand pump which is hardwater. This water is used for washing clothes and utensils.
- For years villagers have been using pond water for washing and cleaning as it is easily accessible but the condition of the pond was very pathetic.
- They are having issues with the toilets as a result of the water shortage.
- Residents are completely unaware about the reuse and treatment of water and their financial condition did not allow them to make these arrangements.

Women in rural areas are still suffering and facing many challenges on the sanitation front. A study on rural women in Odisha revealed that carrying water, cleaning, bathing, managing menstruation, and changing clothes were all included in sanitation behaviours in addition to excrement and urination (Sahoo et al. 2015). Women endured environmental, social, and sexual challenges when they participated in these activities. Another study by Tinna Khanna & According to Madhumita Das (2016), many girls and women in rural regions lack a place to change their clothing and are unable to routinely wash themselves due to a lack of water and restrooms as well as the stigma and shame associated with menstruation.

Figure 5: Water Sources in the village.

Water is essential for economic, environmental and social needs and therefore the right to access to clean and fresh water is the basic human right. However, most rural areas of the developing countries have no improved water supply and the impact was further aggravated as a result of high population growth. According to a study conducted by Fahmida et al. (2018) in Bangladesh reported that child development is positively linked to improved water sanitation and hygiene. The group with combined water, sanitation, hand washing and nutrition interventions has shown significant improvement in the development of child in comparison to all other group intervention. Ground water of the study area found with high TDS levels which make unfit for drinking and create problem in other domestic uses also. A study conducted by Ravindra et al. (2018) for water quality assessment of three lakes of Haryana viz; Tikkar Taal, Karan Lake and Brahma Sarovar, reported four parameters (DO, BOD, Iron and EC) which were beyond the permissible limits when compared with standards given by ICMR/BIS. Also, TDS is as high as 500 ppm in one of the samples. This study found the water of all these lakes are unfit for drinking as they have poor water quality index. As per finding of a study by

Maninder et al. (2009) in Haryana on prevalence of Anaemia in women from the Jat community suggested that age-related decline in the mean Hb level may be mainly attributed to consumption of poor quality and quantity of diet with increasing age. High salinity is found in some parts of study area and is reported to intrude the fresh water zones. Over-exploitation is resulting in the intrusion of saline groundwater towards the fresh groundwater, speeding up the depletion (Priyanka et al., 2016). Due to scarcity of water the young girls and women also compromise on menstrual hygiene. Lack of hygiene and exposure to fecal contents on daily basis multiplied their risk to infections and consequent sickness. The health workers in the village revealed that diarrhea cases as well as vector borne diseases, particularly malaria and dengue, were widespread among children and adults alike. (Narang, 2014). A study on the positive relationships between infrastructure-based approach and reduction in cases of diarrhea and other related morbidities in rural areas, provided it is universal and includes both in-home water and sanitation facilities too (Dufflo, et al., 2015). Similar findings are observed in our study area.

Limitations/Challenges

- Women were completely unaware about the government schemes subsidy and are completely dependent on men for decisions.
- Because of widespread misconceptions about restrooms, it can be challenging to bring up the subject in public at times.
- Toilet use is a matter of habit, and habit takes time to change.
- Women are expected to perform both at home and outdoors in rural areas, yet they are never given enough attention when it comes to their health or wellbeing.
- Lack of awareness on related topics also becomes a major concern when we talk about safe and hygienic access.
- The rural populace has a pervasive misperception and lack of knowledge about how to use and maintain toilets.
- The government is working hard on the water front as well, but there are issues because of unauthorised water connections made by locals.

Recommendations

Toilet coverage has significantly improved over the past four years. The significance of having sanitation facilities is now understood by the community. The government also manages a lot of programmes and initiatives, but if the outcomes do not match expectations, there might be a problem. We have some recommendations for improving the situation.

- As we have shown, there is a significant disconnect between possessing the facility and how individuals really behave while using it. Thus, a focused strategy that ensures toilet usage is needed.
- Programs related to behaviour change, personality development, social stigma redressal and financial literacy should be organized.
- All programs must ensure women participation so that they can understand the problem and situation.
- Following construction, a monitoring procedure for at least six months should be in place to assess usage.
- Use of mass media and Information, Education and Communication (IEC) is found to be effective in dissemination of information.
- Technologies must be used to improve the quality of pond water as with time it is becoming the main source for spreading infections.

CONCLUSIONS

India has progressed on many fronts over the decades since independence in 1947. Our purchasing power, per capita income, literacy, and average longevity has been rising substantially. However, on the other hand India has performed badly in areas of sanitation. The sanitation is not only the absence of garbage and waste material strewn around but also the access to toilet facilities, safe drinking water and connectivity to the drainage system. Although open defecation occurrences have decreased due to improvements in toilet facilities in rural areas over the past three to four years, it is nonetheless true that some people still defecate in the open. This nation urgently needs to practise good sanitation and hygiene.

There should be a community driven approach while making policies related to hygiene and sanitation. One's decision to use the restroom is entirely their own, and we cannot compel them to do so. But we can reach a large audience by employing efficient communication technologies. To a considerable extent, government made headway in providing amenities, but efforts are still needed to make usage of these services a habit.

The authors declare that they have no conflict of interest.

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