

Assessment of Water, Sanitation, Hygiene Practices and Socio-Economic Status of Women in Gopalganj, Bangladesh

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Abstract: Women are restricted to specific jobs, positions, and roles that usually differ from those held by males in society from an early age. In Bangladesh, dependence on males was still found to be significant, and most women were discovered to be unemployed. This study consequently sought to give a complete overview of the challenges and demands of the women in cluster villages in Gopalganj, with a focus on projected socioeconomic conditions and WASH services. The study collected both primary and secondary data. Interviews and observations were used to gather primary data through a structured questionnaire survey, and secondary data was also gathered from other sources. For each of the three cluster villages in the Gopalganj District, the data were individually gathered and collated. In the selected cluster villages, 160 women were questioned for primary data. The research found that the women were dealing with a serious financial crisis, a lack of access to clean water, tube wells, sufficient hygiene management, poor pay, a lack of basic work skills and a lack of income. Their top priorities were the development of sustainable drinking water sources, providing personal hygiene items, increasing awareness, developing skills for a range of livelihood options, and the ability for financial independence. Overall, the study's findings provide a comprehensive picture of the difficulties and requirements of women in cluster villages for WASH services and socioeconomic possibilities. As the entire socio-economic situation for women in the cluster villages were still insufficient, the government should step in and create policy initiatives to ease the sufferings and satisfy their requirements.

Keywords: Cluster village; Hygiene; Socioeconomic; Sustainable; WASH.

INTRODUCTION

Bangladesh is one of the world's most populated countries with 150 million inhabitants, 26% of whom live underneath the national poverty line of us \$2 a day (Heartbreak, 2010). Women, whose socioeconomic status is quite low, make up half of this nation's overall population. Due to the pervasive socioeconomic phenomena, women in Bangladesh experience numerous societal and economic disadvantages (Parveen et al, 2009). Women are essential to the growth of the family, community, and ultimately the nation. Most of the time, her contributions went unappreciated and unquantified (Kumar et al., 2003). Land is the most rare and coveted resource in emerging nations

like Bangladesh, which is one of the world's most populous nations. Possession of land also confers social and economic influence (Jansen 1983; Hossain 2015).

According to an Oxfam analysis, there are six times fewer women in the country who own land than there are men. The Bangladeshi government has kept up its efforts to provide dwellings for the landless in an effort to lessen socioeconomic inequalities and end poverty (Das et al. 2012; Momen 1996; Rahman and Rahman 2015). One of the key initiatives that has been carried out since the nation gained its independence in 1971 is the creation of "cluster villages," or "Guchchagram (GG)," for the landless and for those who have suffered from climate change

(Guchchagram 2017; Barkat et al. 2000). To overcome their current struggles and develop resilience, the cluster villages communities in Bangladesh that have been repaired need more socioeconomic possibilities and further to the present contributions, governmental and private sector additional support in the area of WASH. The biggest obstacles to scaling up sustainable Water, Sanitation, and Hygiene (WASH) facilities in cluster villages in Bangladesh are the fast increases in population density. Due to unfavorable circumstances and a lack of necessary support, women in the cluster villagers are generally the most vulnerable and worst affected. As in all societies, women had to fight for an improvement in their political, economic, and social rights as well as an upgrade in their social role and status, as well as the opportunity to participate in production and management. Nevertheless, despite all advancements and welfare changes, this challenge still exists (Torun, 2010).

WASH is regarded as one of the primarily felt public health needs in low- and middle-income countries in the twenty-first century (LMICs) (World Health Organization, 2019). Although Bangladesh is an LMIC country with a high population density, it has made significant progress in providing basic WASH services like better drinking water, hand washing, and ending open defecation. Nevertheless, a sizeable portion of the population is still exposed to unsafe WASH conditions (Dey et. all, 2019; World Health Organization, 2014). According to recent statistics, the Bangladeshi population has access to safe drinking water and good sanitation to a respective extent of slightly over one-third and fifty percent (UNICEF. 2020). WASH and socio-economic welfare issues are highly prevalent among Bangladesh's rehabilitated people (Akter et al., 2021). Due to a lack of community support, inadequate access to water, sanitation, and hygiene (WASH) facilities, and general access disparities, women are typically the most negatively impacted and vulnerable (White et al. 2016). Inadequate provision of "Cheap WASH" (i.e., access to water, sanitation, and hygiene practices), as well as the uncontrolled disposal of single-use plastics, medical wastes, and non-biodegradable menstrual hygiene wastes are endangering the health of women in cluster villages. Women in cluster villages may end up being the most vulnerable population to be denied fair access to water and menstrual hygiene management (MHM) due to the exacerbated social imbalances that exist today.

Women continue to face discrimination in our society. The stark reality that men and women, the two pillars of progress, are rated differently in our daily lives astonishes us. The fact that women are rated lower points to our terribly uneven superstructure. In this regard, it is deemed vital to evaluate the significance of women's socioeconomic traits (Montgomery et. all., 2007). Although past research has been conducted to assess WASH and livelihood-related issues among Bangladeshi slum dwellers (Hasan et al., 2021; Rokanuzzaman et al., 2013). There is no research that particularly assesses the WASH-related demands and difficulties faced by women in cluster villages in Bangladesh. As a result, it necessitates a consideration of the struggles and WASH and livelihood requirements of

these communities. By documenting a thorough representation of the hardships and needs of female cluster villagers in a chosen area, particularly in relation to WASH services and socio-economic status, the public and private sectors may be able to develop appropriate initiatives and policies to lessen challenges and increase the resilience capability of women in cluster villagers with regard to WASH facilities and economic welfare possibilities. Considering the context, the study aimed to assess the whole scenario of socio-economic status of the women and their standard of living and to gain a general overview of the existing WASH conditions of women in selected cluster villages. The study also focused on suggesting policy measures in order to improve of the socio-economic condition of the women in the cluster villages.

MATERIALS AND METHODS

Study Area

For every form of research, choosing a study area is essential to achieve the research's goals. Acceptability of the data is another factor in choosing a study region. In order to first focus the research area selection, interviews and literature reviews were carried out in this study. The purpose of this study was to look at the socioeconomic circumstances and WASH resources of the women receiving rehabilitation at cluster villages. The Gopalganj District of the Dhaka Division (latitude 23.0130° N, longitude 89.8224° E) was chosen as the study region. This location was chosen because it was convenient for communication and was a well-known location. The southern region of the country, where Gopalganj City is situated, is less susceptible to cyclones, floods, and even salinity (Rahman and Rahman, 2015). In the Gopalganj district, a total of 7 GGs had been established as of 2014 under various GG programs (Upazila Land Office 2014). The investigation was done in three of the seven GGs. (Table 1). Three GGs in the Gopalganj Sadar Upazila of the Gopalganj district, namely Raghunathpur, Haridaspur, and Puran Manikdah, had been chosen as study areas (Figure 1). There were about 300 families living in these three cluster villages altogether. The distance between the Puran Manikdah cluster village and the town of Gopalganj Sadar was 4.8 kilometers. This cluster village was home to 70 families in total. Most of them were Muslims. Haridaspur cluster village was located near the Haridaspur Bridge. It was located on the Modhumoti River's bank, about 4-5 kilometers from Gopalganj Sadar. About 200 families lived in that cluster village and here most of the families were also Muslim. The last one was Raghunathpur cluster village which was about 5 kilometers away from Gopalganj Sadar. In this cluster village, there were 50 households. Among those, 25 were Muslim and 25 were Hindu homes.

Table 1. Study area location (*Source:* Field survey, 2023)

Study area	Latitude	Longitude
Raghunathpur	23.003826 ° N	89.869135° E
Haridaspur	23.034249° N	89.819137°E
Puran Manikdah	22.994687° N	89.796031° N

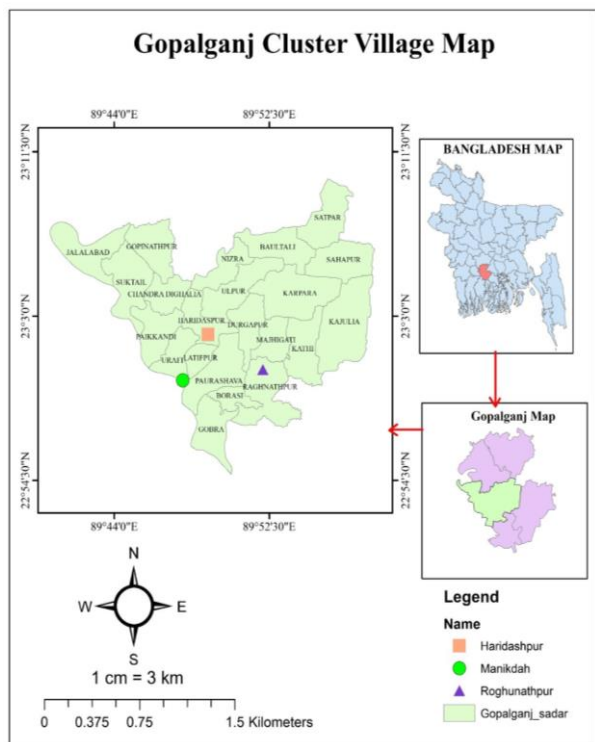


Figure 1. Map of the study Area

Research in science is heavily reliant on methodology. An effective research process is essential for success. It was required to have a strong knowledge of the project's numerous difficulties, which was achieved through communication with the respondents through a questionnaire survey (The questionnaire was attached in appendices). Last but not least, the way the research region was now situated had an impact on how the current work was conceptualized.

Conceptual framework

A conceptual framework is composed of a number of tasks. This study also included a few steps according to framework shown in Figure 2.

Type of the study

The study was interpretive and partially descriptive character forced the adoption of a mixture of both quantitative and qualitative data along with secondary and primary data.

Selection of the respondents

Table 2 displays the total number of respondents and the location of the research region. The respondents for this study were chosen at random from a pool of respondents. At Puran Manikdah, Raghunathpur and Haridaspur, 160 households participated in the study. Age restrictions for respondents were 15 to 65 years old, and 160 women respondents were chosen from the selected demographics overall in the chosen cluster settlements.

Table 2. Study area's sample size

Cluster village	Respondent number	Respondent percentage
Haridaspur	70	43.75
Raghunathpur	40	25
Puran Manikdah	50	31.25
Total	160	100%

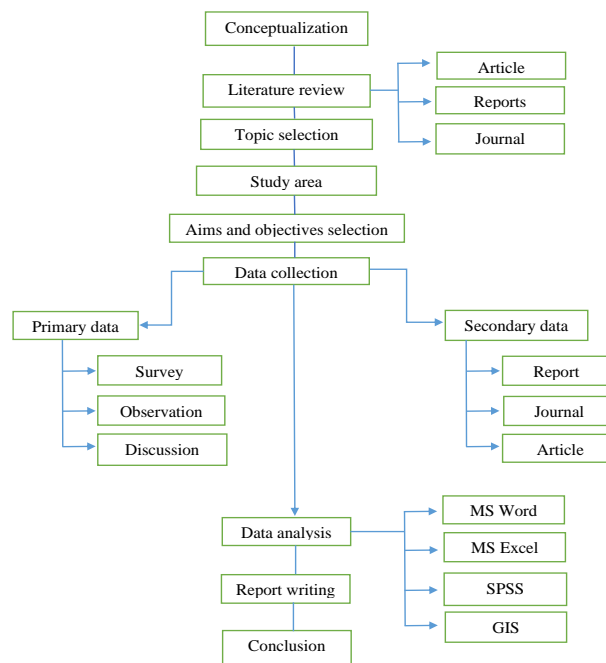


Figure 2. Framework of the study

Data collection

The samples were randomly chosen, to gather the desired sample, it was required to determine how representative the sample was in a larger population. Data on housing, social service facilities, income opportunities, cleanliness, sanitation, and water security, as well as general impressions of the changes in livelihood etc. were collected. Kobo Toolbox was used to tabulate the questionnaire. The study was carried out between December 31,2022 to January 3, 2023.

Primary data

Interview schedule: A questionnaire was created to aid gathering data on the economic, social, and WASH conditions of these women. Following persistent effort, the researcher was successful in eliciting responses from the responding ladies, and as a result, a wealth of data was amassed regarding the aforementioned characteristic of the women.

Participant observation: The researcher personally visited the study location and observed women's regular lives. After carefully examining their overall economic and social circumstances as well as their WASH practices, information was documented in a notebook.

Secondary data

Secondary data was collected and gathered from

pertinent research papers, articles, studies, and publications that concentrated on the topic's connected concerns.

Data analysis

Data that was gathered from various sources was combined using quantitative analysis. The quantitative data was analyzed using SPSS, and the analysis findings were displayed in various charts, graphs, and tables using Microsoft Office Excel.

Instrument

The instrument was designed to gather sociodemographic information and data for monitoring the following measurements and indicators, which were categorized as shown in Table 3.

Table 3. Indicators to collect socio-economic and WASH data

Categories	Measures/Indicators
Socio-Demographic Characteristics	• Age religion
	• Household type
	• Marital status
	• Education
	• Social participation
	• Participation in decision making
Economic characteristics	• Helpings from male members
	• Main income earning member of the household
	• Monthly income of the households
	• Employment status
	• Having account in bank /agency
WASH characteristics	• Having asset/resources
	• Water availability
	• Type of water sources
	• Distance of water sources
	• Necessity of water treatment
	• Type of toilet
	• Number of persons per toilet
	• Cleaning of toilet regularly
	• Location of toilet
	• Soap & water availability in toilet
	• Light facility in toilet
	• Washing hand before meal
	• Washing hands after Visiting toilet
	• Menstrual hygiene management
	• Household garbage management
• Training or instructions on general hygiene	

RESULTS AND DISCUSSION

Sociodemographic Characteristics of Respondents

Age Distribution of Respondent

Age is a significant demographic factor. Age has an impact on a woman's duties and responsibilities, ownership of land and property, and decision-making ability. The respondents in this research varied in age from 15 to 65.

Table 3.1.1 in the appendices provides a description of the age range of the studied respondents.

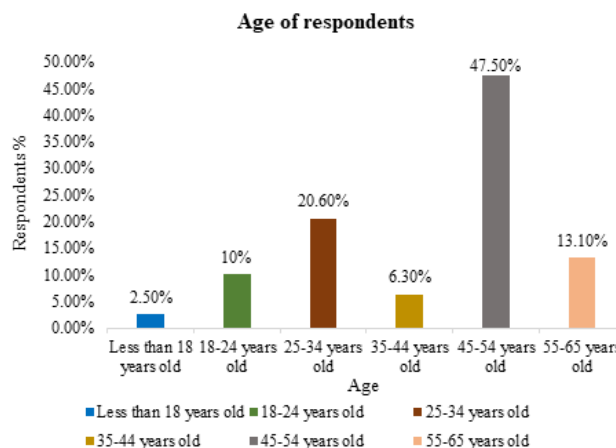


Figure 3. Age of the respondents

The age distribution of the sampled women is shown in the Figure 3 under 6 age categories. The age group of responders with the highest proportion (47.5%) was 45–54 years old. 10 % of respondents were between the ages of 18 and 24 whereas 20.6 % of respondents were between the ages of 25 and 34; 13.1 % of the respondents were between the ages of 55 to 65 years old; only 2.5 % were less than 18 years old. According to the study, the bulk of respondents were in their middle years between 25 and 54. In Dhaka, Bangladesh, 150 randomly chosen married women participated in a research that revealed the average age of the participants. In this area, women aged 15 to 20 made up around 13 percent of the population. Another 17% of the women were between the ages of 20 and 25. 29 percent of responders were aged 25 to 30 on average. Ages 30 to 35 made up 19% of the responder population. Women aged 35 to 40 made up another 15% of the population. The remaining 7 percent of respondents were in the 40–45 age range (Ullah & Parvin, 2015).

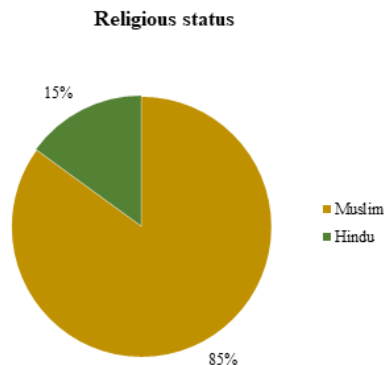


Figure 4. Religion of the respondents

Religion of the respondents

In the cluster villages of Gopalganj majority were Muslims with a lower portion was Hindus. According to the Figure 4, 85% of respondents were identified as Muslims and followed Islam. Hindus made up only 15% of the

respondents and were primarily from Raghunathpur. An analysis of 1,456 randomly chosen families from four upazilas in southwest Bangladesh revealed that 97 % of the households were Muslim and 3 percent were from other religion (WASHplus, 2015).

Family size

According to Figure 5, the majority of respondents' families (61.9%) were nuclear families. Just 1.9% of respondents reported having extended family, compared to 35.6 % who had joint family. According to a survey conducted on 384 randomly chosen respondents, the most of the respondents' families consisted of four members. It was shown that more and more individuals were pursuing small families, with 17.97 % of respondents had 5-member families and just 1.30 % of respondents lived alone (Rahman et al., 2018).

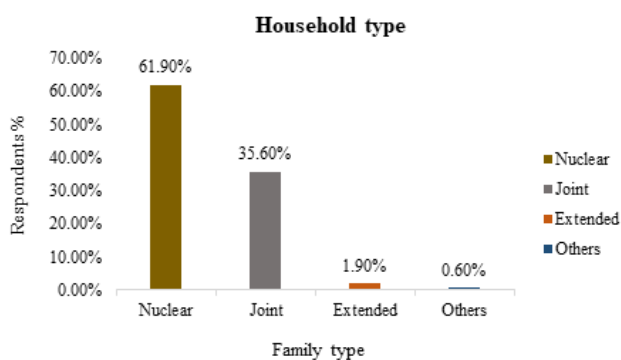


Figure 5. Family size of the respondents

Marital Status

Women's status is impacted by their marital status, which alters their duties and responsibilities. The survey had provided information on the respondents' marital status. The information on Figure 6 indicates that out of the total sampled female respondents 147 of them were found to be married, which constitutes the highest 91.9 percentage. 5 women out of total sampled women were found to be unmarried which is figured as 3.1 percent.

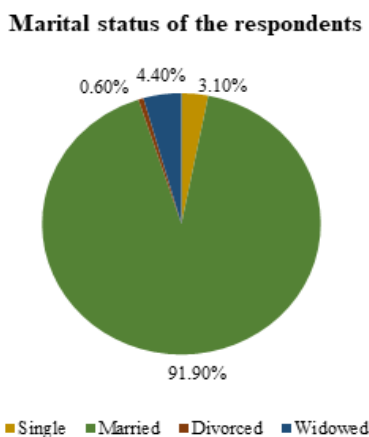


Figure 6. Marital status of the respondents

4.4 percent women were found widows and only 1 respondent was found who was divorced.

Education

One of the key indicators of a community's socioeconomic standing is its level of education. As education has the capacity to bring about awareness and change, it is essential to the process of empowering women. Education is frequently viewed as a first step toward living a better life. Usually speaking, a woman's social position may be determined by her level of education.

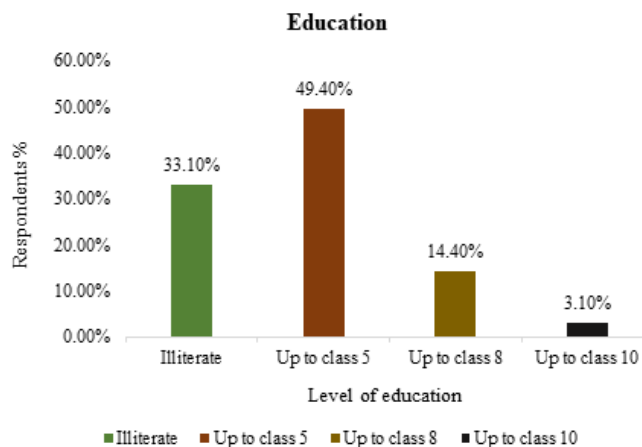


Figure 7. Educational status of the respondents

A little under half of the respondents (49.4%) in the study were educated at the primary level (I-V); 33.1% were considered "illiterate," who included respondents with the ability to sign and non-formal schooling; and 14.4% were educated up to class 8 and only 3.10% were educated at the secondary level or above (Figure 7). There should be an increase in general literacy rates with a focus on encouraging greater literacy rates among women. This may be accomplished by providing adult literacy sessions and offering incentives to encourage more girls to enroll in school. According to a research conducted among 88 randomly chosen villagers from cluster villages in Nilphamari, Bangladesh, the educational facilities inside or close to the villages were not satisfactory. Another major barrier to education was poverty. Few individuals had time to study after class V. Because of poverty, some families' whole child population was denied access to a basic education. Because of poverty, there were a lot of households where at least one child was unable to attend school; in addition, a lot of families had at least one student who left after first grade (Rahman, 2010).

Decision Making Process

In cluster villages, women had little influence over decisions. Because most women were illiterate, males did not trust women's ability to make decisions, and as a result, women's participation in decision-making was still limited. The Figure 8 shows 43.1 % respondents participated in decision making of the household. 44.4 % of respondents

sometimes participated in decision-making and 12.5 % never participated. Women typically made decisions on household issues such as what to cook, when to cook, how to care for children, how to care for animals etc. On the other hand, men frequently made judgments on issues that were thought to be important and complex.

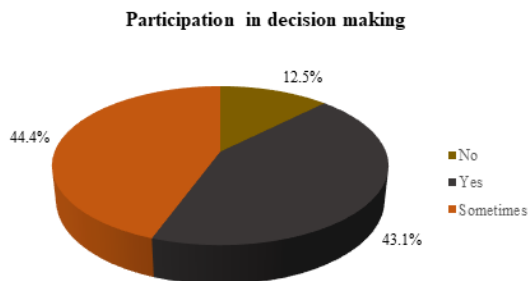


Figure 8. Participation in decision making of the respondents

The dispersion of women's decision-making ability inside their households was demonstrated through a survey of 150 randomly chosen married women in Dhaka, Bangladesh. 9.3% of the respondents could decide on how much money they wanted to set aside for home expenses and other uses. The majority of respondents, or 56.0 percent of the women, were dependent on their husband's decision because they lacked an independent source of income. Additional home choices were also made by the husband since the women were seen to have no reasonable understanding of various financial issues. According to the report, 34.7% of women was able choose discuss various home issues with their husbands (Ullah & Parvin, 2015).

Participation in Social Organization

In this study, an effort had been made to understand how socially active the women are in the cluster villages of Gopalganj. Two or three social groups were present in this cluster villages, according to the field survey and few women were active in these organizations and gained from it. When they required higher amounts of money, this organizations assisted them by offering low-interest loans.

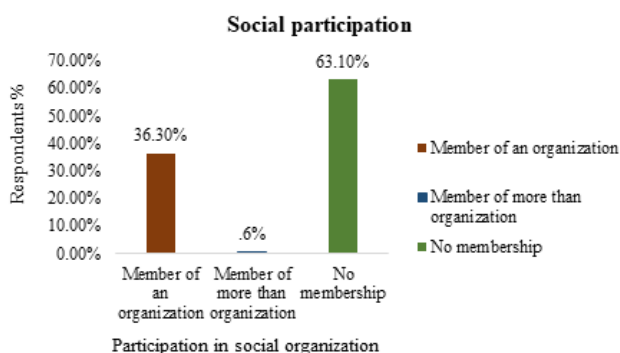


Figure 9. Social participation of respondents

The Figure 9 reveals that out of 160 respondents, 36.3% of the women respondents were members of at least one social organization, where only .6% of the women were engaged in more than one organization. 63.1% had no membership in any kind of social organizations.

Helping from male members

The above Figure 10 shows that 41.3 % of the respondents got help in their daily house hold work from the male members of the family and 58.7 % of the respondents did not get any help from male members.

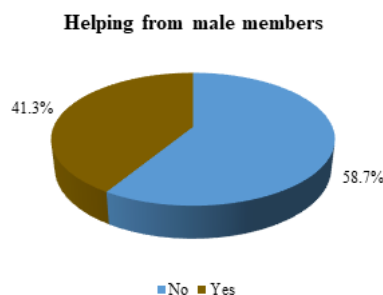


Figure 10. Helping from male members

Economic Status of the Respondents

It has been recognized that "the economic components" are one of the most important factors in overcoming the inherent barriers and internalized challenges to women's empowerment. There is a favorable correlation between women's status and their level of economic independence, according to several research. Several factors had been examined in this study's analysis of the women's economic situation.

Main income earning member of household

Figure 11 shows that among household members, 71.3% of main household earning members were husbands. Only 1.3% of earning members were wives; whereas in 19.4% situation both husband and wife contributed to the household income and 8 % were others member of the family.

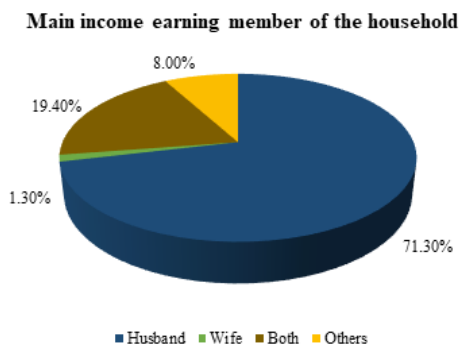


Figure 11. Main income earning member of household income

NIPORT (2013) found that just 2% of the homes were headed by women in a DHS. In a survey conducted on 87 randomly chosen villagers from a Rajshahi District that bordered a sizable beel, showed that only 29% of the families were headed by women (Amerasinghe et al., 2007).

Monthly Household Income Status of the Respondents

The socioeconomic status of women in a household is revealed by their income. The respondent's family status was crucial in determining her status since women's status was assessed by their family income after marriage, which was how the stratified social class was formed. According to the Figure 12, fewer than 10,000 Taka made up 65.6% of the respondent's household's monthly income. Between 10,000 and 20,000 Taka represented 34.4% of the respondent's household's income. Hence, women cluster villagers' economic situations were not conducive to a greater quality of life. Inclusion of women into the market economy can be a strategy to improve their socioeconomic situation and to provide educated women and girls with employment options in order to promote their economic involvement and raise their status in the home.

An entire family of five or six people relied on one's salary in cluster village. A research identified a similar condition. The majority of respondents, or 57%, had incomes below the threshold of 20,000 Bangladeshi Taka, according to a survey conducted among 384 randomly chosen women from villages in Pabna. 36.4% of replies were from the range of 10000 to 20000 BDT. Twelve percent of the respondents made more than 30,000 BDT. Less than 10,000 BDT was earned by 20.3% of the respondents (Rahman et al., 2018).

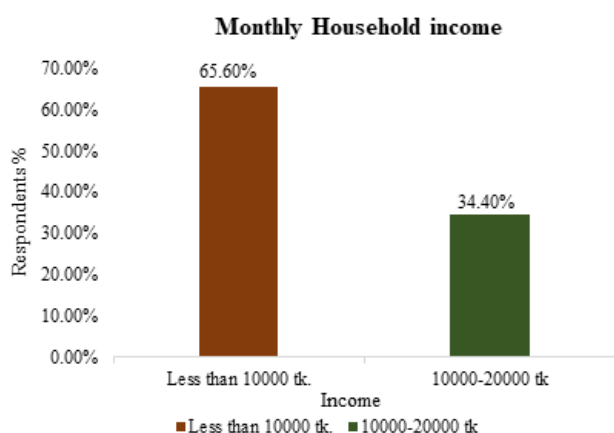


Figure 12. Monthly Household Income Status of the Respondents

According to a research conducted among 150 married women who were chosen at random and living in Dhaka, Bangladesh, 14.0% of respondents reported having a monthly household income of 10,000 Taka, while 20.7% reported having a family income between 10,000 and 20,000 Taka. The respondent's family made the majority of

its monthly income in the region of Taka 20,000 to 30,000. Just 13.3% of respondents reported having an income between 30,000 and 40,000 Taka, while 16.0% reported having an income exceeding 40,000 Taka (Ullah and Parvin, 2015).

Employment Status

The majority of women in our nation are restricted to domestic work, thus the term "Housewife" refers to a woman whose employment is restricted to domestic and home duties, which are classified as "Reproductive" and "Productive" labor. Figure 13 shows the occupation of the respondents. 63.7% of respondents were found as homemaker, 13.1% of the respondents were found involved in fulltime work, 15.6 percent of the respondents were found involved in part time work and 5.1 percent of respondents were currently not employed but looking for a job. 2.5 % of the respondents were disabled to work. In a survey of 384 randomly chosen women respondents from villages in Pabna, Bangladesh, it was discovered that 78.91% of them were housewives. The other two main groups of respondents included day laborers (8.85%) and service holders (4.69%). Housewives made up the majority of respondents (Rahman et al., 2018)

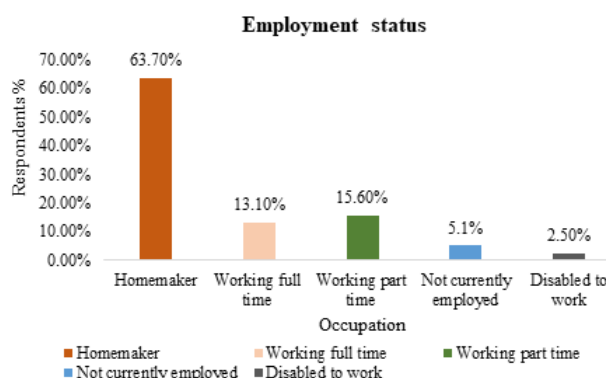


Figure 13. Employment Status of the Respondents

Account in bank or agency

It was found in the study that 26.2 % of the respondents had account in bank or agency for the purpose of saving money and 73.8% of the respondents did not have any account in bank or agency (Figure 14). No loan facilities were available there. In a survey conducted among 88 randomly chosen people from cluster villages in Nilphamari, Bangladesh, it was discovered that for self-employment and improving living conditions, microcredit loans were made available to all households. Just a 7000–10,000-taka loan with interest was given to the displaced families. By using this small sum of money, people could not operate any livelihood enterprise. NGOs and financial institutions don't visit these villages because of their isolation and remote location. The families thus received insufficient financial aid. Most households borrowed money from local moneylenders at exorbitantly high interest rates. They claimed that the local government barely ever provided them with government. financial

assistance such as widow's benefits, adult allowances, etc. since they resided in government housing land. (Rahman, 2020).

Resource ownership and assets of women

Resources are often handed down from elder to younger generations. Boys are considered legal heirs and are more likely than daughters to receive the majority of their parents' assets.

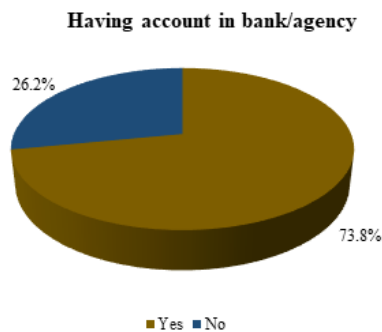


Figure 14. Having account in bank or agency

Women in cluster villages had relatively little access to the resources or possessions they own. Figure 15 shows that only 31.9 % respondents had little or medium amount of assets. Other 68.1 % those who did not have any own assets had come to live in cluster village. According to a survey conducted on 384 randomly chosen women from Pabna, Bangladeshi communities, 80.2% of respondents owned land they used for household purposes. Some landless impoverished respondents lived in cluster villages, a government initiative to relocate them (Rahman et al., 2018).

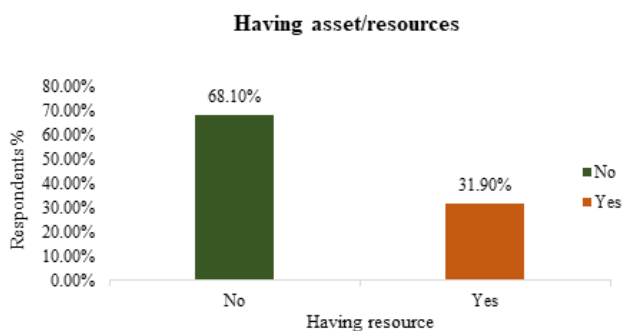


Figure 15. Resource ownership and assets of women

WASH Status

For the sake of preserving health and upholding human dignity, accessibility to clean water and sanitation is crucial. This study offered a thorough examination of the water resources in the study area. Also, the data gave a clearer picture of human interactions with water, such as how long it takes to gather water and how women perceive the quality of the water. Also, it described the findings about latrine installation, maintenance, and cleaning, as well as residential sanitation and hygiene facilities.

Source of water in the household

As illustrated in Figure 16, 55.625 % of the respondents used river water as a main source of water and 16.875 % of the respondents used pond water for washing utensils or cooking. 23.125 % of households used tube well water as a main source of drinking water, washing clothes and household cleaning and only 4.375 % of the respondents used rainwater. There weren't many individuals in Raghunathpur cluster village who had water-related issues because the tube wells were operational and the water was potable. The majority of the people in Char Manikdah and Haridaspur cluster village had trouble having access to potable water. There, several tube wells were broken, and the water from some of them was unfit for consumption (Mallick et al., 2017).

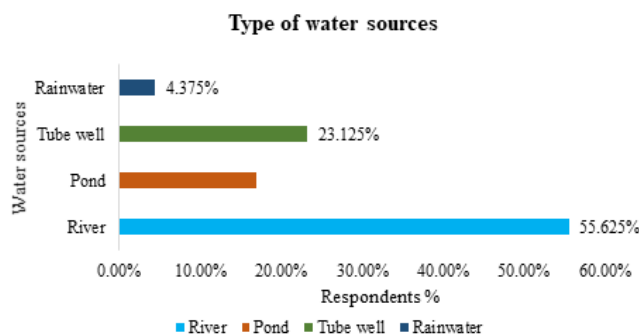


Figure 16. Type of water sources in the study areas

At four upazilas in southern Bangladesh, a research found that 98.9% of those polled drank water from a deep tube well, and 13% used the water from the tube well for cooking or washing dishes. Almost 90% of families used surface water as their primary supply for other purposes including washing clothes, bathing and household cleaning (WASHplus, 2015).

Availability of drinking water in the main source

When questioned if respondents had access to drinking water throughout the year, 16.9% of respondents said they didn't have any at their main source at all. 83.1 % of respondents said they had access for the entire year (Figure 17).

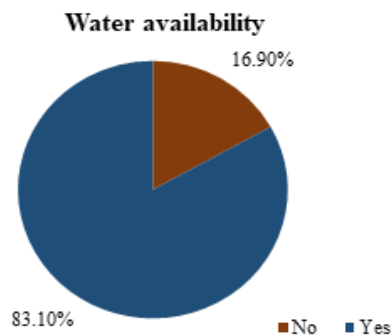


Figure 17. Availability of water in the main source

According to a study, 98.5 percent of families in southern Bangladesh reported having year-round access to their main source of water, which was often a deep hand tube well. Just 1.5 % of respondents said they had access for fewer than 12 months a year (WASHplus, 2015).

Time and distance to fetch water

The study found that, 32.5 percent of respondents claimed it took them about 30 minutes to gather water from sources, while 67.5 percent said it took them 5 minutes (Figure 18). According to a study of four upazilas in southwest Bangladesh, 87 percent of the households questioned, received water from a source that is not close to their residence. The average round-trip duration for the respondents to collect water was 14 minutes; 64% said that it took people less 15 minutes, while 31% reported that it took them over 30 minutes (WASHplus, 2015).

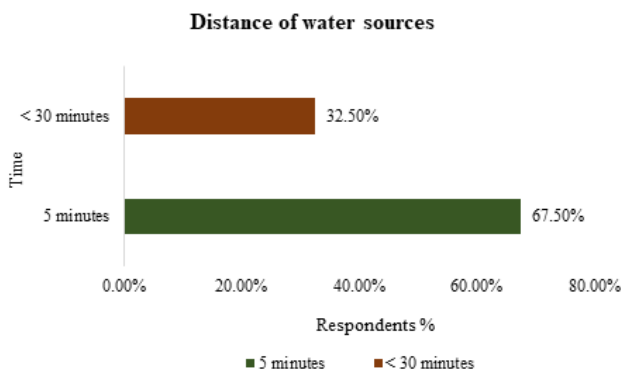


Figure 18. Time takes to fetch water from sources

Perceived drinking water quality and necessity of treatment

The impression of the respondents' drinking water was a question that was posed. The great majority of respondents said that while the drinking water from tube wells was good, the river and pond water had to be treated since it was contaminated. 33.7% of the respondents reported that the water did not need treatment and 66.3% of the respondents reported that the water needed immediate treatment (Figure 19).

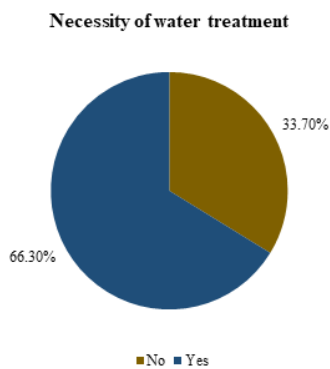


Figure 19. Necessity of water treatment

In a study of four upazilas in southwest Bangladesh, it was

found that 92% of respondents stated the drinking water was "excellent," while 8% indicated it was "fair" or "poor." Eight percent of homes reported having poor water quality, and of them, two thirds (63.2 percent) reported having salty water, While 26% of respondents indicated their water was muddy or dirty, one third said that water includes iron complex (WASHplus, 2015). A survey of 87 randomly chosen residents of a community in rural Bangladesh's Rajshahi District that was next to a sizable beel (Bashuar Beel) revealed that the ponds also gathered the water that was released from tube well sites' drainage outlets. Even the discharges of gray water were directed into these ponds, when there were residences nearby, and the neighborhood did not view this as an unclean practice. Approximately 36% of residences were close to a beel, and its residents were seen using it for a variety of domestic tasks. This pilot research demonstrated the influence of everyday activities, particularly in terms of pollution, on surface waterways (Amerasinghe et al., 2007).

Type of toilet facility in the household

The findings showed that almost 92.5% of respondents had access to better sanitation facilities, such as a slab-covered, water-sealed pit latrine. Just 1.9 percent of them lacked this facility, whereas 5.6 percent had pit latrines without slabs (Figure 20). In Raghunathpur the toilets were needed to be repaired as those were constructed about 10-12 years ago. According to research in gucchagrams of Narail district showed that Every home received a set of personal latrines (pit latrines) from the government. The surrounding wall was made of tin, while the rings were built from concrete mixes. Typically, those were 7 feet or so below the surface. 70% of toilets were ruined within five years due to subpar construction and materials (Rudra, R.R.et al., 2022).

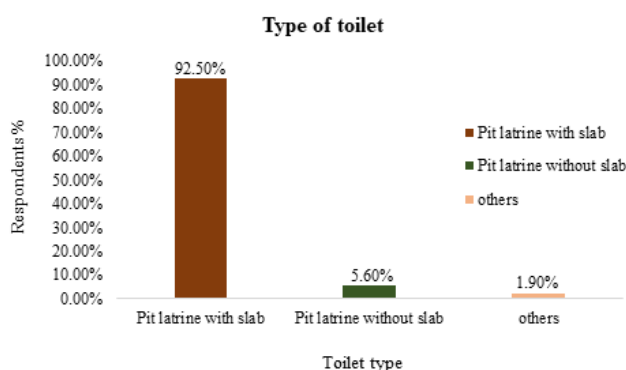


Figure 20. Type of toilet in study area

The types of latrines in the region vary. According to a study a village in rural Bangladesh's Rajshahi District that bordered a sizable beel, 62% of people used sanitary latrines, 37% used septic tanks, and 1% used hanging latrines. The interviewers noticed that just 50 homes had access to sanitary latrines, which was a bit low given the replies given by the household members. Septic tanks were observed in the sanitary latrines, although some also had

ring pits with overflow pipes connected to a beel (Amerasinghe et al., 2007).

Number of persons per toilet

For each household there was one toilet available. 8.1% of the respondents reported to shared toilet with two persons; 25% respondents shared with 3 persons; 34.4% respondents shared with 4 persons; 28.7% respondents shared with 5 persons and only 3.8% respondents had to share with 6 persons of the family (Figure 21). The government and NGOs should provide funding for cluster villages to build well-facilitated washrooms.

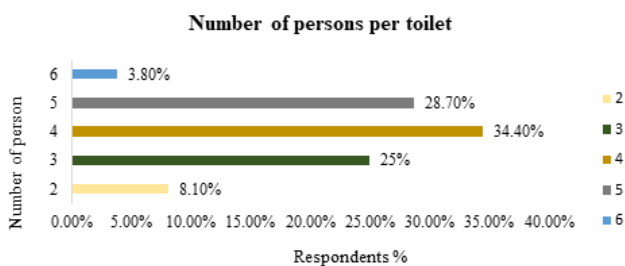


Figure 21. Number of persons per toilet

Location of toilet

93.7 % of the respondents had toilet inside their household premises and only 6.3% had reported to have their toilet outside their household premises. They all reported that the location of toilet was safe for them.



Figure 22. Location of toilet

Availability of light in toilet

43.8% of the respondents did not have light in their toilet due to not having electricity line in toilet and 56.2 % had light access in toilet (Figure 23).

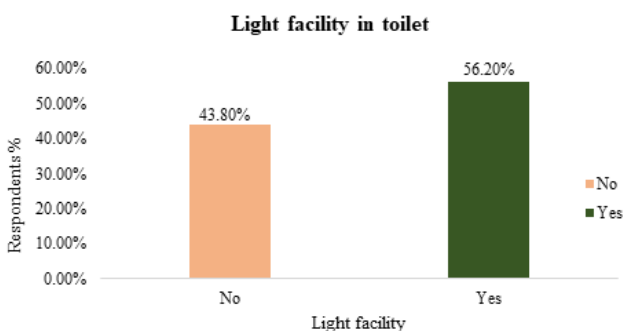


Figure 23. Availability of light in toilet

Availability of water and soap at toilet

The presence of clean water and soap inside or next to the toilet was examined by interviewers. Figure 24 demonstrates that whereas 9.4% of families lacked handwashing facilities, 90.6% had facilities, either inside or within their toilet.

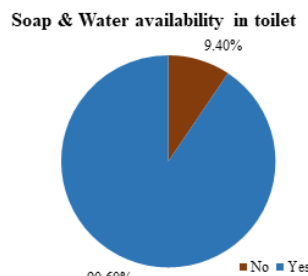


Figure 24. Availability of water and soap in toilet

An investigation of a village in rural Bangladesh that was adjacent to a sizable beel revealed the following: Records kept by the interviewers included observations that 56% of the families had no soap or ash near the toilets; 24% had soap, but it was dry and didn't seem to be used frequently; and only 10% had signs of soap use (Amerasinghe et al., 2007). In a survey of four upazilas in southwest Bangladesh, it was discovered that interviewers asked about the availability of clean water and soap as well as the existence of a handwashing station within or within five yards of the washroom. While the remaining two-thirds of families lack handwashing facilities, one-third of them had within toilet or within five yards of their toilet.

Cleaning of toilet

Majority of the respondents (86.9%) reported that they cleaned toilet regularly. 5% of the respondents reported to clean toilet sometimes and only 8.1% of the respondents had reported to not cleaning toilet regularly due to lack of sufficient water availability (Figure 25).

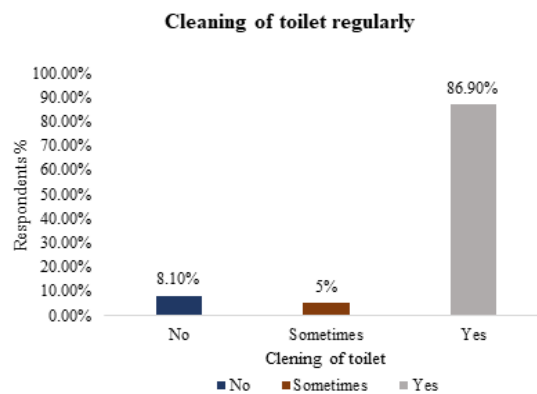


Figure 25. Cleaning of toilet regularly

In a survey of a village in the Rajshahi District revealed that about 43% of the toilets were clean; the remaining were untidy, odorous, and fly-infested. The presence of

flies in some of the sanitary latrines (9% of them) may have been caused by their closeness to garbage dumps. The study's overall findings indicated that the latrine maintenance was poor. This was partly due to the sharing since the duty of maintaining the toilets was not equitably distributed, and its significance was not recognized to the same extent as the significance of having access to clean water (Amerasinghe et al., 2007).

Washing hand after visiting toilet

The majority of responders (98.1%) washed their hands with soap after using the toilet. Just 3 respondents (1.9%) told us they didn't wash their hands thoroughly with soap (Figure 26) . According to a survey conducted on 384 women who were chosen at random from villages in Pabna, Bangladesh, 92.45% of respondents wash their hands before eating, and notably, 99.22% wash their hands following their bathroom visit (Rahman et al., 2018).

Washing hand after visiting toilet

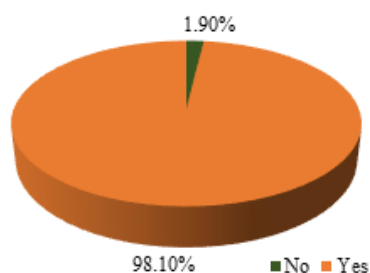


Figure 26. Washing hands of respondents after visiting toilet

Food preparation and hygiene

Almost all respondents (98%), when asked, said they wash their hands before beginning to prepare food. Just two replied, or 1.2%, did not (Figure 27). The majority of homes used water and detergent to wash the prepare area and cutlery. Several of them moreover employed soap and ash for the purpose.

Washing hand before preparing meal

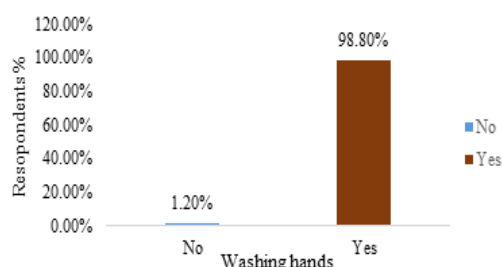


Figure 27. Washing hands of respondents before preparing meal

Management aspects while menstruating

71.875% of respondents reported using cloth for menstruation hygiene due their lack of ability to afford

sanitary napkin and 28.125 % of respondents used sanitary napkin (Figure 28). According to a recent research, almost one in four women nationally utilized modern products (sanitary napkins) throughout their menstrual cycles in the prior year. A large majority (79.8%) of the women, who made up about 80% of the population, utilized traditional menstrual hygiene products. Healthcare access theory places a lot of emphasis on how affordable it is to get healthcare services and goods. Women from lower-income families were less likely to invest in pricey sanitary products and instead opt to reuse clothing and rags (Afiaz & Biswas 2021).

Menstrual hygiene management

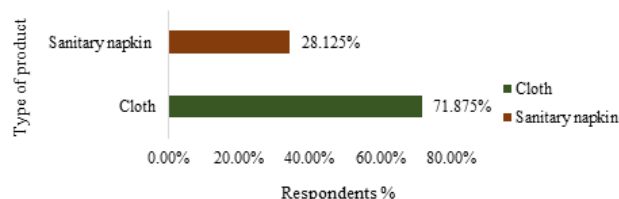


Figure 28. Menstrual hygiene management of the respondents

Training or instructions on general hygiene

When asked if the respondents had received any training or instructions on general hygiene, 97.5% of the respondents stated that they had not. Just 2.5% of respondents reported receiving instruction from NGOs (Figure 29).

Training or instructions on general hygiene

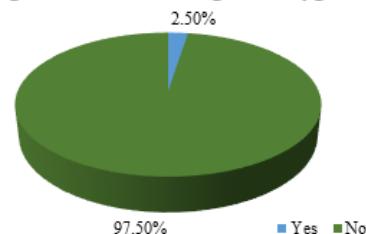


Figure 29. Training or instructions on general hygiene

Waste disposal method

The majority of respondents (94.9 %) said they just threw their household garbage in a river or pond when asked how they get rid of it. Just two respondents, or 1.3%, admitted to burning those. 1.9% of respondents said they compost (Figure 30). A research conducted in a village in rural Bangladesh's Rajshahi District revealed that improperly managed solid waste disposal is another problem in the region. As a result, the village's ecology was negatively damaged by flies, which carried illnesses. In connection with this, the discovery of filthy homesteads revealed that more research was necessary to comprehend the behavioral traits in relation to cultural, religious, and educational contexts (Amerasinghe et al., 2007).

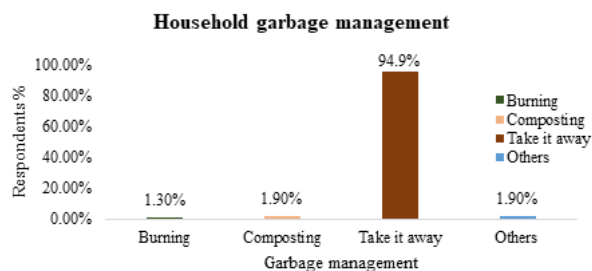


Fig. 30 Household garbage management

Analysis of the case study

In the cluster villages of Gopalganj, the socioeconomic situation of women and the standard of the water, sanitation, and hygiene facilities were still deemed to be insufficient, according to the current study. Most of the respondents were married, middle-aged women with a higher rate of illiteracy. The economic situation of women, who usually stayed at home, was the most concerning factor of all. Those who worked outside the home often earned less money. The majority of their families, according to their income patterns, earned between 10,000 and 20,000 BDT every month. Although male family members used to assist women with domestic chores, the majority of women in these cluster villages did not participate in household decision-making. According to this survey, the majority of the respondents in cluster villages in Gopalganj relocated from the neighborhood area. The inability of owning land, property, or a homestead was simultaneously identified as the main cause of this relocation. They had received accommodation due to the cluster village project, but they continued to experience a variety of problems and limitations. The main issues among them had been identified as a lack of income sources, the distribution of relatively little land to each home, a shortage of electrical facilities, and a lack of accessibility to clean drinking water. For the majority of the people living in cluster villages of Gopalganj, particularly in Haridaspur and Puran Mankidah, polluted river water continues to be their main source of fresh water. Villagers in the Raghunathpur cluster village use tube wells and pond water, which were both comparatively safer than river water. The fact that the majority of homes didn't treat their drinking water demonstrated how poorly individuals understood the dangers of drinking untreated water and how rarely they actually performed this task. Several water-borne illnesses, including dysentery, were common in women's bodies in these women cluster villagers due to the habit of not treating the drinking water. This behavior of people throwing trash carelessly into the nearby river rather than at designated dustbins made the area unclean and filthy, which poses major health risks to them.

Women were identified in this study as the most vulnerable group to be denied fair access to WASH as a result of the exacerbated current socioeconomic imbalances in cluster villages. Personal hygiene in terms of washing hands before preparing food was satisfactorily practiced. Women took special care to wash with soap after visiting

toilets. The study area also displayed a largely acceptable scenario for using the toilet. There was one toilet provided for each family. Yet, while the majority of toilets were in good condition, some households still did not have enough availability to clean water and light for latrines. These women additionally faced health burdens due to a lack of accessibility to clean water and work options. Moreover, in addition to other concerns, inadequate sanitation and a lack of water had been recognized as major causes of these women's vulnerability to jeopardizing their livelihoods. The construction of hygienic WASH blocks. This study identified several WASH-related requirements, including the construction of deep tube wells and sub-miscible water supply, the distribution of personal hygiene items, and awareness-raising. The study's findings show that respondents who resided in cluster villages also expressed a need for developing skills for a range of livelihood options and the expansion of women's wage capabilities. There were no GO or NGO awareness initiatives against WASH-related prevalent superstitions for women in these regions, it had been observed. The surroundings of cluster villages were unfavorable for women because of an improper "Cheap WASH" setup and uncontrolled dumping of non-biodegradable MH wastes. The study's findings presented an opportunity for researchers, experts in public health initiatives, and decision-makers to construct a complete WASH intervention package to cluster villages in Gopalganj when necessary and to create strategies for a long-term WASH solution for women.

CONCLUSION

The socioeconomic struggles and WASH service demand of women in cluster villages were highlighted in this study. In comparison to their male counterparts, women still had less advantages, disadvantages, and recognition in cluster villages. The social and economic situation of women in Gopalganj's cluster villages was not very good. Although working so hard for their families, they did not receive the same level of respect as men.. Most women were powerless due to poverty, lack of access to economic-generating activities, illiteracy, and ignorance.. This study found that rehabilitated women faced severe water shortages, inadequate sewage systems, a shortage of suitable washrooms, bathing facilities, tube wells and poor management of hygiene.. Sustainable supplies of drinking water, sanitary facilities with WASH units, items for personal hygiene, education, skill development for possible livelihoods, and the expansion of income-generating skills are all necessary for women should all receive high emphasis. For women's social, economic, and political benefits to bring about a notable shift in the circumstances, no significant attempt had been undertaken. Nonetheless, it is undeniable that things had changed from former eras. Women in cluster villages had made significant progress since the past, but in practice, they still have a long way to go.

Conflict of Interest

The author declares that there is no conflict of interest.

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