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Exploring the Current Status of Sanitary Latrine use in Shibpur Upazila, Narsingdi District

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programme commenced. Moreover, mapping was done to explore the access of sanitary latrine and the ownership of the latrine by the households, the way to collect sanitary materials and comparison between present and previous situation of sanitation in the villages. Mapping was organized at the centre place of the respective villages. Different groups of people from every corner of the villages were invited to participate in the discussions with the help of programme implementers. The sessions were pre-contracted where the participants were contacted the previous day of the sessions. About 15-20 community people participated in each session. Initially, the mapping was done by the villagers on a big plain sheet followed by transcribing it in a small sheet by the researchers. The researchers also took note related to the discussions. Each session lasted three hours where some participants were reluctant to continue and were dropped out from the session.

DATA PROCESSING AND ANALYSIS

Under the close supervision of the researchers, all the questionnaires containing quantitative data including household survey were manually checked and edited for completeness and consistency, and then were coded for computer entry (In SPSSWIN version 11.0). The computer outputs were checked for errors, and thus all the data sets were cleaned before analysis. Qualitative data were analyzed manually using content analysis techniques. Initially, all the transcriptions were verified for accuracy and consistency. Following this, data were thematically coded according to the research objectives. Finally they were compiled and summarized. In addition, the narratives of the respondents were presented under each theme.

DEFINING THE TERMS

The terminology used in the following discussion differentiates between the several types of sanitary latrines.

Own

When household own latrine of any type.

Shared/access to latrine

When the household do not own any type of latrine but they have access to shared latrine.

No access:

When household neither own the latrine nor have any access to use shared latrine of any type.

Fixed place, not hygienic latrine

When household will be able to use latrine with pit, ring slab without water seal and or open hole.

Fixed place, hygienic latrine

When household will be able to use latrine which is sanitary latrine, or ring slab with water seal latrine.

RESULTS

HOUSEHOLD AND RESPONDENTS PROFILE

The quantitative study covered 360 households. All the respondents were females; most of them were housewives (77%). The average family size of the study households was 5.57 ± 2.26 . More than half of the households (51.4%) had under-5 children. Self-rating annual household income/expenditure status during the last one year differed from group to group; subsidy group showing the worst profile. On average 70% of households reported break-even income/expenditure, and about one-fifth reported to have had surplus. More than half of the households (59%) had only 1-10 decimal homestead land, with the higher averages among the subsidy group (84%) and lower in the Non VO group (26%). More than 47% of respondents did not get any formal education, while 25% only primary and 24% secondary education. A very few (3%) got higher secondary education. Mean age of the respondent was 36.16 ± 10.37 years (Table A1).

USE OF SAFE WATER FOR DIFFERENT PURPOSES

Most of the households (99.7%) irrespective of any group use tube-well water. The use of water for different domestic and personal activities was also tube-well. No changes found in using tube-well water for seasonal variation. Only 88.6% households tested whether the tube-well was tested for arsenic. Among them, 4% still using arsenic contaminated water.

KNOWLEDGE ON SANITATION

Define the sanitary latrine

Informal group discussions revealed some different terms of the "sanitary latrine" locally used by different groups of people. *Chaka paikhana*, *latrine*, *pakka paikhana* and *nirapod paikhana* were commonly used to describe sanitary latrine in the community. A wide range of features of sanitary latrine came out from their responses. Concrete rings/slab on a deep hole was commonly mentioned as prime feature of a sanitary latrine. They emphasized on *chaka* (ring) rather than hole to make a sanitary latrine. A VO member of BRAC said:

"The main thing to be considered to make a sanitary latrine is chaka. First, you need to collect chaka (rings). Then you should dig a hole and these chaka should be placed up on this hole. A latrine (sanitary) can't be made without chaka."

Some of the respondents of all groups emphasized on 'deep hole' rather than *chaka*. A woman of NGOs VO of Paharfuldi village said:

"You can't make a sanitary latrine if you don't dig a deeper hole. To make a sanitary latrine, deep hole is the precondition."

The respondents also portrayed the sanitary latrine as some of the respondents stated in the following:

"The latrine whose faeces directly go in to hole, bad smell can't be spread out from the latrine is called sanitary latrine." (A man of solvent household).

"You can't consider a latrine as sanitary latrine when it doesn't have enclosure with paper, bamboo, corrugated iron-sheet or whatever it is. Sanitary latrine should have a roof too." (A man of BRAC VO household)

"The latrines that have separate tank to deposit faeces are called sanitary latrine." (An old man of solvent group said)

Clean and nice looking latrine also mentioned as sanitary latrine along with prior features by some of the respondents of the studied villages.

Perception of consequences of unsafe practice

The respondents from all groups realized the need of use of a sanitary latrine when they were asked during informal discussion. They opined that every household should have sanitary latrine and should use these latrines. It revealed from their statements that some problems might be taken place if the households of a community don't have practice on safe defecation. Respondents mentioned some consequences of open defecation that might make some problems in the community. Prevalence of diseases due to open defecation was commonly mentioned during discussions with the respondents. They pointed out that if open defecation was not banned in a community then diseases like diarrhoea, dysentery, worm infection, cholera, jaundice and some other skin diseases would be widespread. A man of Paharfuldi village said,

"Suppose I have chaka latrine (sanitary latrine) but my neighbours don't have latrine. If they defecate in open place then flies and mosquitoes will sit on the faeces. As these insects move from one place to another, they might come to my house. Thus we may have diarrhoea, dysentery and worm infection."

Also in household survey it was found that consequences of using unsafe latrine were diarrhea/dysentery (99.1%) by the respondents. The respondents also drew out some environmental and social problems that were emerged from open defecation or unsafe practice. Almost all the respondents said that unsafe practice particularly open defecation in the field, bushes, road, or riverside make some environmental problems. Air pollution, foul smell and unclean places were resulted from open defecation. They also linked diseases and environmental problems due to open defecation. One of the woman respondents of Soforia village shared,

"Defecation in open places makes air pollution. Foul smell is mixed in the air. Many diseases are originated from this polluted air." A woman from subsidy household also said "Defecation in open places and bushes makes many problems. Faces are found everywhere. It is difficult to walk in the field, bushes and even in the road."

Most of the members of solvent households and some VO members shared that usage of sanitary latrine was a phenomena of social status. When members of a household who didn't have sanitary latrine but went to neighbours' latrine or defecate in the open place are considered less prestigious in the community. The respondents opined that they feel embarrassed when their guests visit their home and have to go to neighbours latrine for defecation. A man in paharfuldi village shared,

"I haven't latrine yet. I use my cousins' latrine when needed. But when any guest visits my home, then I feel shy to let him/her to use my cousins' latrine. I think if you don't have a latrine, your social status will be deteriorated."

Information on safe latrine

Most of the respondents (94%) knew about the use of soap/ash after defecation, 74% using the sandal while going into latrine. A very few knew about that use of this latrine is applicable for all other family members (Table 1). The qualitative study also revealed that students were most knowledgeable among all other groups of the respondents. They cited almost all hygiene messages during informal discussions with them. It is also worth mentioning that women found more aware of these messages compared to men.

Table 1. Respondent's correct concept on sanitation (%)

Indicators	Respondents				Total (n=340)
	Subsidy group (n= 82)	BRAC VO (n= 86)	Other NGO VO (n= 87)	Non VO (n= 85)	
Use soap/ash after defecation	97.6	95.3	93.1	91.8	94.4
Using sandal	75.6	84.9	67.8	68.2	74.1
Time to time cleanliness	41.5	40.7	37.9	49.4	42.0
Hold pot with right hand	25.6	57.0	19.5	23.5	31.5
All member will use latrine	3.7	8.1	6.9	10.6	7.4

* Multiple responses considered

The study households got the sanitary latrine related information from different array of sources. Most cited name was BRAC (62%), highest in BRAC VO (92%) and lowest in Non VO respondents group (38%). Next to BRAC, mass media was also another good source for getting the sanitary latrine related information. Although less in frequency, other sources specified were: popular theatre, other NGOs and neighbor or elite of the respected villages (Table 2).

Table 2. Households by source of obtaining information on sanitation and respondents (%)

Sources	Respondents				Total (n=347)
	Ultra poor (n= 89)	BRAC VO (n= 85)	Other NGO VO (n= 86)	Non VO (n= 87)	
BRAC	68.5	91.8	51.2	37.9	62.2
Mass media	28.1	41.2	46.5	69.0	46.1
Popular theatre	16.9	10.6	9.3	28.7	16.4
Other NGOs	11.2	4.7	36.0	2.3	13.5
Neighbor/elite people	13.5	9.4	5.8	17.2	11.5

* Multiple responses considered

Pre-existing sanitation practices

This study retrospectively examined the sanitation situation of two different villages prior to commencing of total sanitation programme using village mapping. The data shows that access to sanitary latrine among the households of two selected villages was about 49% (Table A2) before the sanitation programme initiated. It was also seen that access to sanitary latrine differed between the two villages. Before sanitation intervention only about 35% households of Paharfuldi village had access to sanitary latrine while 62% household of Soforia village had access to sanitary latrine. It was also revealed from the discussions with different group of people that the households who were economically solvent, service holders and educated possessed most of the sanitary latrine before sanitation intervention. Almost all groups of respondents opined that people were mostly habituated to open defecation rather than fixed place defecation before the sanitation scheme initiated in their area. Lack of money, habit and

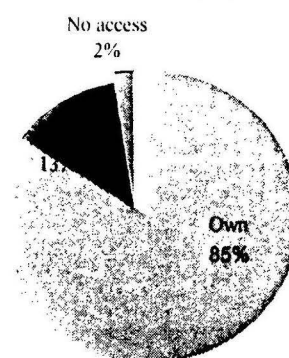
ignorance were believed to be the main barriers that stopped hygienic practices of people in the villages.

PRESENT SITUATION

Level of access to sanitary latrine

It is observed from survey data that near about 85% households owned the latrine of any type, 13% households do not own but they had access and 2% still do not have any access (Fig 1). Altogether 98% households had access to latrine of any type. It was observed from the village mapping of two studied villages that a significant number of sanitary latrines (30% of total latrine) were installed in both villages after the intervention. It was also observed that households of Paharfuldi village set up more latrine than that of Soforia village (38.32% and 20.34% respectively) during the intervention. As a result, the access to sanitary latrine was increased to 99 % in 2006 from 49 % in 2003. In contrast, 21% of the households of the villages still did not own sanitary latrine but had access to neighbours' latrine.

Figure 1. Households by owned the latrine (%)



Place of defecation

Table 3 shows 46% of under-5 children of respondents in the study households reported to have defecated not in a fixed place; high in subsidy group (59%) and lowest in Non VO group (32%). However, fixed place defecation whether it was hygienic or not was about 53%.

Table 3. Households by place of defecation for children (<5 years) and respondents (%)

Indicators	Respondents				Total (n=182)
	Subsidy group (n=41)	BRAC VO (n=46)	Other NGO VO (n=57)	Non VO (n=38)	
Anywhere	58.5	41.3	50.9	31.6	46.2
Fixed place, not hygienic	26.8	17.4	28.1	5.3	20.3
Fixed place, hygienic	14.6	41.3	21.1	63.2	33.5

Table 4 indicates that adult members of 3.6% have defecated in open place, highest in BRAC and other NGOs respondents and (4.4%) and lowest in subsidy group (2.2%). About 46% adult have defecated in a fixed place, without water seal, means not hygienic and 50% were using sanitary or with water seal latrine, highest in Non VO (72%) and lowest in other NGOs respondents (40%).

Table 4. Households by place of defecation for adult household member and respondents (%)

Indicators	Respondents				Total (n=360)
	Subsidy group (n=90)	BRAC VO (n=90)	Other NGO VO (n=90)	Non VO (n=90)	
Anywhere	2.2	4.4	4.4	3.3	3.6
Fixed place, not hygienic	56.7	47.8	56.7	24.4	46.4
Fixed place, hygienic	41.1	47.8	38.9	72.2	50.0

Reasons for not using latrine

Adult: Many respondents opined that though the access of sanitary latrine by households was increased after the programme started, still some members of the households were not habituated to defecate in the latrine. In fact, they defecated in the open places. Thus, habit was believed to be prime factor that affected safe sanitation.

"We have been defecating in open places over the decades. We acquired this habit from our antecedents (bap dada). It has been transforming from generation to generation (bangso porosporay). We haven't yet given up this habit. I think it will take more time to be habituated with the latrine use." (A man of Soforia village).

It was observed that men had the tendency to defecate in the open places. Those men who worked in the field defecated there. They were reluctant to come back home for defecation in the latrine. It was also revealed from the discussions that some people were still unaware about safe sanitation. They were not provided adequate messages regarding safe sanitation. The respondents also disclosed that even some members of solvent families were not aware in this regard. They did not know the consequences of unsafe defecation. Respondents also suggested that they should be provided more awareness regarding sanitation through individual contact.

"They (BRAC) only arranged meeting with us (women). But they don't sit with male members (purus manus) of our family. They (male) don't want to hear us. So, some meetings should be arranged with them." (A member of BRAC VO)

"I think, announcing through mike and meetings are not enough to make people aware on latrine use. We should find out those people who defecate in the open place. Then he/she should be given awareness. Thus, the open place defecation must be stopped. Otherwise, it will be continued." (A community leader of Soforia village)

It was observed that the people who didn't own latrine but had access to neighbours' latrine could not frequently use them. Here are some quotes:

"We don't have latrine. We used to go to my cousins' (jathato bhai) latrine. Recently, he has informed me that he will not permit us to use his latrine for the future. He said that latrine was going to be filled with faeces very fast with the use of many people. Rather, he asked me to install a latrine in my home. Since then, we have minimized the use of his latrine. We still go to bushes for defecation at night." (A man of Soforia village).

"We can't use their (neighbour) latrine all the time. Sometimes we have to return home without defecation when we see someone using the latrine. In that case, we have to wait until night to defecate in the bushes." (A woman of Paharfuldi village).

"We had been using his latrine (husband's elder brother) for a long time. One month ago, there was a dispute among us. For this, we are not going to their latrine any more. Rather, we are going to anywhere." (A woman of Soforia village).

Children: Informal group discussions with different groups of people show that children feared to go to latrine for defecation rather than they felt comfortable to defecate in open places. The respondents also shared that the latrines were not friendly for the children to defecate there. The children used to cry when they were asked to go to the latrine for defecation. Moreover, most of the children aged fewer than five defecated at courtyard or

homestead. The respondents also shared that they generally threw the faeces to the bushes or open places. Few of them shared that they dropped it to the latrine. Mothers' ignorance regarding consequences of unhygienic practices was considered another drawback that could avert children to defecate in the latrine. The respondents opined that mothers were predominantly responsible for the children's defecation. They should take care of their children. According to them, mothers did not possess adequate knowledge on safe sanitation.

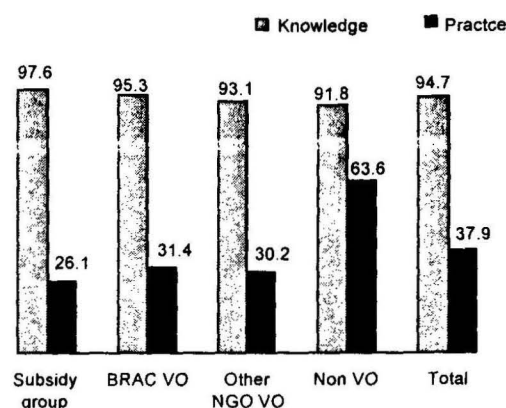
"Most of the mothers in our village are illiterate. They are not aware on sanitation. They don't know the bad effects of open defecation." (A woman of Paharfuldi village).

Moreover, children's faeces were considered as less impure in the society. As a result, children's place of defecation was not given emphasized. The respondents also disclosed that mothers had to be busy with many domestic jobs. They could not give attention on children where they defecated.

Difference between knowledge and practice

Though a very good knowledge found among the respondents on using soap (95%), but presence of soap/ash near by latrine was only 38%, if we consider the presence of soap/ash is the indicator of using soap/ash (Fig 2). The qualitative study investigated the reasons for not using soap/ash after defecation. Almost all respondents disclosed that they were not habituated of using soap/ash. It was common that soap is not always affordable to buy, they feel uncomfortable to use soap while they use their neighbor's latrine, most interestingly they commented that birds/crow sometimes take it away if they keep beside tubewell.

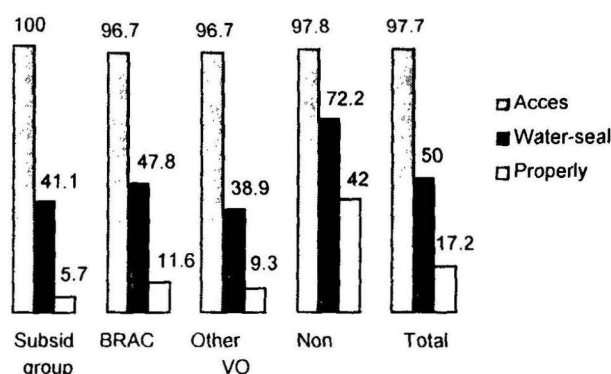
Figure 2. Knowledge and practice in using of soap/ash by respondents (%)



Different types of latrine

Fig 3 shows that in terms of access to any type of latrine, about 98% households had access, but only 50% of this are using hygienic latrine, highest in Non-Vo group (72%) and lowest in other NGO Vo (39%). Here, hygienic latrine means those who are using sanitary latrine or with water seal ring slab latrine. However, only 17% of the respondents are using well-maintained hygienic latrine, highest in Non-Vo (42%) and lowest in subsidy group (6%).

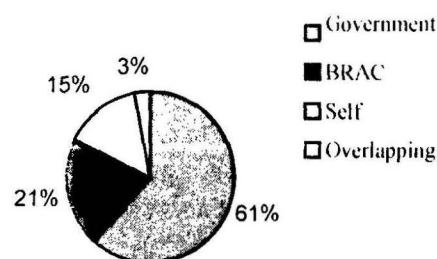
Figure 3. Access to sanitary latrine of different type by respondents (%)



Source of sanitary latrine materials

Figure 4 shows that most of the households set up the latrine after receiving the sanitary materials from local government (61%) followed by BRAC (21%). It was observed that only 15% of total latrine was installed by the households during the intervention. Also, an insignificant number of latrines (3%) were made with the support of both BRAC and local government. Informal group discussions with different groups of respondent revealed that poor and extreme poor households were mainly provided sanitary materials free of cost by *union parishad* and BRAC. Firstly the providers made a list of the households who didn't have sanitary latrine and needed the subsidy for making the latrine. Then they distributed "coupon" to the households and asked them to collect the materials from selected sanitary mart centres closed to their villages. It was also found that household members requested the programme implementers such as member, chairman, BRAC staffs to distribute them the materials. A man of Soforia village expressed his experience in this way:

Figure 4. Source of ring slab in 2 villages after intervention (%)



"I didn't have pacca latrine. Chairman-member insisted me to install latrine. I couldn't install due to lack of money. I requested 'member' to give me three rings. One day member told me that three rings had been allocated for you. I brought those from union parishad (sanitary mart centre)."

"I got ring (chaka) from BRAC. I requested pusti apa (Community Nutrition Promoter) to give me latrine from BRAC. One day an officer from BRAC came to my home and gave me a slip to get chaka. My son brought them from Jessore Bazar." (A woman of Paharfuldi village)

Few BRAC's VO members shared that they purchased the sanitary materials with the help of loan programme of BRAC as one of the VO members of Soforia village said,

"Member pressurized me to install latrine. But I didn't have enough money to purchase chaka (ring). I discussed the matter with sir (BRAC MF staff). He informed me that I might get loan from BRAC for purchasing chaka. Finally, I drew Tk. 500 as loan from BRAC and bought 3 chaka and a dhakna (slab). Thus I made my latrine."

Respondents also said that some elites/leaders of the villages advocated in favor of them to the providers for getting latrine materials.

"I didn't have latrine. I requested a teacher in our village to collect rings for me from member. He assured me that he would manage these. Some days later, he told me that he talked to member and I would get ring/slab very soon. At last, I got three rings and a slab from member." (A poor woman of Soforia village).

It is worth mentioning that all the respondents who were subsidized the sanitary materials from BRAC or local government disclosed that they only provided the materials but did not get

any financial support for transporting or installing these. As a result, they delayed to collect the sanitary materials and delayed to install latrine as well.

"They (BRAC) asked me to collect the rings from Narshingdi Bazar. But they did not provide us money for carrying these to home. They don't understand that we are too poor to meet transport cost." (A woman of Soforia village).

Few poor people of the villages expressed their disappointment regarding distribution of the latrine materials. They shared that the process of selecting the subsidized households for the materials was not appropriate. They complained that the selection was biased and some actual needy people were cut off from the list.

"Member gave chaka (ring) to his own relatives though they could afford to buy, how can I expect chaka from him" (A man of Soforia village)

On the other hand, it was observed that after the intervention, most of the solvent households installed their latrine by their own. They did not seek any help from any providers.

"We didn't have sanitary latrine. We had hanging latrine. We often went to open places. A staff of BRAC visited our home and asked us to install sanitary latrine. Then we set up a latrine. We collected the materials by our own from Narshingdi Bazar." (A man of solvent households of Soforia village).

Management of the latrine

Most of the respondents of subsidy and VO members shared that they could not regularly keep the latrine clean. Cleaning of latrine was considered as an exorbitant task of the households. They could hardly maintain cleanliness of the latrine. Keeping the latrine clean all the time needs more money and more time as a woman of subsidy group shared this in a way:

"Rich people can maintain cleanliness of the latrine. They have money. But we can't. Because we haven't money to buy oshud (e.g. bleaching powder, kerosene). It is not possible to make the latrine clean without oshud."

The respondents of Paharfuldi shared that they didn't dig deep hole because of hard soil. Rather, they dug swallow hole. Consequently, the hole fills with the faeces very soon. But they didn't remove the faeces from the hole easily. An woman of NGO's VO shared in this way:

"We need to employ a mathor (sweeper) to remove the faecal waste from the latrine. He normally charges 120 taka for three ring latrine. But we can't afford this. As a result, some latrines are abandoned." (A man of Paharfuldi village).

It was revealed from the discussions that water was the main source for the poor households to clean the latrine. They hardly used kerosene when the faecal waste was removed. Some respondents shared that they could not use adequate water because of shortage of water. A member of NGO's VO said:

"Sometimes we can't use enough water after defecation. Because, we don't have tube-well. We have to bring water from neighbour's tube-well. That's why we use less water in the latrine."

Respondents also shared that though they installed the latrine but they can't arrange enclosure of the latrine in time. They can't manage the materials such as bamboo, corrugated iron sheet for enclosure because of financial constraints. Rather, they used paper, polythin to

make the fence. They also shared that these fence didn't last for the long time and the latrine further became open. Consequently, these latrines were not used frequently until these were repaired. On the other hand, most of the members of solvent households disclosed that they practiced in maintaining cleanliness of the latrine regularly. Cleanliness of the latrine seemed to be usual task of the households. It didn't seem to be difficult. They also shared that they often used bleaching powder, kerosene to clean the latrine. They could easily remove the faecal waste from the latrine. They hired a sweeper when the hole filled with the faecal waste. They also shared that they could afford the enclosure of the latrine. They used bamboo, corrugated iron sheet and concrete to make the wall of the latrine.

It was common that the water sealed pipes (curb pipe) of the slab were broken in both solvent and poor households. They shared that they broke the water seal when they install the latrine. It was assumed that water sealed pipe need more water to remove the faeces in to hole.

"We break the pipe (water sealed) when we install the latrine. Because, if we don't break those they will need adequate water. In that case, faeces are found at the top of the pipe. Consequently, bad smell would be widespread from the latrine." (A member of BRAC VO).

PERSPECTIVE OF COMMUNITY PEOPLE: SANITATION PROMOTION

Perceived benefits

All groups of respondents of community people regarded the sanitation programme as a "positive initiative" for the betterment of the community people. They opined that some positive changes had been occurred due to commencing the programme. Almost all of them shared that the most striking change was low occurrence of diseases compared to previous period. They disclosed that the diseases such as diarrhoea, dysentery, worm infection and skin diseases were widespread among the villagers all the year round. But after the programme was commenced, these were declined. A group of respondents of BRAC VO shared the advantage of the programme in this way:

"Earlier diarrhoea, dysentery and worm infection was the common in the villages. If the diseases started in one household soon after there were found all the neighboring households. The main victim was the child. They suffered from worm infection all the year round. Now the situation has been changed. These diseases are rarely found in the villages."

Factors of sanitation promotion

A number of factors were mentioned by all groups of respondents that were believed to contribute to sanitation promotion. Among the factors, motivation and awareness, subsidy for sanitation materials, enforcement for installation of latrine were believed to be prime factors for promoting sanitation situation in the villages. All groups of respondents except subsidy group opined that motivation and awareness were primarily responsible to make the sanitation programme success. They also opined that the people of the villages were not aware on sanitation before the programme initiated. BRAC and local government took initiatives to raise the awareness in the villages through various activities such as meeting, theatre, household visit, individual contact, miking and dissemination of poster, leaflets etc.

"I think it was not possible to promote the situation (of sanitation) if they (BRAC and member-chairman) would not have created awareness among the villagers. They did lots of things to make us understand about sanitary latrine." (A man of Soforia village).

Sustainability

All the respondents of community people opined that the habit of use of sanitary latrine would be continued by the villagers. When they were asked to describe why they think they would continue practice of sanitation, these are some of the responses:

"I believe practice on defecation at sanitary latrine would increase day by day. Now we are being habituated with the use of the latrine. Our children are being accustomed to use the latrine from us. They will keep the habit. But I think, it would take more time." (A man of Paharfuldi village).

"People can't forget the habit they gained. If they all are habituated with the use of latrine they will not back to open places. They will feel shy to defecate in the open places." (A man of Soforia village).

Recommendations from community people

The respondents also gave some suggestions regarding improvement of the sanitation situation in the villages. Most of the respondents of subsidy and NGOs members emphasized on continuation of providing subsidy to the poor for the sanitation materials. They opined that there are still many poor people who are not able to buy sanitary materials.

"I want to establish a latrine. But I haven't money to purchase the ring (chaka). If member gave me chaka, I could have made the latrine. It is difficult to manage the money for the latrine." (A poor woman of Soforia village).

Many respondents shared that the campaign for safe latrine should be continued for a long time. The households who got sanitary latrine but did not install or are not using the latrine should be followed up strictly. Many respondents who got the sanitary materials from BRAC or local government criticized the quality of the materials. They shared that the quality of the products was not good. They suggested that the quality of the products should be improved

"The chaka provided by them is not good. These are not strong in nature. Two of my chaka were broken while these were being brought to home. We expect good chaka from them". (A VO member of Soforia village).

PERSPECTIVES OF PROGRAMME IMPLEMENTERS: SCALING-UP RURAL SANITATION

Constraints

According to many programme implementers, the main barrier of the success of the programme was lack of awareness regarding sanitation among the community people. It was difficult to make them understand that they should install sanitary latrine for their well-being. They also shared that most of the villagers were illiterate. They were not received hygiene messages at the village before the programme started. Following this, habit was believed to be another crucial factor that averted the safe sanitation. People were habituated to defecate in the open places. This trend was being transferred from generation to generation. They also opined that both solvent and poor people was in practice of defecating in open places. A chairman stated the nature of habit regarding defecation in this way:

"People of our area have been defecating at bushes and field for a long time. They acquired this habit from their antecedents (beep dada). They feel reluctant to defecate in a closed room. So, firstly it was difficult to bring them into latrine."

Financial inability to purchase sanitary materials was believed to be another barrier according to many programme implementers. It was also observed that some people were not installing latrine though they were provided sanitary materials free of charge by the programme. Rather, these were found abandoned at home. They further opined that negligence; financial problem and habit were predominantly responsible for not installing the latrine. The unusual nature of soil (hard & sandy) also resulted slow-coverage of the sanitation in the villages. It was observed that the soil of Paharfuldi village was very hard. It was difficult to dig the soil there

"There is muddy soil in the riverside villages. The hole of the latrine tends to be broken within some days. Thus many latrines have been broken in those areas. People are reluctant to repair them again." (A volunteer of BRAC).

Scarcity of water in the high land was perceived another barrier for sanitation promotion. The chairman of Jessore union parishad said:

"In our area, the level of water is very low. Many people can't install the tube-well. On the other hand, sanitary latrine needs plenty of water. So, the people keep away from installing sanitary latrine rather they feel comfortable to defecate in open places such as bush."

Regular flood in the monsoon also affects the sanitation promotion in the study areas particularly in the low land area. A member of ward level TFC stated the experience in this way:

"In July 2004, flood hit our area. Many villages were inundated with water. It affected on the sanitation programme. Many latrines including newly installed ones were fully damaged. Many poor people could not repair these yet."

Some programme implementers opined that sanitary materials of low quality were distributed among the community people. Consequently, materials were broken within short time. It was also observed that the materials were broken while even these were being carried to the way of home. They also shared that allocation of money for each set of materials was poor. It was difficult to produce quality materials with that limit. Some programme implementers disclosed that there was rush to declare the area 100% sanitized before the entire field were not ready for that. According to them, they needed more time for motivation to the households.

"We spent less time for motivation. The change of behaviour of the community is not an easy task. We should give more time for motivational work. Now, many people installed the latrine but don't use it properly." (An official of DPHE of government).

STRATEGIES FOR SCALING-UP RURAL SANITATION

In-depth interviews with the programme implementers revealed some measures that may be effective way for scaling up rural sanitation promotion. Here are some initiatives taken for promotion of sanitation:

Forming of sanitation taskforce committee

Forming of 'sanitation taskforce committee' (STC) was the primary level initiative that contributed to designing the implementation strategies of the programme. Various STCs were formed at different level such as upzila, union, ward and village. These committees involved GO officials (e.g. TNO, DPHE officials), NGO representatives, teachers, *imam* (religious leader), members of *gram sarker*, community leader etc. Regular meetings were arranged to share the present situations of sanitation and experiences of the programme.

Increased awareness at village level

According to programme implementers, the main challenge of the programme was to aware the community people towards safe sanitation. The community people were habituated with defecating in the open places. It was difficult to bring them into latrine. Considering this situation, a massive campaign was driven to aware the people in the community. A number of staffs of both GO and NGO were deployed in the field for this purpose. They regularly visited the households who didn't have latrine. They provided the message on bad impact of unsafe sanitation to the community people. Also, sanitation issue was presented at different meetings of NGOs. On the other hand, theatre show, dissemination of poster, leaflets, were introduced in the villages.

"Theatre is a good media to raise awareness among the people. I believe BRAC's theatre increased the awareness among the community people." (A village leader of Soforia village).

It was observed that some community leader such as *Imam*, teacher, village doctor, *matobhor* contributed to increase awareness in the villages.

"Imam delivery the speech on sanitation during khutha (religious speech) at mosques. People were asked to install sanitary latrine. Moreover, they were advised to practice hygiene behaviour on the basis of religion." (A staff of BRAC).

Subsidy

It was observed that few people installed the latrine after giving the motivation. But many households were found using unsafe latrine. It was assumed that poor people could not afford the sanitary materials. Consequently, it was decided that they would be provided sanitary materials free of cost. Prior to distributing, an inventory was conducted who were unable to install the latrine by their own. Following this, sanitary materials were distributed among the poor people.

"Some people were too poor to buy sanitary materials. We provided them sanitary materials free of cost. If we did not provide them these, they would not have installed the latrine." (A member of Jessore union).

Availability of sanitary materials: According to program implementers It was observed that the villagers were reluctant to purchase sanitary material from distant places. Rather, they were optimistic to collect these materials vicinity their villages. For this, some local sanitary mart companies were given motivation to decentralize their production centres to the villages. As a result, a significant number of sanitary mart centres were established in the locality with help of local government and NGOs. In addition, some VO members of BRAC were trained up regarding producing of sanitary products and they were given some loan in this regard. All these efforts made the community people comfortable to get the materials.

Enforcement

It was learnt from the programme that awareness and subsidy were not enough to scale-up the sanitation promotion in rural area. Rather, the community people have to be enforced in practicing sanitation. The programme implementers disclosed several measures taken in this regard. The *union parishad* did miking in the villages asking people to remove hanging latrine. They also warned that if they didn't remove these latrines in the given time, they might be faced litigation. The people might be charged Tk. 50-500 for having hanging latrine. In many cases, the union parishad sent chowkider (gram police) to the households to take off the hanging latrine. They also warned that those who will defecate in the open places will be handed over to the police. Some people could not be motivated through intimidation of litigation and financial penalty. Then, they were intimidated by RAB.

"Some people were so rigid. They can't be motivated any way. Then we decided to intimidate them by RAB. We told them that if they didn't remove the hanging latrine and didn't install sanitary latrine, they would be sent to the RAB. Many people installed the latrine under this threat." (Chairman of Baghabo union parishad).

The chairman and member also warned the members of IGVGD that they must install sanitary latrine otherwise their card would be invalidated. They also pressurized that the households who would be late to set up latrine, their children's stipend might be stopped. The *union parishad* also gave condition to the people that if they didn't have sanitary latrine, they would not be given 'national certificate' when needed.

"I told every one that if they don't install sanitary latrine, they would not be provided 'national certificate' instead of emergency." (Chairman of Jessore union parishad).

Monitoring

Regular monitoring and supervision by stakeholders was believed to be one of the crucial factors regarding promotion of sanitation. All of the respondents believed that it is difficult to ensure total sanitation without regular monitoring. A staff of BRAC shared it in this way:

"In a programme like total sanitation, monitoring is a must. There are various committees to monitor the situation of the sanitation in the villages. They often visited the villages to observe the current status of sanitation. They also submit the monitoring report to respective 'sanitation taskforce committee'. Then the future plan is developed considering this report."

Political commitment

It was observed that the sanitation issues were addressed at the different meetings of political parties. National and local level political leaders were seemed to be committed for implementing this programme. It was also observed that political leaders kept the stakeholders under pressure for proper implementation of the programme. They sometimes visited the villages to observe the status of the sanitation.

"Our leader (local MP & minister) was very much supportive about the sanitation programme. He always wanted to know about the improvement of the programme. He encouraged us a lot. He used to say us that we must make Shibpur 100% sanitized area. He discussed sanitation issues in every political meetings." (A chairman).

DISCUSSION

A cross sectional analysis of knowledge, attitude and practice on sanitation in Shibpur *upazila* of Narsingdi district was performed in this study. Program outcomes are difficult to determine accurately because there is no research-based information at baseline. However, over a period of three years sanitation program in Shibpur upaziala, almost 98% respondents had access to latrine of any type, though currently only 50% used sanitary latrine and only 17% of them maintaining a proper hygienic sanitary latrine. Like other studies (3, 4), this study documented a universal use of tube well water for drinking, for different domestic and personal purposes in rural area of Bangladesh.

Adequate sanitation is defined as the safe management of human excreta and includes both “hardware” (sanitation technologies, such as toilets and hygienic latrines) and “software” (hygiene promotion, such as hand washing with soap) (5). In our study we explored both. In study area sanitation programme stated that stopping open defecation is one of their primary objectives. The prevalence of open defecation is, therefore, an important measure of program outcomes. In this regard, open defecation was almost nil, so we can conclude that program had a good impact on this issue. Though adequate sanitation was not made yet at the community level; because there is a huge gap between their knowledge and practices. In Shibpur upazila some toilets have been built with overflow pipes that discharge pathogenic effluent into the area surrounding the home, or with open vent pipes that could create fecal contamination routes. The problems relate to the durability of the toilet components, many of which appear to be broken, damaged or abandoned after only short periods of usage; these do not reflect adequate sanitation. Moreover, hygienic behaviors, such as using sanitary latrines, hands washing with soap after use and cleaning sanitation facilities are important in improving total sanitation (5). We found only 17% of respondents those are maintaining a total sanitation. This percentage can be increased significantly over the time through motivation. The subsidy may increase the affordability of toilets, but it will not improve toilet usage and in a long run health benefits under the current supply driven approach. Only 17% we found those who made their own latrine after initiation of sanitation program which reflects motivational affect.

Regular cleaning of latrine is crucial for its proper maintenance. A better sanitation awareness also seems to increase the practice among the households. The influence of GO and NGOs or BRAC in motivating the households towards sanitation practices was clearly reflected in the study. Though some degree of organizational bias has been observed within the information providers to their respective VOs, but the study found that knowledge dissemination was adequate as a whole.

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Annex 1

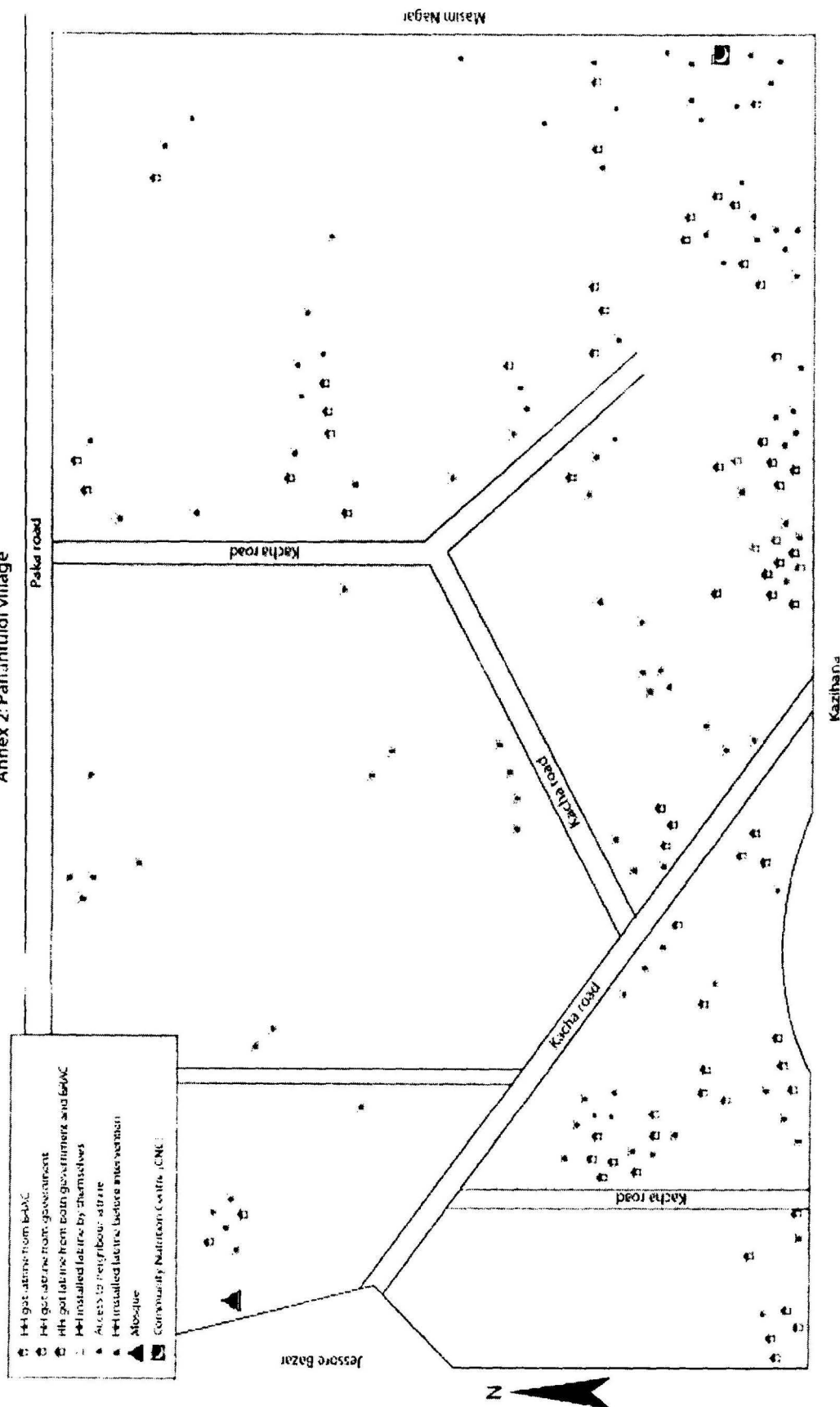
A1. Households and respondents profile

	Respondents				Total (n=360)
	Subsidy group (n=90)	BRAC VO (n=90)	Other NGO VO (n=90)	Non VO (n=90)	
Having children <5 year (%)	45.6	51.1	65.6	43.3	51.4
Perceived economic condition (%)					
• Always deficit	16.7	6.7	4.4	.0	6.9
• Equal	76.7	72.2	84.4	53.3	71.7
• Surplus	6.7	21.1	11.1	46.7	21.4
Homestead land (%)					
• No land	3.3	8.9	5.6	3.3	5.3
• 1-10 decimal	84.4	68.9	56.7	26.7	59.2
• 11-30 decimal	6.7	16.7	31.1	50.0	26.1
• 31-50 decimal	2.2	.0	3.3	5.6	2.8
• >50 decimal	3.3	5.6	3.3	14.4	6.7
Educational level (%)					
• No formal education level					
Can sign only	45.6	46.7	50.0	22.2	41.1
Can not sign	13.3	2.2	3.3	7.8	6.7
• Primary (I-V)	22.2	31.1	25.6	22.2	25.3
• Secondary (VI-X)	18.9	18.9	20.0	38.9	24.2
• Higher secondary and above	.0	1.1	1.1	8.9	2.8
Age of the respondent (mean±SD)	35.64±12.1	35.73±9.7	35.03±10.1	38.22±9.2	36.16±10.3

A2. Pre and post intervention sanitation scenario of studied villages

Indicator	Village		
	Paharfuldi (n=167)	Soforia (n=172)	Total(n=339)
HH owned to latrine (%)	34.73	62.21	48.67
Existing scenario (%)			
• HH installed latrine after the scheme	39.52	20.34	29.79
• HH own latrine at present	74.25	82.55	74.47
• HH do not own but have access to latrine	25.75	17.44	21.53

Annex 2: Pahanfuldi village



Annex 3: Sofaria village

