



Baseline Survey Report March 2002

# The Water Supply & Sanitation Situation in Rural Bangladesh

*The Case of the villages selected for the 2002-2003 WatSan programme of NGO Forum*



*Prepared By*  
Research, Monitoring & Evaluation Cell

**NGO FORUM  
FOR DRINKING WATER SUPPLY & SANITATION**



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**For Drinking Water Supply & Sanitation**

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## **Foreword**

*NGO Forum for Drinking Water Supply & Sanitation has dedicated itself to ensure the basic needs of safe potable water, sound sanitation practice and maintenance of personal hygiene for the distressed humanity.*

*Partnership & Networking Approach is the functioning mode of NGO Forum's program. It works as the non-government apex coordinating and service delivery agency of local, national & international NGOs, CBOs (Community Based Organisation) and private sector actors who implement safe water supply and environmental sanitation programme at the community level in Bangladesh. Currently NGO Forum works in a countrywide decentralised mechanism through around 600 partner NGOs and private sector actors with total manpower strengths of more than 38,000 workers. NGO Forum has divided its entire working area into 14 regions.*

*Since the year 2000 NGO Forum under Community Managed WatSan program has been following Village Coverage Concept to improve the WatSan status of the rural poor within a period of two years. It has selected 280 underserved /unserved villages from 58 districts of Bangladesh to ensure 100% WatSan coverage within the period of 2002-2003 under the Community Managed WatSan programme.*

*However, before NGO Forum's intervention, Research Monitoring and Evaluation Cell (RME) conducted a baseline study in these selected villages in the first week of March 2002 to apprehend existing WatSan situation to comprehend directions for programme intervention with the assistance of Field Operation. I appreciate the role of RME Cell in conducting the study and preparation of report. The findings of this study would be useful for monitoring the changes and impacts in these villages due to NGO Forum's WatSan intervention for next two years.*

*I am sure that this study report would be also useful for other organisations who are working in the developmental sector of Bangladesh as it provides socio-economic, demographic information along with the present water & sanitation status of 58 districts of Bangladesh.*

**S.M.A. Rashid**

*Executive Director*

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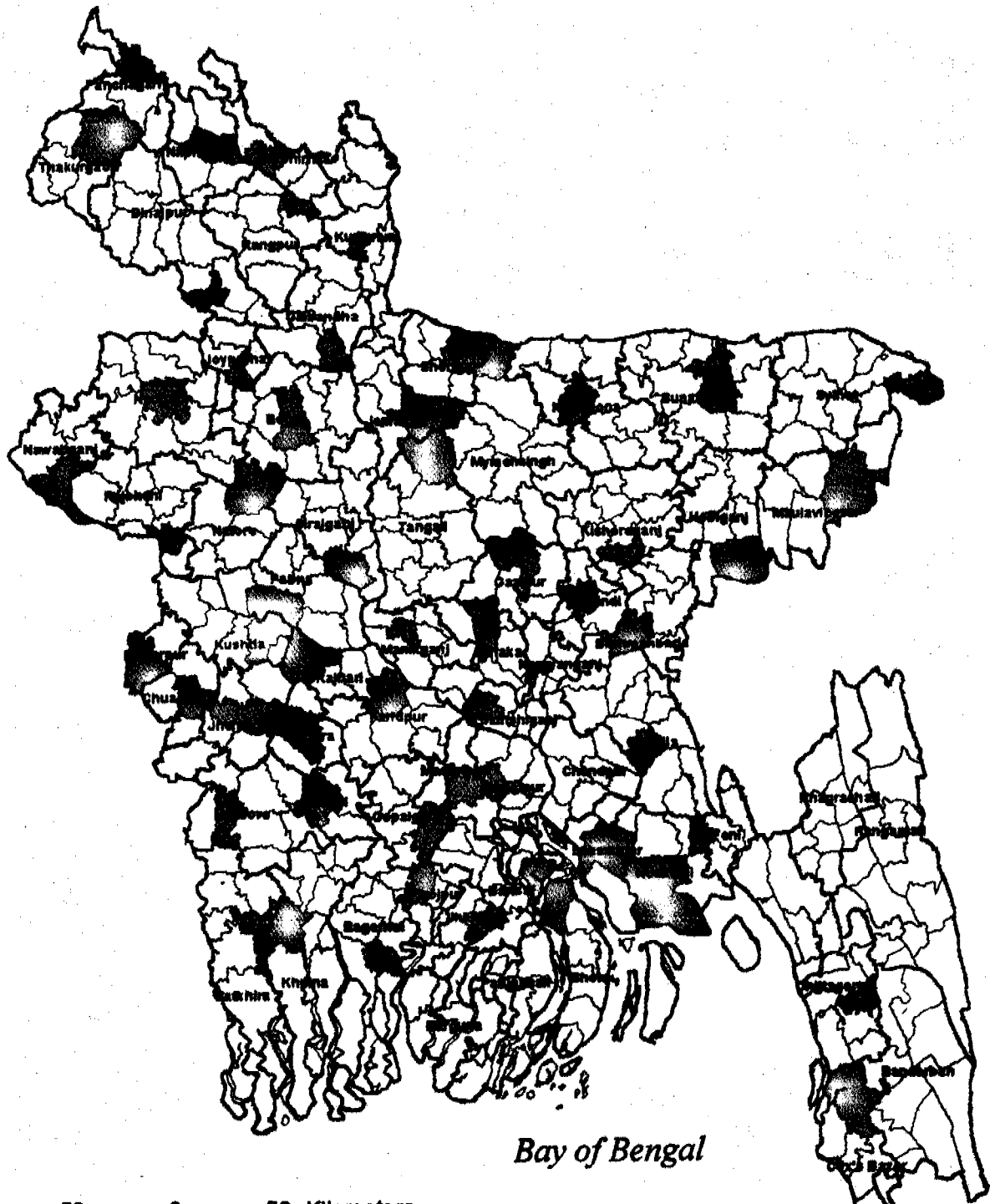


## List of Abbreviation

CBO	Community Based Organization
GHA	Geo-Hydrological Area
HH	Household
HSA	Hilly & Stony Area
LWTA	Low Water Table Area
NGOF	NGO Forum for Drinking Water Supply and Sanitation
NGO	Non-Government Organization
PNGO	Partner Non-Government Organization
RME	Research Monitoring and Evaluation Cell
SWTA	Shallow Water Table Area
TSA	Total Surveyed Area
TW	Tubewell
VSC	Village Sanitation Center
WatSan	Water and Sanitation
WHO	World Health Organization

# BANGLADESH

▀ Surveyed Thana



50 0 50 Kilometers

Thana  
District



## Executive Summary

Since the year 2000 NGO Forum under Community Managed *Watsan* program has been following Village Coverage Concept to improve the *WatSan* status of the rural poor within a period of two years. It has selected 280 underserved /unserved villages from 58 districts of Bangladesh to ensure 100% *WatSan* coverage within the period of 2002-2003 under the community managed *WatSan* program.

However, before the intervention, a baseline survey was conducted in these selected villages in the first week of January 2002 to apprehend existing *WatSan* situation to comprehend directions for program intervention. Nevertheless, following sample survey method the survey was conducted only in one village from each of the 58 districts. PRA and conversational interview methods were adopted to elicit information about *WatSan* hardware status and hygiene practices respectively. Observation was also made in few selected variables to overcome the limitations of PRA & conversational interview methods.

According to survey findings, the total number of household residing in the program-selected portion of 58 villages is 17710 and the population is 96467. Moreover, apart from cultivation (37%), the highest percentage of households (29%) depends on the earning primarily coming from day labour. However, this percentage goes up to 40 % if *Rickshaw*, Van, & pushcart pulling, boat rowing and car driving are included. The primary earning source of the rest of the households is fishing related activity (3%), business (9%), working as household servant (1%) and Service (7%).

The principal earning sources (professions) implicate the poor economic status of the majority of households residing in the survey area. According to survey 14.4 % households earn less than US \$ 174 per annum, 22.7 % earn between US\$ 174 to 260, 17.2% earn between US \$ 260-347, 17.6 % earn US\$ 347 to 434. The rest 28.0% households earn more than US\$ 434. It implicates 54.3% households earn even less than one US dollar in a day.

The educational background of the people living in the surveyed area is as disappointing as the economic situation. 23.9% of the population above 5 years of age are illiterate and 29.6 % only can write their name. People educated beyond class ten comprise only 6.1 %. Among them 3.4% have SSC/equivalent degree, 1.7 % studied up to HSC/ equivalent, 0.8% have graduation and only 0.2% have post graduation level of education.

In spite of educational backwardness, the survey findings exhibit that the majority of respondents (65.3%) know that consuming surface water without any filtration and existence of improper sanitation are mainly responsible for diarrhoeal diseases. Nonetheless, findings regarding the diarrhoeal incidences indicate that knowledge on the reasons responsible for diarrhoea could not bring awareness about the same. The survey was conducted in the first week of March when diarrhoeal occurrence remains relatively low in number. Still, 22.1% households experienced diarrhoeal incidence and 3.8 % population above 5 years of age and 17.1% of under five children had faced diarrhoeal attacks with in a month preceding the day of survey conduction. This implies the existence of poor *WatSan* situation.

Nevertheless, the hardware status of water supply technology presents a better situation in the selected villages if the number of total TW/pump/plants is considered. The total number of TW/pump/plants found in the surveyed area is 5064. 97.4 % of this falls in the suction mode category pumps which includes Number 6 TW (92.7%), Deep TW (2.1 %), Conversion pump (1.7%) and locally made TW (0.9 %). The rest are force mode pump (deep-set *Tara*-1.6%), plants (0.69%) and traditional well (0.3%). The locally made TW includes *Darkol*, *mini-tubwell*, and *basherkol*. However, one of the most noticeable findings is that one of the villages named *Rajapur* of *Bagerhat* district situated in the coastal area does not have even a single TW/pump/plants.

However, existence of considerable number of water points does not mean that every household has TW/pump/plant within their courtyard. In the entire-survey area nearly 26.6 % households have to cross more than 100 feet to get access to a TW/pump/plant. In the coastal and hilly & stony areas 46.5 % and 52.6% households do not have TW/pump/plant within 100 feet respectively. Moreover, many Households residing in the coastal area, hilly & stony area, LWTA and SWTA cross 9000, 1200, 2000, and 2000 feet to get access to TW/pump/plants' water respectively.

However, a considerable percentage of households (62.2%) have access to TW/pump/plant within 50 feet. In the coastal and hilly & stony area 42.8% and 40.7% households have access to TW/pump/plant within 100 feet respectively while in the LWTA and SWTA, 66.5% and 70.9% households have access within 50 feet respectively.

The access to TW/pump/plant does not ensure access to safe water. TW/pump water may have arsenic, iron, saline and other mineral & chemical contamination. However, the findings show that people are not much aware about mineral contamination of water available from TW/pumps. Majority (64.2%) respondents do not have any idea about the arsenic contamination. The findings regarding arsenic test of TW/pumps' water implicitly reveals the impact of this unawareness. Survey findings show that water of 100% TW/pump has been tested for arsenic contamination only in 7 % villages and not even a single water point is tested for arsenic contamination in 53% villages. It further shows that in 7 % villages all tested-TW/pumps' water has unacceptable level of arsenic contamination while in 5.3% villages all tested TW/pumps' water is found to be safe.

However if focus is shifted from village to water point then findings show that water of only 23% TW/pumps had been tested for arsenic contamination and water of 49% tested TW/pumps has unacceptable level of arsenic contamination. The highest percentage of tested TW/pumps (80%) is found as unsafe in the coastal area while lowest percentage tested TW/pumps (21%) is found as unsafe point in the Hilly & Stony area. In the LWTA and SWTA, water of 33 % and 54% tested TW/pumps are found having unacceptable level of arsenic contamination respectively.

Apart from arsenic contamination, iron contamination of water available from TW/pump also has to be taken care of in ensuring safe water supply for the rural people. The Survey findings show that only in 25% villages 100% TW/pump plant is reportedly free from unacceptable level of iron contamination. In respect of water point (TW/pump), water from 25% TW/pump have unacceptable level of iron contamination. The highest percentage of iron contaminated water points are located in the coastal area (46%) and the lowest percentage of iron contaminated TW/pump is situated in the SWTA. In the LWTA and Hilly & Stony area 25 % and 21% TW/pump plants reportedly having unacceptable level of iron contamination respectively.

Besides iron and arsenic contamination, presence of high salinity is another important difficulty, which must be considered to assess the access to safe water supply. As per survey in the 50% villages of coastal area presence of high salinity in the water of TW/pump are reported. However, it does not mean that all the water points in these villages have high salinity problem. According to survey only 8% water points (TW/pump) are reportedly have salinity problem. All the water points situated in SWTA, LWTA & hilly & stony areas are reportedly free from high salinity.

Hence access to safe water supply cannot be ensured only through ensuring access to TW/pump but it has to be made sure that water available from TW/pump is free from high salinity, and unacceptable level of iron and arsenic contamination.

Survey findings shows that 61% of the total functional water point that does not include *Basherkol*, *Darkol* & traditional well is free from high salinity, and unacceptable level of arsenic and iron contamination. Hence it can be said that 61% TW/Pump among the total available TW/pumps are safe functional points. However, geo-hydrological region wise, 36%, 43%, 67% and 62 % functional water point is safe in the Coastal area, hilly & stony area, LWTA & SWTA respectively. However, not even a single functional safe point is available in the, *Mahmud Kanda*, *Shreenathdi*, *Rajapur* & *Betagram* villages located in the Coastal area.

The findings also implicates that in an average for 83, 54, 24 & 29 persons, a single functional safe water point is available in the Coastal area, hilly & stony area, LWTA & SWTA respectively. However, in the *Gabrakhali* village of LWTA and *Sheikh Hati* village of SWTA for 1867 & 1616 persons a single functional point is available. In contrast, a single functional safe water point is available for less than ten persons in *Barunagaon* village of SWTA, *Barokona* & *Ragunathpur* village of LWTA.

However, this situation cannot be accredited as real because all these water points, which were not tested for arsenic contamination, were identified as safe. Moreover, the presence of other minerals, except arsenic, iron and salt, are not

considered here. In addition, the bacterial issue has also been not taken care of. There is every possibility of bacterial contamination of water available from TW/pump/plant. The survey shows that 50% households collect water from a water point, (TW/pump/plant) from which distance of latrine is less than 33 feet. In respect to bacterial contamination the minimum safe distance between latrine and water point is 33 feet. So survey findings does not present information about the average number of persons for single confirmed safe points but about the perceived safe points.

The presence of appropriate number of safe functional water points does not ensure the use of safe water. However, if people are conscious about the necessity of using safe water they even cross long distance to get access to water that they perceive safe. The survey findings show that 81.4% households drink water collected from TW/pump/plant, which are perceived to be safe and 13.3% from TW/pump/plants that are not safe. It means in the whole survey area 94.7% households drink water collected from TW/pump/plants. The rest of the households collect water from the traditional well/ponds (4.4%), river/canal (0.7%) and other sources (0.1%).

In the coastal area, 89.2% households drink TW/pump/plants' water but due to the absence of any TW/pump/plant in the village 100% households of *Rajapur* village of *Bagerhat* district collect water from a sweet water pond. In the hilly & stony, and Low water Table area 96.7% and 95.6% households drink TW/pump/plant's water. However, it is the SWTA where the highest percentage of households (97%) drink water, collected from TW/pump/plants.

It is a very encouraging situation that even though the residents of the survey area are lagging behind in respect to education but a commendable percentage of households use TW/pump/plants' water. This shows the success of awareness program carried out for decades by various government and non-government organisations. The success story of awareness program regarding the use of water from TW/pump/plants become more revealing if one notices the distance people are crossing to get access to TW/pump/plants. Survey shows that people even cross up to 9000 feet to collect water from TW/pump/plants and nearly 11.8 % households cross more than 300 feet distance. However, the same findings implicate the level of problem one is going to face to aware the people that even water available from TW/pump is not always safe.

In contrast to drinking water habit, only 31.6%, 44.0%, 44.5% and 58.8 % households use water collected from safe water source for the purposes like gargling and mouth washing (during bathing, face washing, Uzu etc.), washing raw food/vegetable and utensil, and for cooking respectively. This reflects the areas where awareness program has to be directed.

The findings about the present sanitation situation of the selected villages reveal our nation's imbalanced *WatSan* effort & success. The survey explicitly implicates that rural people's access to safe sanitation is much lesser than the access to TW/pump/plant.

During the survey two types of pour-flush (water sealed ring slab latrine & offset latrine) and one type of septic tank system latrine besides pit, open and hanging latrines were found in the entire survey area. All these six types of latrine technology are seen in all of the four hydrogeological areas. However, only the pour-flush type latrine popularly known as *water sealed ring slab latrine* was found in the 100% surveyed villages. Nevertheless all water-seal Ring-Slab category latrine no longer can be called as hygienic latrine because 32% of them did not have proper water seal at the time of survey. For 17710 Households only 2462 sanitary latrines are available. The number of hygienic latrines will be less than 2000 if the condition of the water seal is taken care of.

The survey findings further imply that only 4591 households (25.9%) have latrine, which include latrines that can be considered as hygienic (septic/water seal/ off set) or not completely unhygienic (pit). It means 12758 households (72%) do not have any types of hygienic/ semi-hygienic (pit) latrine and 361 households (2%) do not have independent hygienic/ semi-hygienic (pit) latrine but shared ones. During survey it was found that 54.8% of them are not able to use hygienic latrine due to financial constraints and 10.3 % due to lack of place. However, it was found that 63 % does not use due to lack of awareness. (Total percentage is more than 100 because the question had multiple answers)

Like the hardware situation, the findings about the use of hygienic latrine by the members of the households present a depressing scenario. According to the survey male members of 13.0%, 13.5% and 36.7% households of the entire survey area use hygienic latrine, pit and open/hanging latrine, respectively. The rest 36.7% households' male members practice open defecation. Whereas the male members of the highest percentage households (14.2%) use hygienic latrine in the LWTA area, the lowest percentage households (10%) use it in the hilly & stony area. In the coastal and SWTA area male members of 13.7% & 11.7% households use hygienic type latrine respectively.

The pattern of female defecation site is nearly the same as male. Females of 13.3%, 14.0% & 39.1% households use hygienic, pit and open/hanging latrine respectively. The rest 33.7% households' females practice open defecation. geo-hydrological region wise female member of 13.7%, 10%, 16.6% & 11.8% households use hygienic latrine in the coastal, hilly & stony, LWTA and SWTA respectively.

When the adults do not practice the use of hygienic latrine the better behavior cannot be expected from under five children. The survey findings show that under five children of 6.2% households use hygienic latrine and 2.3% use pit latrine. Among the rest 91.5% households 4.3% use open/hanging latrine and 87.2% defecate in the open place/courtyard/bush/other places. In the hilly & stony area majority of under five children of 92.7% households practice open defecation and in the coastal, LWTA & SWTA area 84.9%, 89.4% & 85.6% households' under five children practice open defecation.

Only improving the hardware situation and ensuring the use of hygienic latrine do not eliminate the danger of improper sanitation related diseases. If one wants to reduce the rate of water & sanitation related diseases considerably, ensuring hygienic practice like proper hand washing, safe management of domestic waste and maintenance of hygienic environment is very much necessary.

The washing of both hands with soap before meal, after defecation and after cleaning the bottom of children can ensure the decline of faecal-oral disease. However, the survey findings show that the present hand washing habit of the entire survey area is far behind than the needed one.

According to survey, members of 94.8% households wash hand before taking meal. However, only 1.1 percent households' members wash both the hands with soap. However, the highest percentage of households' (87.7%) members washes one hand only with water. The members of the rest 2.0% households wash one hand with soap. The hand washing patterns of all the four geo-hydrological areas are nearly same. The members of 0.5%, 3.3%, 1.9% and 0.5% households wash both hands with soap in the coastal, hilly & stony, LWTA & SWTA respectively.

Washing of both hands with soap after defecation is very essential to avoid human excreta related diseases. The survey findings provide very depressing scenario. In the entire survey area nearly 5% households' do not practice separate hand washing after defecation and only 2.8% practice both hand washing with soap after defecation. The highest percentage of households (43.3%) practices the washing of one hand with only water. However, members of a considerable percentage (39%) of households washes one hand with ash/soil.

In many culture the excreta of young children are considered safe and are not treated with the same hygienic concern as the excreta of adult. This is totally wrong. Nevertheless, the survey findings shows that people of the surveyed area treats the excreta of the children in the same way as they treat adults' one. Survey findings show that only 3.8% households practice washing of both hands after cleaning the bottom of the child while 6.6% wash one hand with soap. The majority of the households (55.4%) only wash one hand with only water. However, nearly 28% households' members wash one hand with ash/soil after cleaning the bottom of children.

The safe management of human excreta and related hygienic practice cannot ensure environmental sanitation if safe management of domestic waste along with industrial and other types of waste is not ensured. However, the survey findings reveal the unawareness of rural people in respect to disposal of domestic waste. According to survey majority of household (53.5%) throw their domestic waste into any places and 10.2% households throw into water bodies. Only 36.4% households dispose the domestic waste into fixed place/hole.

The baseline survey of the selected villages shows that NGO Forum has to give relatively more emphasis on sanitation aspect. Sanitation intervention must show urgency on hygiene behavior than hardware intervention. In respect to intervention in the water sector, the test of water quality of all available functional water points, particularly shallow ones has to be given more preference. Water related awareness program must emphasize on the danger of consuming arsenic contaminated water and the importance of using safe water for cooking, gurgling, washing raw food etc. Above all awareness program must be directed to initiate community level *WatSan* movement.

## Introduction

Access to safe and affordable supply of drinking water is universally recognised as a basic human need for the present generation and a pre-condition for the development and care for the next. However, every year, millions of world's poorest people die from preventable diseases caused by inadequate water supply and sanitation services. At any one time around half of all people in developing countries suffers from one or more of the six main diseases associated with inadequate water supply and sanitation: diarrhoea, *ascaris*, *dracunculiasis*, *hookworm*, *schistosomiasis*, and *trachoma*.<sup>1</sup> Children and women are the main victims of inadequate water supply and sanitation.

Children are primarily vulnerable to preventable diseases, which results from lack of sanitation. Over three million children die every year from diarrhoeal disease and dehydration, and over half experience more than fifteen attacks of serious diarrhoea before the age of five.<sup>2</sup> In the year 2000, 16.7% under five children have suffered from diarrhoea in Bangladesh.<sup>3</sup>

Besides Children, Women are the main sufferers of inadequate water supply and sanitation as they ensure the water availability at home for domestic household needs, and manage environmental hygiene and sanitary services at the household.

Fetching and carrying water is part of daily routine for millions of women around the world and they must endure the indignity, shame, and sickness as they carry water containers long distances every day.<sup>4</sup> Water container typically holds about 20 litres of water and weights 20 kilograms. Carrying such a heavy weight on the head, back, or hip has severe health implications for women, who commonly experience backache and joint pains. In extreme cases, curvature of the spine and pelvic deformities results, creating complications in pregnancy and childbirth.<sup>5</sup>

With regard to sanitation, women often have different privacy requirements from men. For example, in densely populated settlements without adequate sanitation, they are required to use public spaces in the cover of darkness in the early morning and late evening, and can suffer health problems related to urine retention as a result.<sup>6</sup>

The inadequate water and sanitation apart from health problem is also responsible for the aggravation of poverty of the people. The sickness increases the medical bill, decreases productivity of the person and eats up productive hours. Family also loses productive hours when family members have to collect water from long distances. All these ultimately put strains on the financial situation of a family and aggravate poverty.

### **NGO Forum For Drinking Water Supply & Sanitation**

*Since emergence in 1982 NGO Forum has dedicated itself to ensure safe potable water, sound sanitation practice and maintenance of personal hygiene for the distressed people of Bangladesh.*

*Partnership & Networking Approach is the functioning mode of NGO Forums program. It works as the non-government apex coordinating and service delivery agency of local, national & international NGOs, CBOs (Community Based Organisation) and private sector actors who implements safe water supply and environmental sanitation programmes at the community level in Bangladesh. Currently NGO Forum works in a country-wide decentralised mechanism through around 600 partner NGOs and private sector actors with a total manpower strengths of more than 38,000 workers. NGO Forum's has divided its entire working area into 14 regions.*

*The vision of NGO Forum is Improved Public Health. Hence its mission is to contribute in the improvement of the public health status of the poor and disadvantaged women, children and men of Bangladesh.*

*NGO-Forum is an adaptive learning organisation. Initially to fulfil its task follows supply-driven approach but now it emphasizes on demand-responsive and community managed and shared services. Moreover it believes in an integrated program in the form of integration of Hardware (material) and Software (training, Awareness program etc.) support.*

<sup>1</sup> DFID, "guidance manual on water supply and sanitation programmes," WELL, 1998, London, p-5.

<sup>2</sup> Ibid, p-7.

<sup>3</sup> UNICEF, "Progotir Pathay: 2000," Bangladesh Bureau of Statistics & UNICEF, Dhaka, 2000, p-65

<sup>4</sup> DFID, opcit p-1.

<sup>5</sup> Ibid, p-45.

<sup>6</sup> Ibid.



NGO Forum For Drinking Water Supply and Sanitation (NGO Forum), an apex body of non-government organisations working in the *WatSan* sector, realising the importance of the need of adequate and safe water supply and sanitation in improving the primary public health and abating poverty of the people of Bangladesh has confined operation only within the development sector of drinking water supply and sanitation.

Being realistic, NGO Forum under the concept of "Community managed *WatSan* program" has been following the strategy of ensuring 100% *WatSan* coverage with in a period of two years in limited number of villages selected from each district of Bangladesh.<sup>7</sup> For the sustainability of the *WatSan* achievement in the selected villages even after phase out, village-communities are motivated and empowered to take a lead in the process to ensure proper 'ownership of the intervention'. NGO Forum adopted 'selected village *WatSan* coverage approach', with the believe that *WatSan* achievement in selected village will initiate the process of replication in the neighbouring locality.

In the first phase of "Community-managed *WatSan* Program" NGO Forum worked in 240 villages for two years during the period January 2000- December 2001. External Researchers, *Shahid Hossian Talukder, Rahat Uddin Ahmed & M. A. Momin* described the impact of NGO Forum's Community-managed *WatSan* Program in these 240 villages, in the following words:

#### **NGO-Forum's Village Selection Criteria**

- Village is located in the operational area of partner organization of NGO-Forum.
- At least 300 households inhabit in the village and majority people are relatively poor.
- With regard to big village, a portion of the village will be selected for *WatSan* program
- In respect of *WatSan* situation the village is an under/low coverage one.
- At present in the village no other government & non-government organization is working there on *WatSan* Sector.
- In the village, maximum 25% households have hygienic latrine.
- Inhabitants of the village have low *WatSan* awareness
- In the village tubewell water has unacceptable level of Arsenic/ Iron contamination or the village water is affected by the intrusion of salinity or the village is facing severe problem in accessing the ground water due to lowering of underground water or due to the existence of stony and hard underground layer.

"The achievement of *WatSan* initiative of the NGO Forum in terms of Social mobilisation for creating impacts on the level of awareness, knowledge, practices and habits of people with regard to *WatSan* are outstanding. Within a short span of time, NGO Forum with its limited resources has been able to mobilise a large network of partners for launching *WatSan* as a social movement. In the process, not only the capacity of the PNGOs has been developed but also the community capacity to implement and manage the *WatSan* software and hardware has been developed to a large extent. PNGOs have learned and acquired organisational management competencies and are capable to plan and manage not only *WatSan* intervention but also poverty alleviation activities. *WatSan* is a visible program in the intervention areas and the community people consider *WatSan* as Step 1 in their struggle for change to attain better quality life".<sup>8</sup>

NGO-Forum for the second phase of "Community-managed *WatSan* Program" has selected 280 villages from 58 districts out of its 59 working area districts.<sup>9</sup> Before intervention, NGO-Forum had conducted a survey to document the various aspects of *WatSan* situation of these selected villages. The baseline data acquired from the survey is documented and analysed in the present report.

#### **Objective(s) of the Study:**

- To have an idea about the status of water supplying sources and sanitation situation of the selected villages,
- To apprehend the status and pattern of *WatSan* habits and practices and *WatSan* awareness level of the people residing the selected villages,
- To apprehend directions for *WatSan* intervention in these selected villages.

<sup>7</sup> NGO-Forum operates in the 59 districts among the 64 of Bangladesh. NGO-Forum does not work in *Barguna, Patuakhali, Ragamati, Bandarban & Khagrachari* district because other *Danida* components are there.

<sup>8</sup> *Shahid Hossian Talukder, Rahat Uddin Ahmed & M. A. Momin, "Impact Study on Behavioural Changes Towards WatSan Practices,"* NGO Forum, 2002, Dhaka

<sup>9</sup> *Chandpur* district is left out from the programme phase as NGO-Forum's does not get capable and interested local partner NGO through which it can implements Community-managed *WatSan* program in the district based on partnership approach.

## Study method:

Sample survey method was followed to conduct the study. Survey was carried out in all of the 280 selected villages but in 58 villages to document the patterns of *WatSan* situation in 280 selected villages.<sup>10</sup> These 58 villages were selected through selecting one village randomly from each administrative district where NGO Forum is going to intervene during January 2002-2003 period under the 'Community Managed *WatSan* program'. Selection of one village from each district ensures representation of all the four geo-hydrological regions as well as arsenic, iron, & saline problem prone areas. Thus these 58 villages not merely 58 individual villages but sample villages of all those villages that are situated in the same geo-hydrological & water-difficulty areas. Therefore study findings of these villages not only reflects the patterns of *WatSan* situation in these 58 villages only but also the all other unserved and underserved villages situated in the same geo-hydrological areas.

## Survey period, Survey area and Location

The field survey was conducted in 58 villages of 58 districts of Bangladesh in the first week of January 2002. These villages represent not only the 4 geo-hydrological regions of Bangladesh but also water-difficulty areas where unacceptable level of Iron and Arsenic contaminated water is available from tube-wells. The locations of these 58 villages are given in the following table.

Location of the Surveyed villages

Geo-Hydrological Region	Sample Village	Union	Thana/Upazila	District	Total H/H of selected portion	No. of Sampled H/H for conversational interview
Coastal Area	West Tetulia	Gabindapur	Mehendigonj	Barisal	321	32
	West Charsamaiya	Charsamiya	Sadar	Bhola	300	30
	Suktagoan	Suktagoan	Razapur	Jhalokati	270	27
	Mahmudkanda	Matibhanga	Nazirpur	Pirojpur	293	29
	Salam Nagar	7 No. Mato Bhuiya	Dagan Bhuiyan	Feni	254	25
	Char Rohita	4 no Char rohita	Sadar	Laxmipur	323	32
	Char Jabbar	16 no. Char Jabbar	Sudharam	Noakhali	325	33
	Rajapur	Ramsheel	Kotalipara	Gopalganj	309	31
	Shreenathdi	Kandua	Sadar	Madaripur	300	30
	Dakkin Galdi	Tulasar	Sadar	Shariatpur	280	28
	Rajapur	Dhansagar	Shorankhola	Bagerhat	324	32
	Betagram	Maguraghona	Dumuria	Khulna	300	30
Khaliinagar	Khaliinagar	Tala	Satkhira	288	29	
Hilly & Stony Table Area	Razar Bil Noyapara	Fashiakhali	Chokoria	Cox's Bazar	298	30
	Monoharpur	Sharifpur	Kulaura	Moulvibazar	304	30
Low Table Area	Bamonpara	Namuza	Sadar	Bogra	276	28
	Kadoya	Tilokpur	Sadar	Naogaon	276	28
	Gongprosad	Potazia	Shahjadpur	Sirajgonj	290	29
	Baratara	Baratara	Khetlal	Joypurhat	280	28
	Hashimpur	Hashimpur	Chandanish	Chittagong	336	34
	Horinadi	Sahilpur	Sadar	B. Baria	265	27
	Bekashahara Gararon	Bormi	Sreepur	Gazipur	324	32
	Charpara	Jinardi	Polash	Norshingdi	312	31
	Komorpur	Majbari	Pangsa	Rajbari	275	28
	Subdia	Padmabila	Sadar	Chuadanga	278	28
	Mazhgram	Shilaidah	Kumarkhali	Kushtia	270	27
	Raghunathpur	Amjhupi	Sadar	Meherpur	310	31
	Rahayla	Koylag	Bazitpur	Kishoregonj	310	31
	Gabrakhali	Gazirvita	Haluaghat	Mymensingh	381	38
	Hatkundolee	Kaliara Gobragati	Sadar	Netrokona	257	26
	Gaglajani	Kalampur	Nalitabari	Sherpur	385	39
Mohesh Chandrapur	Kolom	Singra	Natore	325	33	

A portion of the table in the next page

<sup>10</sup> In the first week of April survey was conducted in the rest 222 villages to prepare NGO-Forum region wise reports only for the use of concerned regional office and staff. These reports will not have much text but mostly tables.

Geo-Hydrological Region	Sample Village	Union	Thana/Upazila	District	Total H/H of selected portion	No. of Sampled H/H for conversational interview
	Dhumihayatpur	Ranihati	Chapainawabganj	Nowabgonj	307	31
	Kharerbari	Nimpara	Charghat	Rajshahi	268	27
	Radhakantapur	Dogachhi	Sadar	Pabna	300	30
	Shatrumardon	Paschim Pagla	Sadar	Sunamgonj	312	31
	Barkona	Khanpur	Birampur	Dinajpur	290	29
	Dopakali	Dopakali	Modhupur	Tangail	311	31
Shallow Table Area	Borkoit	Borkoit	Chandina	Comilla	325	32
	Deonai	Sanora	Dhamrai	Dhaka	340	34
	Baroikali	Baroikali	Sreenagar	Munshigonj	340	34
	Pukhuria	Baliakhora	Ghior	Manikgonj	315	32
	Narashundapur	Kashipur	Sadar	Narayanganj	357	36
	Monsurabad	North Chand	Sadar	Faridpur	320	32
	Atlia	Ganganandapur	Jikorgacha	Jessore	315	32
	Achintanagar	Padmakor	Sadar	Jhainaidah	285	33
	Bara Khari	7 no Moghi	Sadar	Magura	269	27
	Sheikh Hati	Sheikh Hati	Narail	Narail	321	32
	Matharpara	Guridaha	Saghata	Gaibandha	340	34
	Chakir Pashar Pathak	Chakir Pashar	Rajarhat	Kurigram	300	30
	North Battrish Hazari	Chandrapur	Kaligonj	Lalmonirhat	321	32
	Kazipara	Shoulmari	Jaldhaka	Nilphamari	325	33
	Shibu	Kurshamari	Kawnia	Rangpur	329	33
	Shadekpur	5 No. Shadekpur	Chunarughat	Hobigonj	261	26
	Borchalia	Biroshree	Jokigonj	Sylhet	283	28
	Kazipara	Dhakkamara	Sadar	Panchagorh	285	29
Boronagaon	Salandor	Sadar	Thakurgaon	325	33	
Shahbajpur	Shahbajpur	Sadar	Jamalpur	327	33	

### Survey conduction/ data collection Methods and process:

During field survey in the 58 sample villages, Social, Resource and Hazard mapping techniques of Participatory Rapid Appraisal (PRA) and conversational interview methods were applied to collect necessary data. Whereas conversational interview method was followed primarily to apprehend information regarding *WatSan* habits, practices and awareness level of the people, PRA method was adopted essentially to have an idea about the water supplying and Sanitation related hardware status. 15-20 villagers were the participants of PRA and 10% sample households of the village/selected portion of the village were respondents for conversational interview. Besides, PRA and conversational interview methods observational method was also adopted to get an idea about the actual hygienic status maintained by the community households. During 10% sample households survey through questionnaire, interviewer also observed the hygienic status of the sample households with the help of the observational part of the questionnaire.

#### Data collection tools:

A semi-structured checklist for PRA method and a structured questionnaire for conversational interview were used for data collection. For observing the hygienic status of the sample households the observational part of the questionnaire was used. To ensure the effectively, tools were pre-tested and finalised before launching of the actual survey.

## Major variables of the survey

Village, households and household-member category were the ultimate units of survey. Numerous variables were used to gather qualitative & quantitative information regarding these units. The major variables of the survey were:

- Total population & households
- Water supplying technologies (TW/pump/plant)
- The water-quality of TW/pump/plants
- Category wise Latrine coverage
- Hand washing practices
- Incidence of diarrhoea
- Economic status of the Household
- Collection sources & Ownership pattern of TW/pump/plant
- Water sources for domestic purpose
- Place of defecation
- Waste disposal places

## Selection of PRA participants and interview respondents:

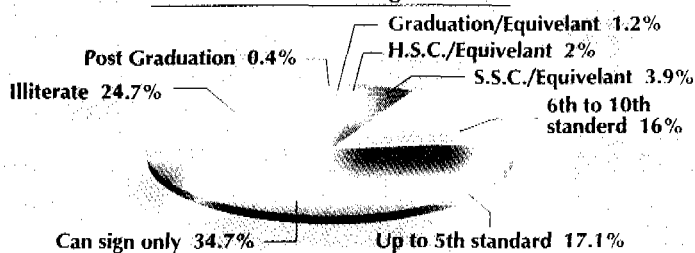
In the villages, the people of Bangladesh generally live in scattered way in small clusters. At the time of selection of participants for PRA session this cluster characteristic of rural *Bangla* was kept in mind. At least one participant from each cluster of the village was selected. The size of the PRA participant varied between 15-20 based on the total number of households resides in the selected portion of the village. Moreover, among the total participants for each PRA session gender balance was maintained. Furthermore, to achieve study objectives, especial attention was given to select those people who generally have better knowledge about the village. Therefore, besides ensuring selection of at least one union council member and a teacher, *Gram Samity* members of locally active NGOs were preferred as participants.

In respect of selecting respondent-households for conversational interview, 10% households were selected through using systematic random sampling from the total households of the village. Moreover, interval of 10 households was maintained between each consecutive sample households. During interview conduction housewife and young family members were preferred as respondent to ensure better information.

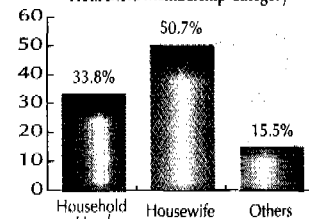
### **Particular's of the interview respondents (findings)**

Among the total respondents 61.2% are female and the rest are male. In respect of household-membership category, the highest number of respondents belongs to Housewife category (50.7%). The rest are Household-Head category (33.7%) and other-member category (15.6%). The educational background of the respondents is not very attractive. Only 7.6% responds have studied beyond 10 standard.

#### **Educational Background**



#### **Household Membership Category**



## Limitation & Constrains, and steps taken to overcome:

Methods used during survey have some limitations but these methods were adopted due to lack of manpower, and financial and time constrains.

The problem with interview method is that respondents are generally cautious in giving real information. They perceive the possibility of misuse of information that can affect the interest and image of the family. There always exist the possibility of hiding the real situation by the respondents. Due to this reason, observation method is the best method for any survey that particularly deals with the socio-economic aspect, & habit and practices level of the people. However, this method could not been applied for this present study as it demands lengthy survey period,

huge finance and involvement of large number of man power which is not possible under the present situation of the organisation. Hence the interview method was applied for data collection.

Nevertheless, it was ensured that the data collectors during interview conduction also make some observation on some variables included in the questionnaire to overcome some of the limitation of the method. Moreover, experienced persons who know how to win the faith of the respondent and have practical *WatSan* knowledge were involved in data collection. Moreover they were given extensive orientation including field practice to ensure clarity about the variables used in the questionnaire and enhance skill in interview conduction. In addition, as a co-data collector a person who is very much acquainted with the survey area and people was involved in the process to apprehend the real *WatSan* situation of the sample-households. Thus, in each village two persons, one as main data collector (main interview) and another as co-data collector (co-interview) were involved in data collection though conversational interview method. All the main data collectors were staff of NGO Forum and were assisted by the field staff of partner organisation as co-data collectors.

Like the interview method, PRA method also has some limitation. The success of PRA method and technique depends upon the knowledge level of participants, active participation of the participants and on good facilitation of the session. Therefore steps were taken to ensure the success of PRA method. As a first step, PRA session was arranged only after the completion of data collection from sample households through interview method. This had helped to select appropriate participants. During the two days of interview period, data collectors meet various people, which had helped them to select just participants. Moreover, PNGO staff who has good ideas about the village people also had assisted the selection process.

In respect of facilitation, the quality was ensured by ensuing facilitation by the staffs of NGO-Froum. NGO-Forum's staffs not only have enough experience in facilitating PRA session but also received orientation, just before the commencement of the survey, specifically on the conduction of this PRA session. In addition, the data collectors during the conduction of interviews had moved around the village and acquired general idea of the village that helped the data collector to facilitate the session in right direction. Moreover, facilitator also received assistance from the PNGO field staffs having good knowledge about the concerned villages.

#### **Data compilation and analysis:**

*RME* cell personnel of *NGO-Forum* were involved in data compilation and analysis. Data were compiled by using data entry software that was developed with the help of *Visual Fox Pro*. After compilation, data were edited and analysed with the help of *SPSS* (Statistical Package for Social Science).

The findings of the study are discussed in the next successive sections. However, the major findings are also discussed in the preceding Executive Summary section of the Report. In the main part of the report, findings primarily are discussed geo-hydrological area wise, however, village wise information is incorporated in the appendix section.

## Section: A

### General Information

(Introducing the Surveyed Area)

Bangladesh has a low-income economy. The estimated per capita income was only US\$ 386 in 2000<sup>1</sup> and the annual GDP growth rate was 4.5% in 2001.<sup>2</sup> As a result poverty is the prime socio-economic phenomenon of the people of the country.<sup>3</sup> A considerable number of people are deprived of basic needs like adequate food, clothing, shelter, education, health facilities, safe and adequate water and sanitation etc. The findings of the present study also reflect this poverty phenomenon of Bangladesh though these surveyed villages are in privilege situation in the sense that local NGOs are active in the area.<sup>4</sup>

#### Household's yearly income: (Estimated)

Survey findings show that majority of Households earn even less than per capita income.

14.4 % Households earn less than US \$ 174 per annum, 22.7 % earn between US\$ 174 to 260, 17.2% earn between US \$ 260-347, 17.6 % earn US\$ 347 to 434. The rest 28.0 percentage households earn more than US\$ 434. ( see Table: A.2)

#### **Number of Household and people covered by the survey:**

*The total number of household residing in the surveyed 58 villages is 40426 and the population is 20,6482. However, the total number of household living in the NGOForum's WatSan program selected portion of these villages is only 17710 and the estimated population is only 96,467 (for details see table A: 1). The average size of the household residing in the selected portion is 5.4 persons and 8875 (50.1 %) households have under five children.*

**Table: A:1: Number of Household and people covered by the survey**

-Geo- hydrological area	The Entire Village		WatSan Selected Portion of the Village					
	Total house hold	Total populati on	Population				Household	
			Male	Female	<5 Children	Total	Total house hold	Having <5 Children
Coastal area	15571	69945	9121	8300	2921	20342	3887	2068
Hilly & Stony area	865	5667	1406	1608	505	3519	602	213
Low Table area	14067	76258	17472	15991	5696	39159	6938	3362
Shallow Table area	9923	54612	14827	14482	4138	33447	6283	3232
Total (58 villages)	40426	206482	42826	40381	13260	96467	17710	8875

#### Principal Earning sources:

The patterns of the principal earning source of the households residing in the surveyed area reveals the major reason for the low-income background of the majority people of the survey area. 37% Households' principal earning come from agricultural activity and the land owning pattern of the country shows that only tiny number of family have sufficient agricultural land that can provide adequate earning.<sup>5</sup> Apart from cultivation the highest number of households (29%) depends on the earning primarily comes from day labour. If Rickshaw, Van, & pushcart pulling, boat roaring and car driving are included then this percentage goes up to 40 %. The primary earning source of the rest of the households is fishing related activity (3%), business (9%), Household servant (1%), Service (6%) and other professions (2)% (see table-A.2).

<sup>1</sup> Current world Album, BCS Publication, 2001, p-80

<sup>2</sup> In the same year 'balance of trade US \$ 1.65 billion, 'foreign debt' 16.59 billion,  
--see <http://www.wordinformation.com/World/Asia/Bangladesh/keyfacts.asp?country=880>

<sup>3</sup> Poverty can be defined as 'the state of deprivation of basic needs like adequate food, clothing, shelter, education & health facilities etc. If poverty is explained in its narrowest sense of calorie consumption than at present nearly 48% people of Bangladesh living below the poverty line (2100-2200 kilocalories per day). -- *Pragoter Pothay*, op cit, 8

<sup>4</sup> NGO Forum follows partnership approach to implement its WatSan program. Hence, it selects only those unserved and under served villages where potential PNGOs are available.

<sup>5</sup> According to Novib figures (1992 p. 15) in 1991 the top 10 per cent of landowners owned 60 per cent of the land. The bottom 60 per cent of landowners had only 1 per cent of the land (compared with 25 per cent in 1960). It can be seen that a substantial proportion (between 50 and 60 per cent) of rural households are therefore functionally landless-Ministry of Foreign Affairs, Policy, and operation and Evaluation, "Evaluation of Netherlands funded NGOs in Bangladesh," Ridderprint B V Ridderkerk, Internet version.

**Table: A.2: Yearly income and principal earning source (data in HH percentage)**

Geo-hydrological Area	Yearly income in US\$ ( US\$ = 57.50 TK)					Principal Earning Source										
	<174	174-260	261-347	348-434	434>	Agriculture	Day Labor	Fishing related Activity	Business/Condominium	Rickshaw/van/pushcart pulling/boat roasting/ car driving	Working as household Servant	Pottery	Blacksmithing	Goldsmithing	Service	Other
Coastal	8.5	16.1	16.8	19.7	38.9	38	26	07	10	10	01	00	00	00	07	02
HAS	28.8	33.9	8.5	8.5	20.3	36	47	00	04	05	00	00	00	00	05	04
LWTA	12.5	22.4	16.4	21.0	27.7	38	30	01	09	11	01	00	00	00	06	03
SWTA	18.6	26.1	19.3	13.6	22.4	37	27	03	09	13	02	00	00	00	07	02
TSA	14.4	22.7	17.2	17.6	28.0	37	29	03	09	11	01	00	00	00	07	02

### Educational Status:

The educational background of >5 years old population of the surveyed villages exhibits a very frustrating situation. 23.9% are illiterate and 29.6 % only can sign. People studied beyond 10 standard are only 6.3 %. Among them 3.4% have SSC/equivalent degree, 1.7 % studied up to HSC/equivalent , 0.8% has graduation and only 0.2 have post graduation.

**Table: A.3: Educational Background (% in total >5 years old population)**

Geo-hydrological area	Illiterate	Can sign only	Upto 5 <sup>th</sup> Standard	6 <sup>th</sup> to 10 <sup>th</sup> Standard	SSC/equivalent	HSC/equivalent	Graduation/equivalent	Post Graduation	Other
Coastal	17.5	29.7	29.1	18.0	3.1	1.3	0.8	0.4	0.0
HAS	27.1	20.6	33.2	13.8	1.8	0.9	1.2	0.3	0.9
LWTA	26.0	32.6	18.0	17.6	3.3	1.8	0.6	0.1	0.0
SWTA	25.4	27.3	23.2	16.5	4.0	2.0	1.0	0.2	0.4
TSA	23.9	29.6	22.9	17.2	3.4	1.7	0.8	0.2	0.2

Besides the financial poverty and awareness, absence of adequate academic institutions plays major role for backwardness in education. The survey shows that majority of the villages do not have educational institution where people can study beyond primary level though 100% surveyed villages have religious institution (see Appendix-A, Table A.3). Only 2.3 % villages have college and only 20.5 % have higher secondary school. However, 90 % villages have primary school and 60% enjoy the privilege of non-formal primary education run by NGOs (see Table-A.4 and for village wise information see Appendix-A: Table: E)

**Table: A. 4 Village having secular educational institution (data in Village percentage)**

Geo-hydrological area	NGO School (Non-formal primary education)			Primary (govt.)			Junior High School			High School			College			Other*		
	No institution			No institution			No institution			No institution			No institution			No institution		
	0	1	2>	0	1	2>	0	1	2>	0	1	2>	0	1	2>	0	1	2>
Coastal	53.8	7.7	38.5	7.7	53.8	38.5	84.6	15.4	00	69.2	30.8	00	100	00	00	69.2	30.8	00
HSA	50	50	00	00	50	50	100	00	00	100	00	00	100	00	00	100	00	00
LWT	26.1	34.8	39.1	21.7	65.2	13.1	91.3	8.7	00	73.9	26.1	00	95.7	4.3	00	95.7	4.3	00
SWT	30	25	45	10	75	15	100	00	00	75	25	00	95	05	00	80	05	15
Total	40	29.4	30.6	9.9	61	29.1	94	6	00	79.5	20.5	00	97.7	2.3	00	86.2	10	3.8

\* Under the other category consider K.G School

### WatSan Knowledge

In spite of educational backwardness the survey findings shows that majority people are aware about the bad effect of consuming surface water without any filtration and existence of improper sanitation. However, majority people do not have any idea about the arsenic contamination problem. 65.3% respondents know that diarrhoeal diseases occur if

unsafe surface water is drunk and proper sanitation is not maintained but only 35.8% people have Arsenic-contaminated water related awareness.

Thus the present *WatSan* awareness level of the surveyed area demand extensive awareness program particularly on arsenic contamination problem (see Table: A.5, for village wise data information see Appendix-A Table-A.4)

**Table:A.5 WatSan Knowledge**

Geo-hydrological Area	Can name the diseases occur due to the use of unsafe water and improper Sanitation (Multiple answer)							Arsenic contaminated water related awareness
	Diarrhoea	Dysentery	Typhoid	Jaundice	Skin diseases	Worm	Can not name any one	
Coastal	70.1	20.8	2.3	1.6	7.0	3.4	26.8	32.5
HSA	45.0	33.3	6.7	5.0	15.0	---	45.0	23.3
LWTA	62.9	26.6	2.7	1.4	14.2	6.0	34.4	36.0
SWTA	67.0	27.9	7.1	3.5	19.2	4.8	28.9	38.7
TSA	65.3	26.1	4.4	2.3	14.5	4.8	31.2	35.8

**The WatSan Status of the Survey Area:**

Even though considerable number of people of the surveyed area have knowledge about the factors responsible for diarrhoeal diseases, still a sizeable portion of households have experienced diarrhoea incidence in one month preceding the day of survey. The survey was done in the first week of January and during this season diarrhoeal occurrence remains relatively low in number. Still the survey shows that 22.1% households experienced diarrhoea incidence and population wise 3.8% >5 year old and 17.1% under five children had faced diarrhoeal attacks with in last one month. This reveals the poor *WatSan* situation of the surveyed villages. (See Table-A.6; for village wise data see Appendix-A ,Table-A.1)

**Diarrhoea**  
*The episodes of more than two times loose or watery stools per day. Blood might also come with stool.*

**Table: A.6: Incidence of Diarrhoea within last one month**

Geo-hydrological Area	% of HH experienced Diarrhoea	% of >5 population experienced Diarrhoea	% of <5 population experienced Diarrhoea
Coastal	24.2	3.8	20.4
HSA	43.3	8.0	21.9
LWTA	17.6	3.1	13.1
SWTA	23.8	4.2	18.6
TSA	22.1	3.8	17.1

**Conclusion:**

The findings on socio-economic, educational & awareness level, and the degree of diarrhoeal incidence show that along with the intervention of awareness program the financial limitation of the people of the area have to be kept in mind during overall *WatSan* intervention.



## Section: B

### Access to Safe Water Supply and Water related habits

Water is the essence of all living being.<sup>1</sup> Without water, survival, even for a day becomes difficult. Easy access to adequate and safe water supply is very much necessary for improved public health service.

However, millions of people living in the rural area of developing countries do not have access to adequate and safe water. Nevertheless, the situation is not same in all developing countries. Bangladesh had made commendable successes in providing access to tubewell water. More than 90 % of rural population have access to a tubewell within 150 meters of their homes and 95% of the rural people drinks tubewell water.

Traditionally, rural water supply in Bangladesh was largely based on protected ponds. However, schemes for the collection of groundwater through handpump tubewells for community water supplies in rural Bangladesh were taken as 1928.<sup>2</sup> Since then up to 1993 millions of tubewells particularly shallow suction handpump had been sunk in rural Bangla. Major reasons behind this upward trend of tubewell installation in Bangladesh were: the existence of tubewell installation friendly geo-hydrological environment, and people's preference on tubewell technology due to availability of bacterial contamination free water and being low cost technology.

However, with the discovery of arsenic contamination in tubewell water in 1993 the success of Bangladesh turned into a great failure. According to a survey report 59 out of 64 districts have arsenic contaminated ground water.<sup>3</sup>

Since arsenic contamination problem is exposed various sectors working on Safe Water supply area has been making attempts to develop technologies that can provide safe and adequate water as well as the cost remain within the reach of poor. The development of alternative technologies like AIRP, RWHS, Ringwell/ dugwell & PSF is the result of this effort. One of the main objectives of the survey is to acquire information regarding water-related difficulties of surveyed areas to determine the types and degree of WatSan intervention for the area.

**Definition(s):**

**Access:** distance to the nearest water-point & per capita availability

**Adequate:** amount of water one requires to fulfill domestic needs

**Safe Water:** free of bacterial and unacceptable level of mineral & chemical contamination and does not have immediate or latency affect on the human health if consumed or used.

**Safe Water supply:** withdrawal or abstraction of either ground or surface water as well as harvesting of rainwater; its subsequent treatment, storage, transmission and distribution for domestic use.

<sup>1</sup> Water makes up 50 to 90 per cent of the weight of living organisms. Protoplasm is a solution of water and fats, carbohydrates, proteins, and salts. Water acts as a solvent, transporting, combining, and chemically breaking down these substances. Water also aids the metabolic breakdown of proteins and carbohydrates. See- WATER in Encarta® 99 Desk Encyclopedia © 1987-1998 Microsoft Corporation.

<sup>2</sup> M Feroze Ahmed & Md. Mujibur Raham, "water Supply & sanitation: Rural and Low-income urban communities," ITN-Bangladesh, Dhaka, 2000, p-297.

<sup>3</sup> Elizabeth M. Jones, " Arsenic 2000: An overview of the Arsenic Issue in Bangladesh (draft final)," Water Aid, Dhaka 2000, p-1

## Water supply hardware status

The geo-hydrological condition & water difficulty determine the type of affordable technology that can be used to tap adequate and safe water. The people of Bangladesh have been using different types of safe water supply technologies to meet the existing hydrological diversity of the country.

### **Geo-hydrological condition of Bangladesh**

Based on geo-hydrological condition Bangladesh is divided into four regions. These are :

**Shallow table Area:** Area where the static water level of under ground water remains within 25 feet (suction limit) round the year.

**Low Water Table Area:** Area where the static water level of under ground water does not remain within suction limit (25 feet) round the year.

**Coastal Area:** Area within the reach of seawater intrusion. Basic characteristic of the surface as well as ground water available in the area is high salinity.

**Hilly & stony area:** Area where water cannot be easily accessed due to hilly environment and the existence of rock and stone in the soil.

### **New water difficulties**

Besides the problem of bacterial contamination in the surface water, high salinity in surface and ground water and existence of high level of iron contamination in ground water, over the past few years Bangladesh are facing two new trends of water difficulties. These are: 1) gradual decline of the ground water table, which leaves growing number of suction pumps useless and 2) the arsenic contamination problem.

## Types & categories

During survey it was observed that besides traditional well, the people of rural Bangla use various types of TW/pump/plants to tap water for domestic purposes. In the survey area, 7 types of suction mode pump, 1 type of force mode pump, and 4 types alternative water supply technologies were found. However, apart from *no 6 shallow and deep suction type TW*, no other types of water supply technology were found in all of the four geo-hydrological regions. The survey findings exhibit that whereas conversion Pumps, AIRP and traditional well are found only in the LWTA, the locally made shallow tubewell and PSF is found only in the SWTA. Notwithstanding, RWHS is found in Coastal & SWTA and Ring/Dug well is found in SWTA and LWTA. (See: Table: B.1)

### **Tips on underground Water Supply Technologies**

#### **Suction mode TW/pump**

- *No 6 TW:* The name of the TW is based on its barrel diameter in inches. However, it is basically a suction handpump and can extract water practically from up to a depth of 22-24 feet. This pump is most appropriate technology for SWTA where ground water level even in the dry season remains within the suction limit (22-24 feet) and free from Arsenic contamination problem.
- *Conversion pump:* No 6 TW that is converted into semi-deep set pump is called conversion pump. Due to the lowering trend of under ground water level in some SWTA areas water level goes below the suction limit in dry season but remain within 12 m. Conversion pump is created by extending the piston of No 6 TW up to 6 meters.
- *Deep TW:* Tubewell, which can extract water from deep aquifer and penetrates more than one impermeable aquifer, is called deep TW. However, in Bangladesh, a TW that extracts water from more than 75 m depth is known as deep TW. It, like no-6 TW works under suction mode. Arsenic, Saline and Iron affected areas are suitable for Deep TW. (see- M Feoze Ahmed & Md Mujibur Rahman, p-419 op cit)

#### **Force mode pump :**

- *Deep-set (Tara) pump:* In dry season, in many places the groundwater table goes below the suction limit. As a result, shallow suction mode pump fails to withdraw water. In 1984 to overcome this problem Tara Deep set pump was developed to extract water from up to 15-meter below the ground surface. It is a force mode pump. Piston of this pump operates below the static water level to eliminate the limitation of the suction mode pump.

#### **Alternative water supply technologies :**

In some area, the conventional TW & pump are not successful to provide safe water due to water difficulties like Salinity and Arsenic contamination problem. As a result, new types of technologies known as alternative technologies are developed to get safe water even in the water difficulties areas. These alternative technologies are Shallow Shrouded Tubewell (SST), Very Shallow Shrouded Tubewell (VSSST), Pond Sand filter (PSF), Rain Water Harvesting System (RWHS), Arsenic Iron Removal Pump (AIRP), Ring well, Dug well, etc.

## Total number

The total number of TW/pump/plants found in the surveyed area is 5064. 97.4 % of this belong to suction mode type pumps which includes Number 6 TW (92.7%) Deep TW (2.13 %), Conversion pump (1.7%) and locally made TW (0.9 %). The rest are force mode pump (deep-set Tara-1.6%), plants (0.69%) and traditional well<sup>4</sup> (0.3%). The locally

<sup>4</sup> The traditional well in Bangladesh is known as Patkuah and Edara. During survey traditional well was found in Komorpur and Gaglajani village of Rajbari and Sherpur district respectively.

made TW includes *Darkol*,<sup>5</sup> *mini-tubwell*,<sup>6</sup> and *basharkol*,<sup>7</sup>. However, one of the most noticeable findings is that one of the villages named *Rajapur* of *Bagerhat* district situated in the Coastal area does not have even a single TW/pump/plants.<sup>8</sup> (See table B.1)

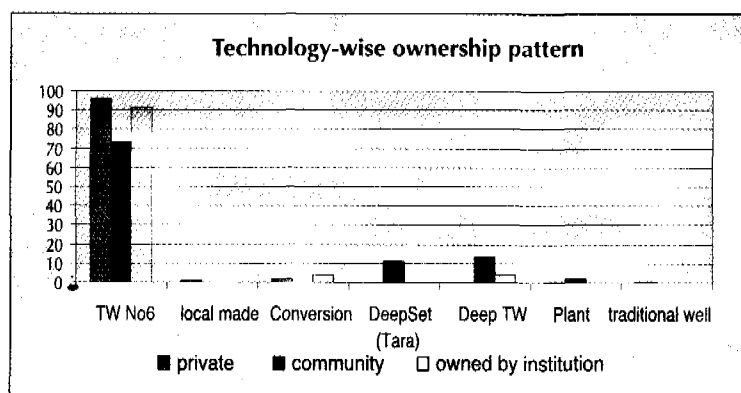
**Table: B.1 Water supply Hardware Status (types and number)**

GHA	TW & Pump										Plant						Traditional well		Total		
	Shallow TW				Conversion pump		Deep-set (Tara)		Deep TW		RWHS		AIRP		PSF		Ringwell/ Dugwell %				
	No 6 TW		local made		no	%	no	%	no	%	no	%	no	%	no	%	no	%			
Coastal	584	86.6	00	00	00	00	00	00	88	13.1	01	0.14	00	00	00	00	01	0.14	00	00	674
HSA	150	98.68	00	00	00	00	02	1.32	00	00	00	00	00	00	00	00	00	00	00	00	152
LWTA	2202	92.2	00	00	85	3.6	59	2.5	08	0.3	00	00	03	0.1	00	00	16	0.7	15	0.62	2388
SWTA	1757	95	48	2.6	00	00	21	1.1	12	0.7	07	0.4	00	00	02	0.1	03	0.2	00	00	1850
TSA	4693	92.7	48	0.9	85	1.7	82	1.6	108	2.13	08	0.2	03	0.06	02	0.03	20	0.4	15	0.3	5064

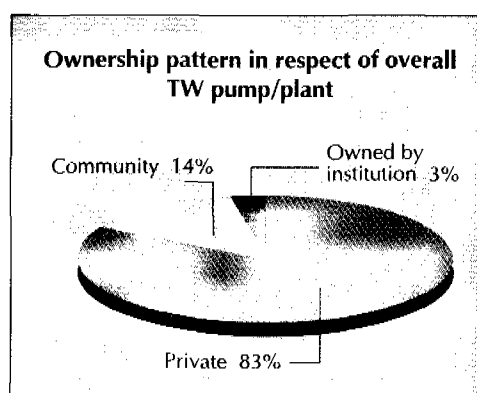
### Ownership pattern

The TW/pump/plants found in the entire survey area evinces diverse ownership pattern. During survey, three patterns of ownership were noticed broadly. These ownership patterns are private ownership, community ownership and institution's ownership. Whereas TW/Pump/plants owned by single or multiple households fall under private ownership pattern, the TW pump/plants distributed by government/ non-government organisations and cost was shared by both beneficiaries and distributing organisations fall in the community ownership category. And TW/pump/plants owned by institution like school, hospital, organisation, etc fall in the institution's ownership pattern.

**Figure: B.1.1**



**Figure: B.1.2**



The ownership patterns present encouraging as well as very frustrating phenomenon. The survey finding reveals that 83 % (includes 77% & 6 % owned by single and multiple HH respectively) the total TW/pump/plants have private ownership, which is an encouraging phenomenon as it indicates that people no longer wait for government/development organisation's initiatives, but they themselves are realising their own responsibility in ensuring their access to safe water supply. (See Figure-B.1.2)

However, same findings imply very ominous future if new trends of water difficulties like lowering of ground water table and Arsenic contamination are taken into consideration. The ownership pattern shows that among the total privately

<sup>5</sup> *Darkol* was found in the *Shadekpur* village of *Hobigonj* district that is located in the Shallow Table Area

<sup>6</sup> *Mini-tubewell* was found in the *North Battirish Hazari* village of *Lalmonirhat* district located in the Shallow Table Area. Local workshops make this category of tubewell.

<sup>7</sup> *Basharkol* was found in the *Shibu* village of *Rangpur* district located in the Shallow Table Area.

<sup>8</sup> See-Appendix: A., Table B.2.1 & B.2.2

owned tw/pump/plant only 0.1 % and 0.4% are Deep TW and Plants (Ring/dug well) respectively which perceived to be safe technologies in respect of bacterial and Arsenic contamination. The rest are no 6 Shallow TW (96%), locally made shallow TW (1.14%), Conversion TW(1.9%), deep set tara (0.02%) and traditional well (0.4%) which no longer trusted as safe and adequate technologies. So the ownership pattern implicates the possibility of enhancement of people's dependency on government/developmental agencies for safe water supply. (See Figure-B.1.1)

### Collection source

TW/pump/ plants found in the whole survey area collected mainly from three sources. These sources are Market, Government agencies and NGOs (NGOF and other Ngos). However, few 20 Ring/Dug well and all of the 15 traditional wells are not collected from any sources but privately constructed and needed construction materials are collected from the market. According to the survey findings majority of the No6 shallow TW (86%) and 100% conversion pump are collected from Market. In contrast, majority of the Deep-set tara (93%) and Deep TW (81%) are collected from government sources. Nevertheless the most interesting findings is that except Ring/Dug well 100% of other available three types of Alternative technologies, RWHS, AIRP and PSF are collected exclusively from NGO Forum (for details see). Collection source of locally made Shallow TW is not mentioned in the concerned table, however, all of them are collected from local market. (See table B.2)

**Table: B.2 Technology wise collection source**

GHA	Tubewell & Pump															
	No6 Shallow TW				Conversion				Deep-set Tara				Deep TW			
	Market	Govt.	NGOF	Other NGO	Market	Govt.	NGOF	Other NGO	Market	Govt.	NGOF	Other NGO	Market	Govt.	NGOF	Other NGO
Coastal	79	16	1	4	00	00	00	00	00	00	00	00	1	90	1	8
Hilly & Stony	83	9	1	8	00	00	00	00	00	100	00	00	00	00	00	00
LWTA	89	11	0	1	100	0	0	0	1.69	89.8	6.78	1.69	00	87.5	00	12.5
SWTA	86	11	1	2	00	00	00	00	00	100	00	00	83.3	16.7	00	00
TSA	86	11	1	2	100	00	00	00	1	93	5	1	10	81	1	7
GHA	Plants															
	RWHS				AIRP				PSF				R/D Well			
	privately constructed	Govt.	NGOF	Other NGO	privately constructed	Govt.	NGOF	Other NGO	privately constructed	Govt.	NGOF	Other NGO	privately constructed	Govt.	NGOF	Other NGO
Coastal	00	00	100	00	00	00	00	00	00	00	00	00	100	00	00	00
Hilly & Stony	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
LWTA	00	00	00	00	00	00	100	00	00	00	00	00	93.8	6.25	00	00
SWTA	00	00	100	00	00	00	00	00	00	00	100	00	33	00	00	67
TSA	00	00	100	00	00	00	100	00	00	00	100	00	85	05	00	10

### Operational condition

Among the total 5064 TW/pump/plant available in the survey area 91% TW & pump and 94% alternative technology plants were found in functional condition at the time of survey. It means nearly 9% TW/Pump and 6% of Plants were in dysfunctional conditional. This is not very encouraging situation in the sense that if this percentage is converted into number of TW/Pump/Plant in overall national context then number of dysfunctional TW pump/ plants will go beyond hundred thousand. (See Table B.3.1 & B.3.2)

**Table: B. 3.1 Water supply Hardware Status (TW/pump)**

GHA	Shallow TW (no6)		Conversion pump		deep-set (Tara)		Deep TW		Other		Total TW/Pump			
	functional	dysfun.	functional	dysfun.	functional	dysfun.	functional	dysfun.	functional	dysfun.	functional	%	No	%
	No	No	No	No	No	No	No	No	No	No	No	%	No	%
Coastal	497	87	00	00	00	00	86	2	00	00	585	87	89	13
HSA	98	52	00	00	02	00	00	00	00	00	100	66	52	34
LWTA	2059	143	70	15	39	20	05	03	07	08	2197	92	191	08
SWTA	1656	101	00	00	18	03	11	01	45	03	1742	94	108	06
TSA	4310	383	70	15	59	23	102	06	52	11	4624	91	440	09

**Table: B. 3.2 Water supply Hardware Status (Plant)**

GHA	Ringwell/ Dugwell		RWHS		AIRP		PSF		Total plants			
	functional	dysfun.	functional	dysfun.	functional	dysfun.	functional	dysfun.	functional		dysfun.	
	No	No	No	No	No	No	No	No	No	%	No	%
Coastal	01	00	01	00	00	00	00	00	02	100	00	00
HSA	00	00	00	00	00	00	00	00	00	00	00	00
LWTA	14	02	00	00	03	00	00	00	17	89	02	11
SWTA	03	00	07	00	00	00	02	00	12	100	00	00
TSA	18	02	08	00	03	00	02	00	31	93.9	02	6.0

### Distance between kitchen and nearest TW/pump/plant

The survey findings show that a considerable number of water points are available in the survey areas. However, it does not mean that every body has TW/pump/plant within their courtyard. Nearly 12% HHs in the entire survey area have to cross more than 300 feet to get access to a TW/pump/plant and nearly 27% HHs do not have TW/Pump/plant within 100 feet.

In the coastal and hilly & stony area 46.5% and 52.6% households do not have access to tw/pump/plant within 100 feet. Moreover many HHs residing in the coastal, Hilly & Stony, LWT and SWTA cross 9000, 1200, 2000, and 2000 feet respectively to get access to TW/pump/plants' water. However, a considerable percentage of HHs (40.7%) has access to TW/Pump/plant within 50 feet. In the Coastal and Hilly & Stony area 42.8% and 40.7% HHs have access to TW/pump/plant within 50 feet respectively while in LWTA and SWTA 66.5 % and 70.9 % HHs have access within 50 feet respectively. (See Table: B.4)

**Table: B.4 Distance between kitchen and nearest TW/pump/plant (data in HH%)**

GHA	Distance between kitchen and concerned TW/Pump/Plant in feet								Highest distance	Lowest distance
	1-50	51-100	101-150	151-200	201-250	251-300	300+			
	HH %	HH %	HH %	HH %	HH %	HH %	HH %			
Coastal	42.8	10.6	4.0	5.2	2.3	3.7	31.3		9000	5
Hilly & Stony	40.7	6.8	6.8	6.8	00	8.5	30.5		1200	3
LWTA	66.5	12.3	5.8	4.9	1.0	4.0	5.6		2000	2
SWTA	70.9	10.6	4.4	3.7	1.5	3.5	5.5		2000	2
TSA	62.2	11.1	4.9	4.6	1.4	3.9	11.8		9000	2

### Available (perceive) Safe and unsafe point

Mere access to functional TW/pump/plant does not ensure access to safe water supply. Water available from TW/Pump might have unacceptable level of mineral contamination. So to ensure access to safe water supply one has to ensure that the water available from accessed functional TW/pump/plant is free from unacceptable level of mineral contamination as well as from bacterial contamination. Through survey, attempt has been made to get the total number of available safe functional water supply point by identifying unsafe water point. However, in identifying safe and unsafe water supply point survey was restricted only with the issue of Arsenic and iron contamination and the presence of high salinity.

#### Arsenic issue:

Survey findings show that among the 57 villages<sup>9</sup>, water of 100% TW/pump has been tested for Arsenic contamination only in 7 % villages and not even a single water point is tested for Arsenic contamination in 53% villages. It further

<sup>9</sup> Rajapur village of Bharhart does not have any TW/pump/plant. So this village is not considered in this section and total survey village here considered as 57 instead of 58.

shows that in 7 % villages all tested-TW/pumps' water is found as Arsenic contaminated while in 5.3% villages all tested TW/pumps' water is found as safe in respect of Arsenic contamination. (See Table 5.1)

**Table: B.5.1: Village information regarding water difficulty issue**

GHA	Village information in respect of Percentage of TW/pump/plant had Arsenic test												Villages where all tested Tw are free from Arsenic problem		Villages where all tested TW's water has unacceptable level of Arsenic contamination		Villages where 100% TW/pump is reportedly free from unaccepted level of iron contamination		Villages where 100% TW/Pump reportedly free from high salinity	
	0% TW/Pump		1-10% TW/Pump		11-25% TW/Pump		26-50% TW/Pump		51-99% TW/Pump		100% TW/Pump		V NO	V %	V NO	V %	V NO	V %	V NO	V %
	V NO	V %	V NO	V %	V NO	V %	V NO	V %	V NO	V %	V NO	V %								
Coastal	7	58.3	1	8.3	1	8.3	00	00	1	8.3	2	16.7	00	00	02	16.7	03	25	06	50
Hilly & Stony	1	50	00	00	00	00	1	50	00	00	00	00	00	00	00	00	00	00	02	100
LWTA	12	52.2	03	13	02	8.7	01	4.4	04	17.4	1	4.4	02	8.7	02	8.7	05	21.7	23	100
SWTA	10	50	01	05	03	15	01	05	04	20	01	05	01	05	00	00	06	30	20	100
TSA	30	52.6	05	8.8	06	10.5	03	5.3	09	15.8	04	7	03	5.3	04	7	14	24.6	51	89.5

However if focus is shifted from village to water point then findings show that water of only 23% TW/pumps had been tested for Arsenic contamination. The findings further implies that 49% tested TW/pump are unsafe water point as water available from these points contain unacceptable level of Arsenic contamination. The highest percentage of tested TW/pumps (80%) is found to be unsafe in the coastal area while lowest percentage tested TW/pumps (21%) is found as unsafe in the Hilly & Stony area. In the LWTA and SWTA water of 33 % and 54% tested TW/pump plants is found having unacceptable level of Arsenic contamination respectively. (See Table: B.5.2)

**Table: B.5.2: Information regarding water points in respect of Water difficulties**

GHA	Arsenic tested TW/Pump						TW/pump having unaccepted level of Iron		TW/pump having unaccepted level of Salinity		Safe functional TW/pump		Average population for single functional safe point
	Arsenic tested TW/pump		TW/pump have unaccepted level of Arsenic		TW have less than/ free of Arsenic contamination		No	%	No	%	No	%	
	No	%	No	%	No	%							
Coastal	187	28	149	80	38	20	308	46	57	08	246	36	83
Hilly & Stony	48	32	10	21	38	79	32	21	00	00	65	43	54
LWTA	428	18	142	33	286	67	581	25	00	00	1606	67	24
SWTA	495	28	268	54	227	46	346	19	00	00	1149	62	29
TSA	1158	23	569	49	589	51	1267	25	57	1	3066	61	31

Iron contamination & presence of high salinity issue:

Apart from Arsenic contamination, Iron contamination of water available from TW/pump is also hindering the effort of Bangladesh in ensuring safe water supply for the rural people. The Survey findings show that only in 25% villages 100% TW/pump/plant is reportedly free from unacceptable level of iron contamination. In respect of water point 25% have unacceptable level of iron contamination. Highest percentage of iron contaminated water points are located in the coastal area (46%) and lowest percentage of iron contaminated TW/pump is situated in the SWTA. In the LWTA and Hilly and Stony area 25 % and 21% TW/pump plants reportedly having unacceptable level of Iron contamination respectively. (See Table B.5.1 & B.5.2)

Besides Iron and Arsenic contamination, presence of high salinity is another important difficulty Bangladesh is facing in some areas to ensure safe water supply. Survey findings show that the salinity problem is limited only with in coastal belt. As per survey findings in 50% villages of Coastal area presence of high salinity in the water of TW/pump is reported. However, it does not mean that all the water points exist in these villages have high salinity problem. According to survey 8% water points (TW/pump) reportedly have salinity problem. All the water points situated in SWTA, LWTA & Hilly & Stony areas are free from high salinity. (See Table B.5.1 & B.5.2)

Safe functional water point:

A point is identified as safe if water available from the point is reportedly free from high salinity and iron contamination as well as the presence of Arsenic contamination is not confirmed by chemical testing.

Survey findings show that 61% of the total functional point which does not include Basherkol, Darkol & traditional well is free from Arsenic, Iron & high salinity. Hence it can be said that 61% of total available point is safe functional points. However, geo-hydrological region wise, 36 % , 43%, 67% and 62 % functional water point is safe in the Coastal area, hilly & stony area, LWTA & SWTA respectively. However, in the, Mahmud Kanda, Shreenathdi, Rajapur & Betagram villages located in the Coastal area not even a single safe functional point is available. (See Table B.5.2 and for village wise data see Appendix-A, Table B.5)

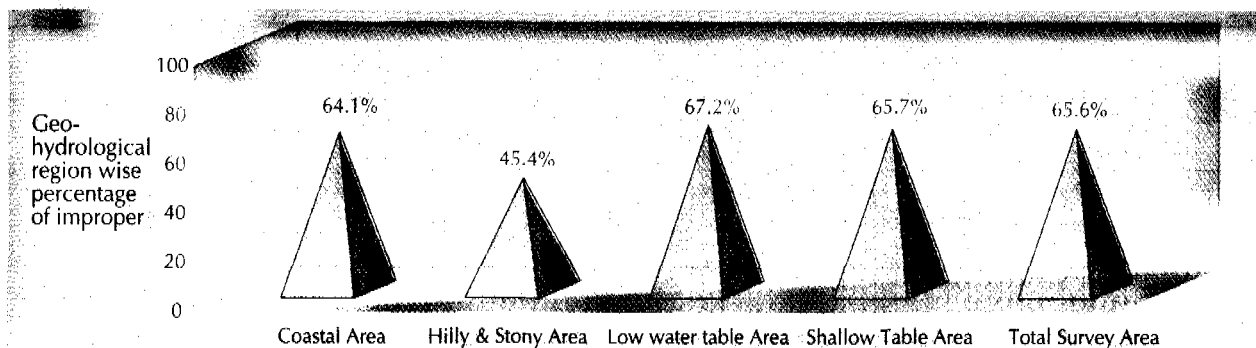
The findings also implicates that in an average for 83, 54, 24 & 29 persons a single functional safe water point is available in the Coastal area, hilly & stony area, LWTA & SWTA respectively. However, in the Gabrakhali village of LWTA and Sheikh Hati village of SWTA for 1867 & 1616 persons a single functional point is available. In contrast, in Barunagaon of SWTA, Barokona & Ragunathpur of LWTA, a single functional safe water point is available for less than ten persons. (See Table B.5.2 and for village wise data see Appendix-A, Table B.5)

However, this situation cannot be accredited as real because all those water points, which are not tested for Arsenic contamination, are identified as safe. Moreover, the presence of other minerals except Arsenic, Iron and Salt are not considered. In addition the bacterial issue is also not taken care of. There is every possibility of bacterial contamination of water available from these TW/pump/plant. The survey shows that 50% HHs collect water from a water point (TW/pump/plant) from which distance of latrine is less than 33 feet. In respect of bacterial contamination the safe distance between latrine and Water point is 33. So survey findings does not present information about the average confirmed safe points but the perceived safe points. (See Appendix-A, Table B.5)

Platform situation

Ensuring easy access to only the functional and safe TW/pump/plants is not enough to eliminate the complete suffering of the people. It is very essential that every functional and safe TW/pump/plant have proper platform. A platform is proper when, any portion of the concrete platform and attached drain is not broken or cracked or any portion is gone down; *Katcha-drain* is attached with concrete one; the TW/pump does not have dangling root, and the soil of the surrounding area of the concrete platform is not eroded. The absence of proper platform not only creates inconvenience to collect water but also can originate bacterial pollution in the area. According to the survey nearly 65.6% TW pump/plants do not have proper platform. (See Figure B.2)

**Figure: B.2 Geo-hydrological Region-wise Percentage of improper platform**



## Water related habit and practices:

The presence of adequate number of safe functional water points in any area does not ensure the use of safe water for all domestic purposes by the inhabitants. The use of safe water for drinking as well other domestic purpose depend upon the level of knowledge about need and benefit of using safe water, awareness as well as habit and practices. If the people are highly conscious and aware about the need of using safe water people even crosses long distance to ensure access to safe water.

### Drinking habit & practices

The survey findings show that 81.4% HHs drink water collected from TW/pump/plant, which are perceived to be safe and 13.3% from TW/pump/plants that are not safe. It means in the whole survey area 94.7% HHs drink water collected from TW/Pump/plants. The rest HHs collect water from the traditional well/ponds (4.4%), river/canal (0.7%) and other sources (0.1%).

**Table: B.6 Drinking Water sources: ( HH wise information)**

GHA	Tubewell/pump/plants			Traditional source			
	Considered Safe	Unsafe	Total Tw/pump/plants	Rain Water	Traditional Well/pond	River/canal	other
Coastal	79.4	9.8	89.2	00	9.8	1	00
Hilly & Stony	95.0	1.7	96.7	00	1.7	1.7	00
LWTA	84.2	11.4	95.6	00	4.2	0.3	00
SWTA	78.4	18.6	97.0	00	1.7	0.9	0.3
TSA	81.4	13.3	94.7	00	4.4	0.7	0.1

In the coastal area, 89.2% HHs drink TW/pump/plants' water but 100% HHs residing in the Rajapur village in Bagerhat district who do not have access to any TW/pump/plant collect water from a sweet water pond for the drinking purpose. In the Hilly & Stony, and Low water Table area 96.7% and 95.6% HHs drink Tw/pump/plant's water. However, it is the SWTA where highest percentage of HHs (97.0%) drink water that is collected from TW/pump/plants. (See Table B.6, For village wise data see Appendix-A Table B.6)

It is very encouraging that even though the residents of the survey area are lacking behind in respect of education but a commendable percentage of HHs use TW/pump/plants' water for drinking purpose. This shows the success of awareness program carried out for decades by various government and non-government organisations. The success story of awareness program regarding the use of TW/pump/plants become more revealing if one notice the distance people cross to get access to TW/pump/plant. Survey shows that people even cross up to 9000 feet to collect water from TW/pump/plants and nearly 11.8 % cross more than 300 feet distance. However, this findings at the same time implicates the level of problem one going to face to aware the people that even water available from TW/pump is not always safe. (See table B.4)

### The issue of purification:

The survey findings reveal that 5.2% HH collect water from sources other than TW/pump/plant. The possibility of bacterial contamination of the water available from well, pond, canal, river is very high (See table B.6). So it is very important that one should drink water from these sources only after complete purification. During survey information was collect, about this 5.2% HHs as well as about those HHs who normally collected water from TW/pump/plant but within last one year they had to collect water at least for once from sources other than TW/pump/plant to know their practices regarding the needed water purifying issue.



Survey findings show that nearly 52% HHs whenever had collected water from sources other than TW/pump/plant had drunk without any form of purification. However, 32.7% HHs had been used *fitkeri* as purifying method and 6.7% HH had boiled water before drinking. The practice of using of purifier table is completely absent. (See table B.7)

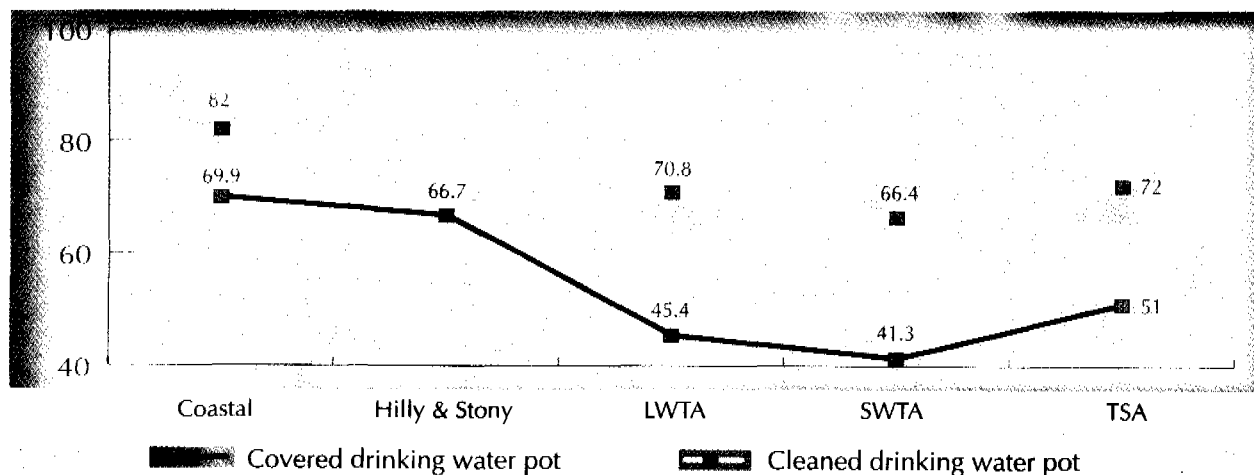
**Table: B.7: Drinking Water Related habits: The issue of Purification**

GHA	When water is collected from sources other than TW/Pump/plant					Drink only after purification
	purifying through Boiling	Sedimentation through Fitkeri use	Filtration through using filter	Purifying through use of purifier Tablets	Filtering through Straining	
Coastal	6.3	66.7	2.1	00	00	25.0
Hilly & Stony	00	00	00	00	00	100
LWTA	2.9	2.9	00	00	23.5	70.6
SWTA	14.3	4.8	00	00	00	81.0
TSA	6.7	32.7	1.0	00	7.7	51.9

**Habit regarding keeping Drinking Water pot cleaned and covered**

The collection and preservation of safe water does not ensure drinking of safe water. Safe water can be polluted during preservation if the water pot is uncleaned & not covered. The survey findings show that during the observation Drinking water pot of 51% households were found covered and 72% were cleaned. It further implicates that people of coastal areas are more aware about the maintaining of hygiene condition. (Figure B.3)

**Figure: B.3: Households keeps Drinking Water pot cleaned and covered**



**Water use for domestic purposes other than drinking**

Merely drinking safe water does not ensure the elimination of water related diseases. There exists high risk of water related health hazard if the use of safe water at least for the domestic purposes like gargling and mouth washing (during bathing, face washing, Uzu etc.), Raw Food/vegetable washing, Utensil Washing and cooks<sup>10</sup> are not taken care of.

In contrast to drinking water habit, where nearly 81.4% HHs drink water collected from safe water source (Safe TW/pump/plant), only 31.6%, 44.0%, 44.5% and 58.8% HHs use water collected from safe water source for the purposes

<sup>10</sup> During cooking water get boiled and killed bacterial germs but Arsenic contamination can not be solved through boiling. So to avoid Arsenic related health hazard even for cooking use of safe water is essential.

like gargling and mouth washing (during bathing, face washing, Uzu etc.), Raw Food/vegetable washing, Utensil Washing and cooking respectively. (See table B.8)

**Table: B.8: Safe water used for most of the domestic purposes other than drinking**

GHA	Gargling & Mouth washing		Raw Food/ Vegetable Washing		Utensil Washing		Cooking	
	Safe sources	Unsafe sources	Safe sources	Unsafe sources	Safe sources	Unsafe sources	Safe sources	Unsafe sources
	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%
Coastal	3.4	96.6	10.3	89.7	12.9	87.1	28.7	71.3
Hilly & Stony	25.0	75.0	35.6	64.4	33.3	66.7	61.7	38.3
LWTA	41.3	58.7	57.1	42.9	57.0	43.0	70.0	30.0
SWTA	38.9	61.1	50.9	49.1	51.2	48.8	64.8	35.2
TSA	31.6	68.4	44.0	56.0	44.5	55.5	58.8	41.2

### Conclusion:

The survey findings of the Water supply Hardware Status and people's water related habits show that inhabitants of the survey area need hardware as well as software support. However, the first thing NGO-F needs to do is the testing of water quality of all functional water points and then providing the hardware support as per need. The existence of sufficient number of ponds & chal (roof) (see Appendix-A, table E) implicates that technologies like PSF and RWHS is suitable for most of the surveyed villages. In respect of Software support three major issues have to be taken care of. First, to aware people that TW/pump/plants cannot be treated as safe till the water quality is confirmed as safe through the process of testing. Second, to aware people that the use of safe water for the purposes other than drinking is also important to avoid health hazards. Thirdly, need of purifying of water when it is collected from sources other than safe TW/pump/plant.

## Section: C

### The Issue of Environmental Sanitation

Absence of proper environmental sanitation is the main factor responsible for the sufferings of millions of people of the world. WHO estimates that more than 3 billion people in the world are without adequate means of excreta disposal.<sup>1</sup> In Bangladesh in the year 2000, 44% households had sanitary type latrine and improper solid waste management is an environmental hazard especially in the urban.<sup>2</sup> The impact of this poor sanitation coverage on the health, dignity, and quality of life of the poor is shaming.<sup>3</sup>

According to WHO 3.3 million people die every year from diarrhoeal diseases and at any one time there are 1.5 million suffering from parasitic worm infections stemming from human excreta and solid wastes in the environment. Besides the costs of healthcare and lost productivity, community as a whole has to bear greater cost due to the contamination of rivers and aquifers by untreated human waste.<sup>4</sup>

Hence it is vital to meet people's basic needs for disposal of human excreta and other wastes in a manner, which is safe for them and the wider community. NGO Forum following the national policy of Bangladesh has been included hardware as well as software activities to improve sanitation in the villages selected for WatSan intervention.

In this section of the report the baseline survey findings regarding latrine hardware status and hygiene practice level are incorporated.

#### **Definition: Environmental Sanitation**

*The term environmental sanitation means the controlling of all the factors in the physical environment, which may have deleterious impacts on human health. In developing countries, it normally includes drainage, solid waste management, and vector control, in addition to the safe management of human excreta. However, in this report the term environmental sanitation is used in narrowest sense by restricting within the issue of management of human excreta and household waste only. It includes both the hardware (latrine and sewers, and dustbin) and the software (hygiene promotion) that needed to reduce faecal-oral, disease transmission.*

*National Rural Sanitation Policy principle of Bangladesh*

- *The rural sanitation programme shall support and promote a range of technology options for water and environmental sanitation....*
- *Behavioural development and changes in user communities shall be brought about through social mobilisation and hygiene education....*

#### **Latrine Hardware Status:**

The environmental conditions like water availability, geo-hydrological condition, and the permeability of the soil of a particular area determine the types of hygienic latrine that can be used to ensure safe management of human excreta. Presently, organisations working in the rural sanitation sector of Bangladesh are popularising the water-sealed ring slab Latrine (Pour-Flush) as the most affordable and suitable sanitary type Latrine for the poor people residing in the rural areas.

#### **Primary features of affordable hygienic latrine:**

- *Effectively isolates faeces from the environment*
- *Control Odour*
- *Control insect*

*Assure at least minimum level of convenience and privacy*

<sup>1</sup> DFID, opcit p-8.

<sup>2</sup> UNICEF, "Progotir Pathay: 2000," op cit, p-9

<sup>3</sup> DFID, p-8-9

<sup>4</sup> DFID, p-8-9

## Types & categories

However, during survey two types of Pour-Flush (water sealed ring slab latrine & Offset latrine) and one types of Septic tank system latrine besides pit, open and hanging latrines were found in the entire survey area. All these six types of latrine technologies are seen in all of the four geo-hydrological areas. However, only the Pour-Flush types latrine popularly known as *Water sealed Ring Slab latrine* was found in the 100% surveyed villages. Nevertheless all 15% water-sealed Ring-Slab category latrine no longer can be called as hygienic latrine because 32% of them did not have proper water sealed at the time of survey. (See Appendix-A, Table-C.1)

### Hygienic Latrine technologies :

- *Simple pit Latrine:* It consists of a manually dug hole into a ground, a seat or squatting slab, a superstructure erected over it and pit hole cover. The pit is simply a hole in the ground into which excreta fall. Urine and other liquids soak into the ground and solid materials are retained and decomposed in the pit. To hatch the pit hole to control odour and insect an appropriate pit cover is used. pit latrine without pit cover can not be considered as hygienic latrine but better than hanging and open latrine.
- *Water seal Latrine:* This latrine is build with the modification of simple pit by incorporating of Pour-Flush technology with the simple pit latrine. The most vital part of it is the water seal incorporated between the squatting plate, which essentially prevents unpleasant odours and insect from entering the latrine compartment. If the water seal is broken its no longer remain hygienic. In Bangladesh this latrines are popularly known as Ring-Slab latrine. The problem with the latrine is that at least 5 litres/person/day is needed to keep the latrine clean.
- *Offset Latrine:* It is a Water seal latrine but only difference with the ring slab is that instead of direct pit a completely off-set pit connected to the pour-flush pan by a short length of 100 mm diameter pipe.
- *Septic Latrine:* Latrine has well built superstructure and connected to a completely off-set concrete tank that ensures partial treatment of excreta through sedimentation and anaerobic decomposition organic reaction processes.

### Unhygienic latrine :

- *Open latrine:* Latrine that is connected by pipe to an open place or water body is called open latrine. Moreover, all those septic/pit/offset/water seal latrine that fail to keep excreta within the tank/hole due to damages and excreta come out in the open place are treated as open latrine.
- *Hanging latrine:* Elevated latrine structure with an open area below allowing faeces to fall into a water body, or on the ground. Hanging latrine typically built around the edge of a pond, canal, or a ditch.

The highest percentage of Offset & Septic Latrine is found in the Hilly & Stony area (6%) and LWTA (6%), and lowest percentage is found in the Coastal area (02%). However, in contrast lowest percentage of water-seal ring slab latrine is found in the Hilly and Stony area (06%) and highest percentage is seen in the LWTA (16%) as well as in the SWTA (16%). In the Coastal area the percentage of water-sealed latrine is 14%. In the entire survey area 20%, 15%, 4% & 61% latrines are pit, water seal ring slab, Offset/septic & open/hanging respectively. (See Appendix-A, Table-C.1)

So the findings show the gloomy picture of the surveyed villages in respect of sanitary latrine coverage. For 17710 Households only 2462 hygienic latrine (ring-slab, offset & septic) is available. If the condition of the water seal is taken care of then the number of sanitary latrine will be less than 2000. (See Appendix-A, Table-C.1)

**Table: C.1: Latrine Hardware Status**

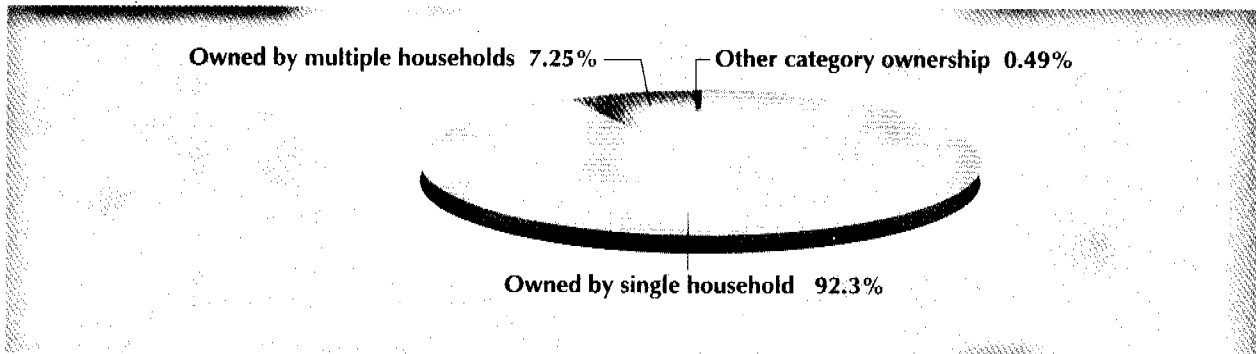
GHA	Pit		Water seal (Ring Slab)			Offset & Septic		Open & hanging		Total	
	No	%	No	%	% of Ring Slab have proper Water seal (gooseneck)	No	%	No	%	Latrine No	Household No
Coastal	389	11	488	14	29	68	02	2608	73	3553	3887
Hilly & Stony	104	17	37	06	25	34	06	427	71	602	602
LWTA	868	19	753	16	35	293	06	2678	58	4592	6938
SWTA	1153	30	617	16	31	172	04	1919	50	3861	6283
TSA	2514	20	1895	15	32	567	04	7632	61	12608	17710

Ownership pattern of latrine (Pit, pour-Flush & septic)

The survey findings implicate about only two types of ownership pattern. These are private and other category ownership. Whereas latrine owned by single or multiple households falls under the private ownership pattern, latrine owned by institutions are categorised as other category.

According to survey 99.51 % pit/ pour-Flush & septic type latrine have private ownership and only 0.49% have other category ownership. Among the 99.51% privately owned latrine 92.3% latrines have single household ownership and rest 7.25% have shared ownership. (Figure C.1)

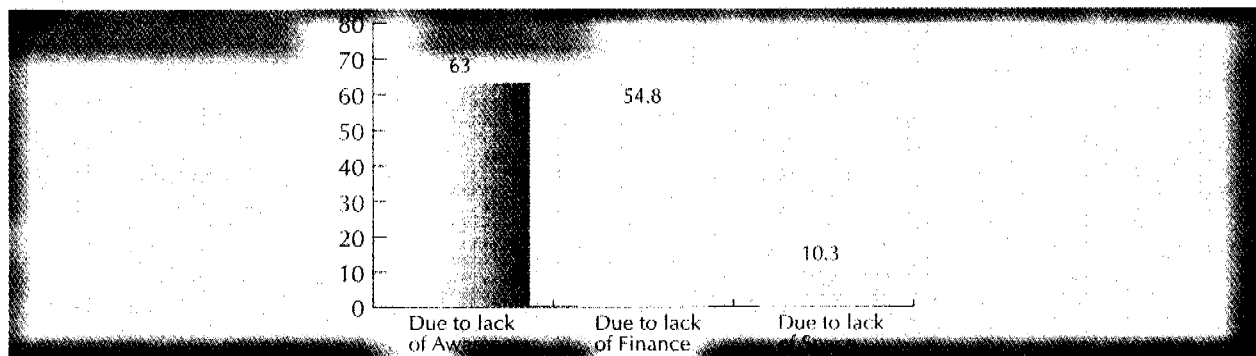
**Figure: C.1 Latrine (Pit/Pour-Flush/Septic) Ownership pattern**



Reason for not having latrine other than completely open & hanging type latrine:

The ownership pattern implies that only 4591 households have latrine, which are not completely unhygienic. It means 12758 households do not have any types of hygienic/ semi hygienic latrine and 361 households do not have independent latrine but shared one. During survey it was found that 54.8% of them are not able to use hygienic latrine due to lack of finance and 10.3 % due to lack of place. However, it was found that 63 % does not use due to lack of awareness. (See Figure-C.2)

**Figure: C.2: Reason for not having latrine other than completely open & hanging type latrine (multiple answer)**



Access to Village Sanitation Centre:

Even if the people of a given place have affordability and awareness still the hygienic latrine coverage might remain low if people do not have easy access to, place/market from where they can purchase hygienic latrine hardware, and mason who can construct hygienic latrine. Hence to improve the sanitation coverage of an area it ensures enough shop and Village Sanitation Centre as well as trained mason. The survey findings show that among the total 58 villages 69% villages does not have any VSC. Moreover 17.2% village do not have any VSC within 5 km and inhabitants of 1.7% villages even could be able to mention about any nearest VSC. However, 51.7% villages have VSC within 0-1.65km. Nevertheless, VSC located in the villages and in the nearest distance of the village are run by three running authorities. The survey findings show that 51% VSC are run by private authority and 26% VSC are run by NGOF supported NGOs

or private producer. Government (6%) and other NGOs (17%) are running rest of the VSCs. (See Table C.2 and for village wise information -see Appendix-A table: C.2)

**Table: C.2 Information regarding the Village Sanitation Centre**

GHA	Village with out VSC		VSC's distance-wise villages								Running authority of the VSC situated in the village or nearest distance							
			0-1.65km		1.66-3.3		3.4-4.95km		4.96km>		Private		Government		NGOF supported		other NGOs	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Coastal	07	53.8	07	53.8	01	7.7	02	15.4	03	23	7	54	00	00	04	31	02	15
Hilly	02	100	00	00	02	100	00	00	00	00	01	50	00	00	01	50	00	00
LWTA	20	87	11	47.8	07	30.4	03	13	02	8.7	13	50	02	08	05	19	06	23
SWTA	11	55	12	60	00	00	02	10	05	25	14	50	02	07	08	29	04	14
TSA	40	69	30	51.7	10	17.2	07	12	10	17.2	35	51	04	06	18	26	12	17

### Status of the surveyed Villages in respect of Mason

The presence of sufficient number of VSCs in a particular area and the awareness as well as affordability of the residents do not ensure the easy *WatSan* intervention if sufficient number of mason who can set up hygiene latrine are not available in the area. The survey findings made it very clear that the *WatSan* intervention in the number of surveyed villages will not be very easy one. Nearly 40% villages do not have even a single person who can set up hygienic latrine and only 15.5% villages have mason more than 6 person. (See Table C.3 and for village wise information -see Appendix-A table: E)

**Table: C.3 :The status of the surveyed Villages in respect of Mason**

GHA	Villages as per number of Mason available									
	< 1		1-2		3-5		6-10		10>	
	No	%	No	%	No	%	No	%	No	%
Coastal	06	46.2	04	30.8	02	15.4	00	00	01	7.7
Hilly	01	50	00	00	01	50	00	00	00	00
LWTA	12	52.2	04	17.4	04	17.4	02	8.7	01	4.3
SWTA	04	20	08	40	03	15	03	15	02	10
TSA	23	39.7	16	27.6	10	17.2	05	8.6	04	6.9

### **The Status of hygiene practice:**

Merely having hygienic latrine does not ensure safe environmental sanitation. The success of hardware intervention totally depends upon the hygiene practice of the user. However the survey findings show that the residents of the surveyed area are also lacking behind in respect of hygiene practices.

#### **Defecation site:**

To have in-depth information regarding the defecation habit during survey information was collected from all the member-categories of each sample household. These household member categories are male, female and under five children. The survey findings reflect the habit of the majority member of a category.

#### The defecation site of Male members:

According to the survey majority male members of 13.0% households of the entire survey area use hygienic latrine and 13.5% households' male members use the pit latrine. Among the rest 36.7% households' majority male member use open/hanging latrine and 36.7% practices open defecation. Whereas the male members of highest percentage households (14.2%) use hygienic latrine in the LWTA area, the lowest percentage households (10%) use in the Hilly &

Stony area. In the Coastal and SWTA area male members of 13.7% & 11.7% use hygienic type latrine respectively. (See table C.4)

**Table : C.4: Defecation site**

GHA	Defecation Sites												Use Slipper	Have cleaned Slab	Surrounding area of the latrine found cleaned
	Hygienic Latrine (Septic/Offset/water seal Ring Slab)			Pit			Hanging/open latrine			open place/ bush/ others)					
	HH Member category			HH Member category			HH Member category			HH Member category					
	M	F	C<5	M	F	C<5	M	F	C<5	M	F	C<5			
HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	
Coastal	13.7	13.7	7.0	8.8	9.5	1.1	53.6	55.9	7.0	24.0	20.9	84.9	28.4	27.6	25.9
Hilly & Stony Area	10.0	10.0	00	16.7	16.7	00	63.3	63.3	7.3	10.0	10.0	92.7	11.7	50	50
LWTA	14.2	14.6	6.5	11.6	12.5	1.7	34.0	37.0	2.4	40.2	35.9	89.4	32.4	39.6	42.6
SWTA	11.7	11.8	6.2	18.1	18.1	4.3	26.9	28.8	3.9	43.3	41.3	85.6	31.3	32.0	34.7
TSA	13.0	13.3	6.2	13.5	14.0	2.3	36.7	39.1	4.3	36.7	33.7	87.2	30.5	34.6	36.3

The defecation site of Female members

The pattern of female defecation site is nearly same as male members. The survey findings reveal that majority female members of only 13.3% household use hygienic latrine and 14% households' female members use pit latrine. 39.1% households' majority female member use open/hanging latrine and the rest households' (33.7%) females practice open defecation. geo-hydrological region wise female member of 13.7%, 10%, 14.6% & 11.8% households uses hygienic latrine in the Coastal, Hilly & Stony, LWTA and SWTA respectively. (See table C.4)

The defecation site of under five children:

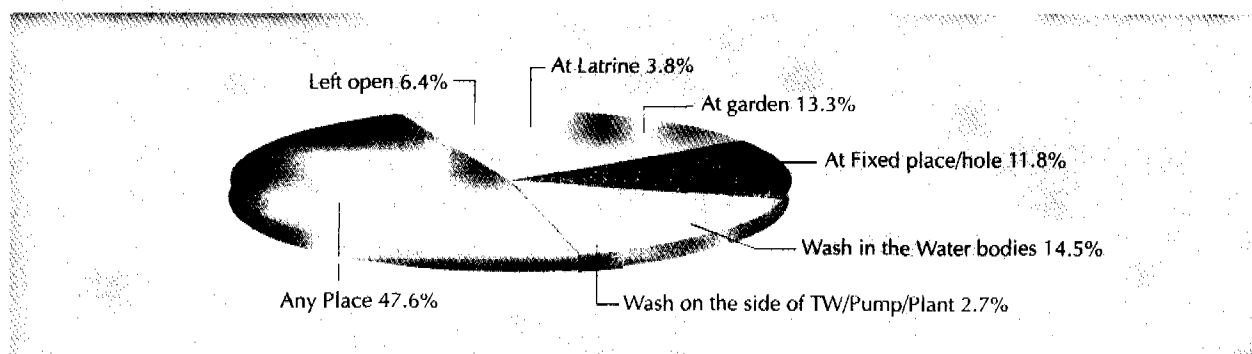
The survey findings show that majority under five children of 6.2%, 2.3% & 4.3% households hygienic, pit & open/hanging latrine respectively. The rest 87.2% households' under five children practice open defecation. In the hilly & stony area under five children of 100% households use unhygienic latrine and in the Coastal, LWTA & SWTA area 91.9%, 91.8% & 89.5% households' under five children use unhygienic latrine. (See table C.4)

The disposal of faeces of under five children:

In Bangladesh a large number of under five children do not use latrine. Many of the them who can walk defecate in the courtyard, in home and other open places. Infants those cannot walk defecate mostly in their cloths. So the issue of washing the dirty cloths of infants and disposal of children faeces arises.

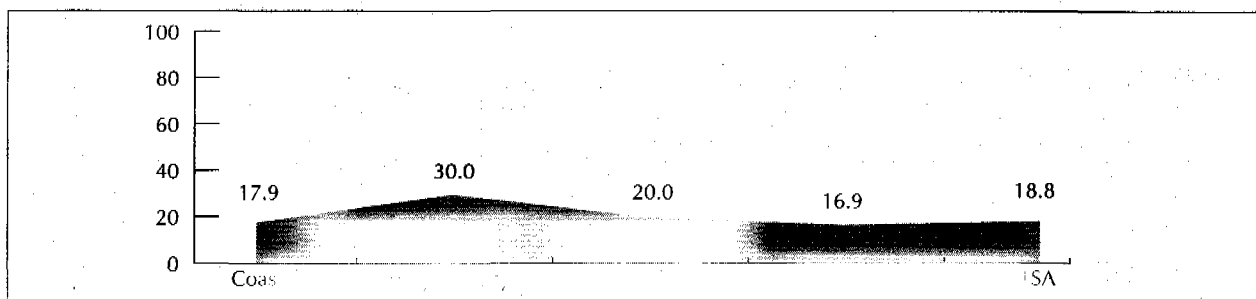
According to survey 3.8% households dispose children faeces in to the latrine and 11.8% throw into a fixed hole and 47.6% do not dispose at any fixed place and throw anywhere they want. 13.3% households throw into garden, 14.5% wash into water bodies and 2.5% on the site of TW/pump/plant. The rest 6.4% households left open. (See-Figure-C.3)

**Figure: C.3: Disposal of faeces of under five children**



This unhygienic practice by the majority households became more evident when interviewers made observation of the surrounding areas of the surveyed houses. Interviewers have seen faeces in the courtyards of 18.8% households of the entire surveyed area. In four hydrogeological areas faeces were noticed in the courtyard of 17.9%, 30%, 20% & 16.9%, households situated in the Coastal, Hilly & Stony, LWTA & SWTA respectively. (See-Figure-4)

**Figure: C. 4: Faeces noticed in the courtyard**



**Slipper Use at time of defecation & keeping the pan slab and surrounding area of latrine clean:**

The use of only hygienic latrine does not ensure the elimination of diseases related to improper sanitation. Along with the use of hygiene latrine the hygiene practices like use of slipper during defecation, keeping the slab and surrounding areas of the latrine are also essential.

The survey finding show that in the entire survey area members of only 30.5% households use slipper during defecation, 34.6% HH keeps their latrine slab clean and surrounding area of latrine was found cleaned in 36.3 % households. In the coastal area members of 28.4% Households use slipper during defecation, 27.6% keeps their latrine slab clean and 25.9% households keep the surrounding area of their clean. However, in the hilly & stony area 11.7% Households' members use slipper during defecation and 50% Households members keeps pan slab & surrounding area of their latrine clean. (See table C.4)

The findings of LWTA & SWTA present a better situation than the coastal & Hilly & Stony area in respect of slipper use but do lacking behind over the cleanliness of latrine. In the LWTA 32.4% households & 31.3% households in the SWTA practice slipper use during defecation but only 39.6 % households of LWTA and 32% of SWTA kept their latrine's pan slab clean. However, 42.6% and 34.7% households of LWTA & SWTA kept the surrounding area of their latrine clean respectively (See table C.4).

**Distance between latrine and house**

Distance of latrine from house have impact on the cleanliness of latrine and latrine use. If the latrine is build adjacent to house then people are forced to keep their latrine clean and also feel easy to use the latrine for defecation. Survey shows that 27.8%, 35.5%, 12.1% households have latrine within 15, between 16-30 and 31-45 feet. The rest have latrine beyond 45 feet distance from house. 5.5 % households have latrine beyond 100 feet distance from house (See table C.5)

**Table: C.5: Distance between House & Latrine**

GHA	Distance between House & Latrine (feet)								Highest	Lowest	Average
	up to 15	16-30	31-45	46-60	61-75	76-100	100+				
Coastal	16.0	39.6	18.8	13.6	3.2	2.0	6.8	500	0	38	
Hilly & Stony	51.0	47.1	00	00	00	00	2.0	160	14	19	
LWTA	24.1	35.5	11.9	11.7	1.9	6.8	8.0	500	1	43	
SWTA	35.8	31.4	9.6	11.6	3.0	6.2	2.5	500	5	36	
TSA	27.8	35.5	12.1	11.5	2.5	5.2	5.5	500	0	38	



## Hand washing habits

The washing of both hands with soap before meal, after defecation and after cleaning the bottom of children can ensure the decline of faecal-oral disease. However, the survey findings show that the present hand washing habit of the entire survey area is very disappointing. The practice of the majority members of the household has been described as the habit of the entire household.

### Hand washing before meal

According to survey members of 94.8 % households washes hand before taking meal and the members of 5.2% Households doesn't wash at all. Moreover only 5.1 percent households' members wash both the hand but only 1.1 % wash with soap. However, highest percentage of households' (87.7%) member washes one hand with only with water. The rest 2.0 % households' members wash one hand with soap. The hand washing patterns of all the four hydrogeological areas are nearly same. The percentages of households washing both hands with soap in the coastal, Hilly & stony, LWTA & SWTA are 0.5%, 3.3%, 1.9 % and 0.5% respectively. (See-Table: C.6.1)

**Table: C.6.1: Hand wash before meal**

GHA	Wash one hand		Both hand		Total Hand wash HH%	Doesn't Wash hand HH%
	With only water	with Soap	With only water	with Soap		
	HH%	HH%	HH%	HH%		
Coastal	84%	1.0	2.3	0.5	87.9	12.1
Hilly & Stony Area	93.3	1.7	1.7	3.3	100	00
LWTA	88.5	2.9	3.3	1.9	96.6	3.4
SWTA	88.5	1.6	6.0	0.5	96.5	3.5
TSA	87.7	2.0	4.0	1.1	94.8	5.2

### Hand washing after defecation:

Washing of both hands with soap after defecation is very essential to avoid human excreta related diseases. The survey findings provide a very depressing scenario. In the entire survey area nearly 5% households' do not practice separate hand washing after defecation and only 2.8 % practice both hands washing with soap after defecation. The highest percentage of households (43.3%) practices the washing of one hand with only water. However, a considerable percentage (39%) of household wash one hands with ash/soil. (See-Table-C.6.2)

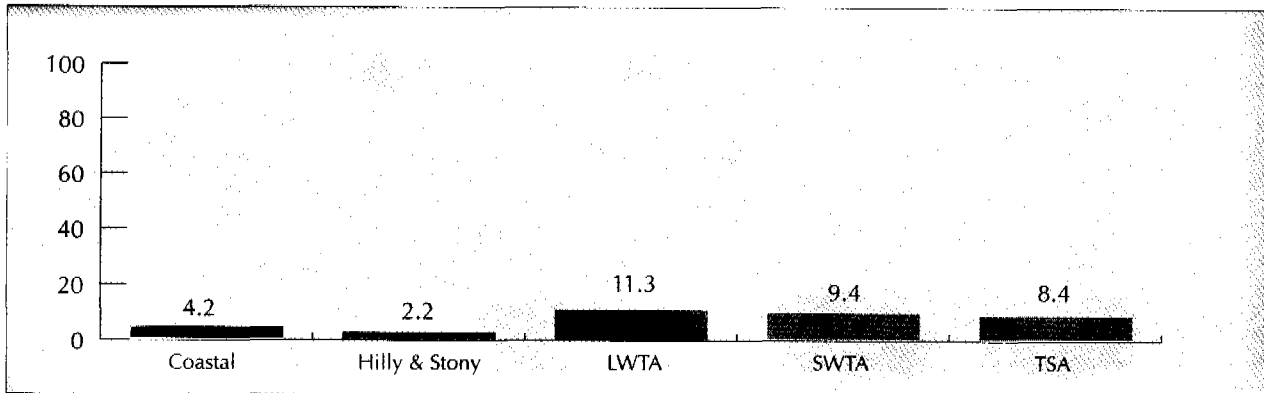
**Table: C.6.2: Hand wash after defecation**

GHA	Wash one hand			Both hand			Do not Wash hand separately HH%
	With only water	with Soap	with Ash/soil	With only water	with Soap	with Ash/soil	
	HH%	HH%	HH%	HH%	HH%	HH%	
Coastal	63.1	5.2	18.6	1.0	1.0	0.5	10.6
Hilly & Stony Area	61.7	5.0	26.7	1.7	1.7	3.3	00
LWTA	38.5	7.9	44.4	2.7	3.4	0.6	2.4
SWTA	34.5	6.0	46.8	3.1	3.3	2.2	3.9
TSA	43.3	6.5	39.0	2.5	2.8	1.2	4.7

Among the four geo-hydrological areas the situation of coastal area is gloomier. Even 11% households do not wash any hand separately after defecation. Moreover, 63.1% households practice only washing of one hand with only water. Only 1% washes both hands with soap. The situation of the hilly & Stony area is also not very encouraging one. Only 1.7 % households' members wash both hand with soap and 61.7% wash one hand with only water. In the LWTA & SWTA members of only 3.4% and 3.3% households wash both hand with soap respectively.

During survey to understand the awareness level of the members of households in respect of hand washing after defecation interviewers observed whether water & soap/Ash/Soil were kept near the latrine or not. The findings show that only 8.4% households had water & soap/Ash/Soil near their latrines. (See Figure C.5)

**Figure: C.5: Households Keep Ash/Soap/ Water near latrine**



Hand washing after cleaning the bottom of children

In many culture the excreta of young children are considered safe and are thus not treated with the same hygienic concern as the excreta of adult. This is totally wrong. Nevertheless, in respect of hand washing after defecation the survey findings shows that people of the survey area treats the children in the same way as they treat adult one. Survey findings show that only 3.8% households wash both hands with soap after cleaning the bottom of the child while 6.6% wash one hand with soap. The majority of the households (55.4%) only wash one hand that also with only water. However, nearly 28% households' members wash one hand with ash/soil after cleaning the bottom of children.

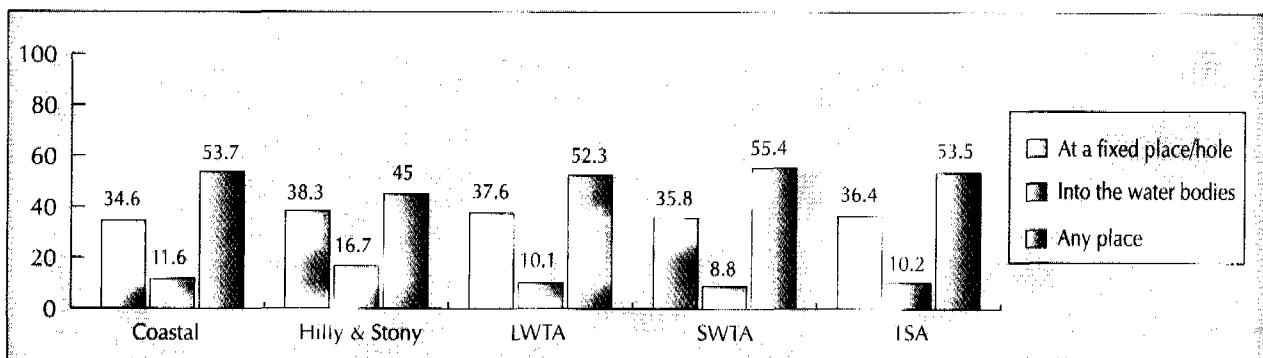
**Table: C.6.3 Hand wash after cleaning the bottom of children**

GHA	Wash one hand			Both hand			Do not Wash hand separately
	With only water	with Soap	with Ash/soil	With only water	with Soap	with Ash/soil	
	HH%	HH%	HH%	HH%	HH%	HH%	
Coastal	69.7	3.5	18.4	1.0	5.0	1.0	1.5
Hilly & Stony Area	79.5	00	5.1	2.6	2.6	10.3	00
LWTA	53.9	8.8	30.7	0.0	4.6	1.3	0.7
SWTA	42.6	7.2	35.0	2.7	2.3	3.0	7.2
TSA	55.4	6.6	27.8	1.2	3.8	2.2	3.0

**Disposal of domestic waste:**

The safe management of human excreta and its related hygienic practice cannot ensure environmental sanitation if safe management of domestic waste along with industrial and other types waste is not ensured. However, the survey findings reveal the unawareness of rural people in respect of disposal of domestic waste. According to survey majority of household (53.5%) throw their domestic waste at any place and 10.2% households throw into water bodies. Only 36.4% dispose the domestic waste into fixed place/hole. (See Figure C.6)

**Figure: C.6: Disposal of domestic waste**



Conclusion: The survey finding implicate that most of the surveyed villages demand all types of sanitation coverage intervention. Initially, software activities should be introduced to improve the awareness level of the people of these areas particularly about the need and benefit of use of hygienic latrine as well as on hygienic practices. Secondly, steps should be taken to ensure suitable number of VSCs in all of the selected villages. Finally the use of hygienic latrine by the inhabitants of the selected villages must be ensured.

## Concluding Remarks & Recommendation

The people residing in the surveyed area are basically poor, academically backward and do not have minimum level of access to confirmed safe water supply technology and environmental sanitation.

Nearly 54% households earn per day even less than one US \$. The educational background of the people of the survey area is very depressing. Only 6.1% crossed 10th standard and 23.9% are illiterate. However, a considerable percentage of respondents (65.3) were found aware about the factors responsible for diarrhoeal diseases but only 35.8% have heard about the issue of arsenic contamination of water.

Even though a sizeable portion of the respondents has diarrhoeal disease related knowledge, still 22.1 % households have experienced diarrhoeal incidents within the 30 days preceding to field survey. This reveals the poor WatSan situation of the survey area. For 17710 households less than 2000 hygienic latrines are available and majority male, female and under five children category members of 13.0%, 13.3% and 6.2% use hygienic latrine respectively. The findings on hand washing habit also presents a very gloomy scenario. The majority members of only 1.1%, 2.8% and 3.8 % households wash both hands with soap before meal, after defecation and after cleaning the bottom of the children respectively.

However, in respect to access to water and drinking water related habit the situation of the people living in the survey area present far better picture than the sanitation situation. On an average for 83, 54, 24 & 29 persons single functional safe point is available in the coastal, hilly & stony, LWTA & SWTA respectively. Nevertheless, this situation can not ascribed as real because the presence of other minerals except arsenic, iron and salt are not considered in identifying the safe points. Moreover all those water points, which are not tested for arsenic contamination, are identified as safe. There is every possibility that a large number of the non-tested TW/pump are unsafe because 51% tested TW/pumps are found as unsafe. Moreover the presence of unacceptable level of arsenic contamination in at least one TW/pump is confirmed in 93% villages where at least one water point is tested for arsenic contamination.

The water-related habits of the people of the surveyed area also present better situation than sanitation related habits. Nearly, 81.4 % households collect water from safe TW/pump/plant for drinking purposes but only 31.8 %, 44.1%, 44.7% and 59% collect water from safe sources for gargling/ mouth washing/ bathing/ Uzu, washing raw vegetables/ fruit, utensil washing and cooking respectively.

All these findings implicate that the surveyed villages demand hardware as well as software intervention like awareness program. The intervention sphere wise recommendations are as follows:

### **Awareness program:**

The awareness program should emphasise on:

- Use of safe water for domestic purposes other than drinking which is as important as the use for drinking purposes;
- Danger of drinking/ consuming arsenic contaminated water;
- Benefit of using alternative water supply technology like; PSF, AIRP, RWHS & Ring/ Dug well;
- Boiling water before drinking if water is collected from sources other than TW/pump/plant;
- Preserving water for domestic use only in the covered pot and regular cleaning of it;
- Importance of using hygienic type latrine by all members of the household for all the time;
- The use of a fixed place for defecation by under five children;
- Importance of keeping the latrine clean ;
- Importance of proper washing of both hand with soap after defecation and washing the bottom of children & before meal;
- The disposal of domestic waste at a fixed hole;
- Maintaining hygienic environment in the house and surrounding area;
- Health benefit as well as economic benefit of using safe water & sanitation;

- Need of community level WatSan movement because mere maintenance of hygienic situation in the household does not ensure the improve health if hygienic environment in the entire area is not maintained;
- Importance of shouldering the responsibility of the management of safe water supply and environmental sanitation by the community

### **Hardware related interventions:**

NGO Froum's WatSan hardware related intervention programs should emphasise on:

- The testing of water quality of all TW/pump available in the selected villages before any other type interventions;
- The installation of alternative water supply technologies like PSF/ RWHS /Ring/dug well based on the suitability for the area;
- Access to safe water point within 100 feet from the kitchen by every households;
- The training of caretaker of the TW/pump/plant to ensure that they have enough skill to ensure proper maintenance of TW/pump/plant;
- Ensuring at least one hygienic latrine for every households
- Upgrading the unhygienic latrine to hygienic one if it is technologically and financially viable;
- If possible ensuring the existence of at least one VSC in every selected village.

## **Appendix-A**

**A. General Information**

**Table A.1: Location of the Survey area, Population, Sample size and Diarrhoeal incidence**

Hydro-geological Area	NGOF Region	Concerned PNGO	District	Thana	Union	Sample village	Information of the entire selected village		Information of the portion of the village selected for WatsSan program						Information regarding incidence of Diarrhoea within last one month				
							Total HH	Total population	Population				Household		No. of surveyed sample HH	HH% experienced diarrhoea	% of population experienced diarrhoea		
									M	F	<5	Total	Total	having <5 children			>5	<5	
Coastal	Barisal	BIKALPA UNNAYAN KARMASUCHI (BUK)	Barisal	Mehendigonj	Gabindapur	West Tetulia	5000	15000	790	730	299	1819	321	182	32	3.1	0.6	0.0	
	Barisal	GRAMEEN JAND UNNAYAN SONGSTHA (GJUS)	Bhola	Sadar	Charsamiya	West Charsamiya	447	2227	642	602	338	1582	300	245	30	6.7	0.6	2.9	
	Barisal	PALLI PUNARGATHAN CLUB (PPC)	Jhalokati	Razapur	Suktagoon	Suktagoon	422	2050	610	550	110	1270	270	80	27	11.1	0.0	15.0	
	Barisal	ESKANDAR WELFARE FOUNDATION (EWF)	Pirojpur	Nazirpur	Matibhanga	Manmudkanda	293	1318	591	556	171	1318	293	96	29	13.8	2.3	4.5	
	Comilla	SOCIETY FOR URBAN AND RURAL ADVANCEMENT (SURA)	Feni	Dagan Bhuiya	7 No. Moto Bhuiya	Salam Nagar	254	1464	571	620	273	1464	254	152	25	28.0	2.2	21.1	
	Comilla	TRIBEDI WOMEN & SOCIAL DEVELOPMENT ASSOCIATION	Laxmipur	Sadar	4 no Char rohita	Char Rohita	4250	22730	730	698	299	1727	323	222	32	21.9	1.3	45.0	
	Comilla	UNNAYAN PORIKOLPONAY MANUSH (UPOMA)	Noakhali	Sudharam	16 no. Char Jabbar	Char Jabbar	850	5200	1015	935	275	2225	325	189	33	69.7	7.7	52.3	
	Faridpur	STAR	Gopalganj	Kotalipara	Ramsheel	Rajapur	608	3170	757	714	219	1690	309	184	31	32.3	7.0	23.5	
	Faridpur	ANKUR POLLY UNNAYAN KENDRA (APUK)	Madaripur	Sadar	Kandua	Shreenaldi	784	4205	698	713	214	1625	300	151	30	10.0	1.6	15.8	
	Faridpur	SARIATPUR DEVELOPMENT SOCIETY (SDS)	Shariatpur	Sadar	Tulasar	Dakshin Goidi	280	1441	624	574	243	1441	280	194	28	25.0	3.8	14.3	
	Khulna	AGRADUT CLUB	Khulna	Sadar	Shorankhola	Rajapur	1298	6456	904	509	199	1612	324	152	32	15.6	4.6	0.0	
	Khulna	PROVATI	Khulna	Dumuria	Maguraghona	Betagram	541	2517	669	557	169	1395	300	142	30	46.7	9.8	37.5	
Khulna	UTTARAN	Satkhira	Tala	Khalinagar	Khalinagar	544	2167	520	542	112	1174	288	99	29	27.6	7.2	21.4		
<b>Coastal Area as a Whole</b>							<b>15571</b>	<b>69945</b>	<b>9121</b>	<b>8300</b>	<b>2921</b>	<b>20342</b>	<b>3887</b>	<b>2068</b>	<b>388</b>	<b>24.2</b>	<b>3.8</b>	<b>20.4</b>	
Hilly & Stony	Chittagong	INTEGRATED SOCIAL DEVELOPMENT EFFORT (ISDE)	Cox's Bazar	Chokoria	Fashiakhali	Razar Bil Noyapara	500	3500	618	882	210	1710	298	110	30	40.0	8.5	15.8	
	Sylhet	PALLI UNNAYAN KENDRA	Moulvibazar	Kulaura	Sharipur	Monoharpur	365	2167	788	726	295	1809	304	103	30	46.7	7.5	28.6	
<b>Hilly &amp; Stony Area as a Whole</b>							<b>865</b>	<b>5667</b>	<b>1406</b>	<b>1608</b>	<b>505</b>	<b>3519</b>	<b>602</b>	<b>213</b>	<b>60</b>	<b>43.3</b>	<b>8.0</b>	<b>21.9</b>	
Low	Bogra	MOTHURA ISLAMIC SHAMAJ KALLYAN PARISO (MISKIP)	Bogra	Sadar	Namuza	Bamonpara	276	1278	572	581	125	1278	276	99	28	17.9	5.2	6.3	
	Bogra	BAWPA	Naogaon	Sadar	Tilokpur	Kadoya	427	2319	791	753	78	1622	276	78	28	32.1	8.1	0.0	
	Bogra	PROGRAMME FOR PEOPLES DEVELOPMENT (PPD)	Sirajgonj	Shahjadpur	Potazia	Gongaprosad	290	1750	750	650	350	1750	290	250	29	0.0	0.0	0.0	
	Bogra	AHEAD SOCIAL ORGANIZATION (ASO)	Joypurhat	Khetlal	Baratara	Baratara	330	2000	1000	700	300	2000	280	150	28	3.6	0.0	5.9	
	Chittagong	POLLI PROGOTI SANGSTHA (PPS)	Chittagong	Charandish	Hasimpur	Hashimpur	3500	14700	902	833	195	1930	336	189	34	44.1	6.3	34.5	
	Comilla	CHANGE	B. Baria	Sadar	Sahipur	Horinadi	265	1439	557	571	311	1439	265	197	27	25.9	2.0	27.3	
	Dhaka	BANGLADESH EXTENTION EDUCATION SERVICE (BEES)	Gazipur	Sreepur	Bormi	Bekashahara Gararon	324	1505	555	655	195	1505	324	77	32	12.5	1.3	26.7	
	Dhaka	GRAM BIKASH SHAYAK SANGSTHA (GBSS)	Norshingdi	Polash	Jinardi	Charpara	312	1433	596	656	181	1433	312	127	31	35.5	6.0	22.7	
	Faridpur	MOHILA SAMAJ UNNAYAN SANGSTHA	Rajbari	Pangsa	Maibari	Komarpur	300	1629	716	681	106	1503	275	92	28	21.4	3.5	35.7	
	Jessore	RURAL ECONOMIC & SOCIAL WELFARE ORGANIZATION	Chuadanga	Sadar	Padmabila	Subdia	478	3320	523	474	154	1151	278	125	28	7.1	1.0	7.1	
	Jessore	ALO	Kushita	Kumarkhali	Shlaidah	Mazhgram	650	3250	609	492	153	1254	270	109	27	18.5	2.3	25.0	
	Jessore	MANOB UNNAYAN KENDRA	Meherpur	Sadar	Amjhupi	Ragunathpur	310	1392	638	597	157	1392	310	138	31	22.6	2.2	22.2	
	Mymensingh	RAC-Bangladesh	Kishoregonj	Bazitpur	Koylag	Rahayia	500	4300	1200	900	400	2500	310	200	31	8.5	1.4	0.0	
	Mymensingh	ADARSHA SAMAJ UNNAYAN SONGSTHA (ASUS)	Mymensingh	Haluaghat	Gazivita	Gabrakhali	381	1867	680	629	558	1867	381	219	38	7.9	2.2	5.6	
	Mymensingh	COMMUNITY DEVELOPMENT ASSOCIATION (CDA)	Netrokona	Sadar	Kalara Gobragati	Halkundolee	257	1414	643	600	171	1414	257	156	26	3.8	0.0	4.3	
	Mymensingh	SRIZAN MOHILA SANGSTHA (SMS)	Sherpur	Nalitabari	Kalampur	Gagajiani	620	3725	987	963	375	2325	385	250	39	20.5	2.4	15.4	
	Rajshahi	PALLI KARMA SAHAYAK SANGSTHA (PKSS)	Natore	Singra	Kolom	Mohesh Chandrapur	437	1925	663	512	257	1432	325	214	33	12.1	2.9	5.6	
	Rajshahi	JAGORANI JANO KALLYAN SANGSTHA	Nowabgonj	Chapainawabganj	Ranihati	Dharmahayatpur	547	2082	815	867	160	1842	307	145	31	6.5	0.6	5.6	
	Rajshahi	TRIBERTIGHT DEVELOPMENT COUNCIL (TDC)	Rajshahi	Charghat	Nimpara	Kizorebari	268	1200	554	368	280	1200	268	85	27	3.7	0.0	11.1	
	Rajshahi	SUCHONA SOMAJ KALLYAN SONGSTHA	Pabna	Sadar	Dogachi	Rachakantapur	405	3105	1203	901	375	2479	300	75	30	23.3	3.2	12.9	
	Sylhet	FRIENDS IN VILLAGE DEVELOPMENT BANGLADESH (FIVDB)	Sunamgonj	Sadar	Paschim Pagla	Snatumardon	2700	18000	1300	1700	550	3550	312	285	31	6.5	1.7	0.0	
	Dinajpur	UDBHABON	Dinajpur	Birampur	Kharipur	Barkona	340	1625	720	509	159	1388	290	38	29	10.3	1.6	4.3	
	Tangail	SHEBA	Tangail	Moohapur	Dopakhali	Dopakhali	350	1000	398	401	106	905	311	104	31	58.1	15.5	43.8	
	<b>Low Area as a whole</b>							<b>14067</b>	<b>76258</b>	<b>17472</b>	<b>15991</b>	<b>5696</b>	<b>39159</b>	<b>6938</b>	<b>3362</b>	<b>697</b>	<b>17.6</b>	<b>3.1</b>	<b>13.1</b>
	Shallow	Comilla	DEVELOPMENT INITIATIVE FOR SOCIAL ADVANCEMENT (DISA)	Comilla	Chandina	Borkoil	Borkoil	575	3450	738	877	216	1831	325	201	32	53.1	11.1	50.0
		Dhaka	SAMAJ-O-JATI GATHAN (SAJAG)	Dhaka	Dhamrai	Sanora	Deonai	412	2072	694	710	136	1540	340	102	34	14.7	3.4	0.0
		Dhaka	GRAM KALLYAN SONGATHA	Munshgonj	Sreenagar	Baroikhali	Baroikhali	1240	6820	840	825	242	1907	340	162	34	32.4	6.7	8.3
		Dhaka	SOCIO ECONOMIC DEVELOPMENT AGENCY (SEDA)	Manikgonj	Ghor	Balakhora	Pukhuria	315	1383	687	596	100	1383	315	100	32	6.3	0.7	4.8
		Dhaka	SOCIAL DEVELOPMENT ORGANIZATION (SDO)	Narayanganj	Sadar	Kashipur	Narashundapur	357	1851	735	916	200	1851	357	130	36	38.9	5.9	25.0
		Faridpur	AMRA KAJ KORI (AKK)	Faridpur	Sadar	North Chand	Monsurabad	357	1638	764	689	321	1774	320	193	32	40.6	3.7	33.3
		Jessore	RURAL RE-CONSTRUCTION CENTRE(RRCC)	Jessore	Jikorgacha	Gangandapur	Atlia	381	2667	1015	925	265	2205	315	171	32	9.4	0.8	7.7
		Jessore	ACTION IN DEVELOPMENT (AID)	Jhansdadah	Padmakor	Achintanagar	Achintanagar	285	1234	602	534	158	1294	285	129	33	0.0	0.0	0.0
Jessore		ASSOCIATION FOR SOCIAL ACTION & IMPROVEMENT	Magura	Sadar	7 no Moghi	Bara Khari	269	1114	540	467	107	1114	269	91	27	37.0	8.5	40.0	
Jessore		PALLI DARIDRA KALLYAN SONGSTHA	Narail	Narail	Sheikh Hati	Sheikh Hati	700	3556	745	683	188	1616	321	147	32	12.5	4.2	20.0	
Rangpur		UDAYAN SWABOLOMBE SANGSTHA (USS)	Gaibandha	Saghata	Guridaha	Matherpara	340	1355	577	573	205	1355	340	185	34	5.9	0.6	12.5	
Rangpur		UDDOM SONGSTHA	Kurigram	Rajarhat	Chakir Pashar	Chakir Pashar Pathak	393	3170	915	900	239	2045	300	197	30	10.0	1.8	9.1	
Rangpur		ASSOCIATION FOR DEVELOPMENT ASSISTANCE IN FAMILY OF BO	Lalmonirhat	Kaligonj	Chandrapur	North Barish Hazari	321	1602	686	728	185	1602	321	175	32	37.5	10.7	18.8	
Rangpur		SWAPNAN BANJUMUKHI SAMAJ KALLYAN SONGSTHA (SBKS)	Niuphamari	Jaldhaka	Shoulmari	Kazipara	484	3200	985	845	290	2120	325	250	33	60.6	8.0	32.6	
Rangpur		BANJHAN BANJUMUKHI SAMAJIK UNNAYAN SONGSTHA (BSUS)	Rangpur	Kawmia	Kunshamari	Shibu	565	2552	656	640	206	1502	329	176	33	39.4	7.3	27.3	
Sylhet		ENDEAVOUR	Hobigonj	Chumarughat	5 No. Shadepkur	Shadepkur	261	1696	747	721	226	1696	261	183	26	28.9	2.8	16.7	
Sylhet		ANIRBAN ADARSHA SAMAJ KALYAN SAMITY	Jokigonj	Sylhet	Biroshree	Borchalia	283	1682	761	648	273	1682	283	180	28	17.9	1.4	16.7	
Dinajpur		DUDUMARI GRAM UNNAYAN SANGSTHA (DGUS)	Panchagarh	Sadar	Dhakkamara	Kazipara	505	3510	550	596	330	1476	285	250	29	10.3	2.4	3.8	
Dinajpur		JANANEE SEBA SANGSTHA	Thakurgaon	Sadar	Salandor	Boronagaon	980	5500	917	1000	125	2042	325	105	33	15.2	1.4	16.7	
Tangail		PROGRESS	Jamalpur	Sadar	Shahbajpur	Shahbajpur	900	4500	673	609	130	1412	327	105	33	6.1	0.6	5.9	
<b>Shallow Area as a whole</b>							<b>9923</b>	<b>54612</b>	<b>14827</b>	<b>14482</b>	<b>4138</b>	<b>33447</b>	<b>6283</b>	<b>3232</b>	<b>635</b>	<b>23.8</b>	<b>4.2</b>	<b>18.6</b>	
<b>Total Survey Area</b>							<b>40426</b>	<b>206482</b>	<b>42826</b>	<b>40381</b>	<b>13260</b>	<b>96467</b>	<b>17710</b>	<b>8875</b>	<b>1780</b>	<b>22.1</b>	<b>3.8</b>	<b>17.1</b>	

Table A.2: Principal earning source and yearly earning wise percentage

Hydro-geological Area	District	Sample Village	HH no.	Principal earning sources											Yearly earning wise HH % (in thousand taka)				
				Agriculture	Daily labour	Fish related activities	Business/contractorship	Rickshaw/vari/boat/pushing & car driving	Working in other's house	Pottaring	Black-smithing	Gold-smithing	Service	Others	<10	10-15	15-20	20-25	25>
				HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%
Coastal	Bansal	West Tetulia	321	23	27	3	0	10	0	0	0	0	8	9	12.5	40.6	18.8	9.4	18.8
	Bhola	West Charsamaiya	300	31	27	12	12	12	0	0	0	5	9	0.0	3.3	10.0	40.0	26.7	
	Jhalokati	Suktagan	270	28	39	6	7	9	7	0	0	6	9	11.1	22.2	18.5	22.2	25.9	
	Pirojpur	Manmudkanda	293	56	13	4	12	5	0	0	0	10	9	0.0	17.2	27.6	17.2	37.9	
	Feni	Salam Nagar	254	34	27	2	11	13	0	0	0	13	0	0.0	0.0	0.0	28.0	72.0	
	Laxmipur	Char Ronita	323	33	25	5	9	11	3	0	0	5	8	0.0	9.4	28.1	12.6	50.0	
	Noakhali	Char Jabbar	325	27	35	6	12	12	2	0	0	2	2	50.0	18.8	18.8	9.4	3.1	
	Gopalganj	Rajapur	309	65	9	3	7	1	0	0	0	4	12	29.0	58.1	6.5	6.5	0.0	
	Madaripur	Sreenandri	300	53	19	0	16	2	0	0	0	8	1	0.0	10.0	16.7	16.7	56.7	
	Shariatpur	Dakkhin Goaldi	280	19	37	0	15	15	0	0	1	13	0	0.0	10.7	32.1	28.6	28.6	
	Bagerhat	Rajapur	324	52	9	10	7	10	1	0	0	11	0	3.2	0.0	9.7	41.9	45.2	
	Khulna	Betagram	300	31	42	4	7	14	0	0	0	1	1	0.0	0.0	16.7	20.0	63.3	
	Satkhira	Khadinagar	298	38	30	3	10	16	3	0	1	0	0	0.0	13.8	13.8	6.9	65.5	
<b>Coastal Area as a Whole</b>			<b>3887</b>	<b>38</b>	<b>26</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>8.5</b>	<b>16.1</b>	<b>16.8</b>	<b>19.7</b>	<b>38.9</b>	
Hilly & Stony	Cox's Bazar	Bazar Bil Novapara	298	34	50	0	3	3	0	0	0	7	3	0.0	17.9	35.7	17.9	28.6	
	Moulvibazar	Moncharpur	304	38	43	0	5	6	0	0	0	3	5	39.3	7.1	21.4	21.4	10.7	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>602</b>	<b>36</b>	<b>47</b>	<b>0</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>17.2</b>	<b>17.2</b>	<b>13.8</b>	<b>13.8</b>	<b>37.9</b>	
Low Area	Bogra	Bamunpara	276	21	25	3	21	20	0	0	0	10	0	54.3	25.0	10.7	0.0	0.0	
	Naogaon	Kadoya	276	24	34	0	12	27	0	0	0	4	0	2.9	5.9	5.9	11.8	73.5	
	Sirajgonj	Gongoprosad	290	41	7	0	3	34	7	0	0	7	0	0.0	1.1	22.2	29.6	37.0	
	Joyhat	Baralara	280	54	18	5	2	18	0	0	0	4	0	9.4	15.6	25.0	18.8	31.3	
	Chitalgong	Hashimpur	336	35	41	0	11	2	0	0	0	9	2	3.2	22.6	16.1	32.3	25.0	
	B. Saria	Horinadi	265	16	66	0	2	9	2	0	0	5	0	22.2	22.2	7.4	14.8	33.3	
	Gazipur	Bekashahara Gararon	324	55	14	0	9	5	0	0	0	9	7	0.0	35.7	35.7	7.1	21.4	
	Narsingdi	Charpara	312	49	16	1	5	22	2	0	0	4	1	29.6	14.8	11.1	14.8	29.6	
	Rajbari	Konotpur	275	63	32	0	3	0	0	0	0	2	0	0.0	51.6	19.4	3.2	25.8	
	Churaoganga	Suodia	278	63	21	0	6	6	0	0	0	3	0	9.7	22.6	16.1	29.0	22.6	
	Kushia	Mazhgram	270	21	22	0	4	5	0	0	0	1	46	7.9	34.2	5.3	34.2	18.4	
	Menerpur	Raghnathpur	310	36	57	1	4	1	0	0	0	1	0	50.0	26.9	7.7	7.7	7.7	
	Khenoregonj	Rahayla	310	26	23	3	11	34	3	0	0	1	0	7.7	41.0	28.2	7.7	15.4	
	Mymensingh	Gabrahal	381	26	57	0	8	7	0	0	0	3	0	0.0	9.1	15.2	45.5	30.3	
	Netrokona	Halkundolee	257	33	43	0	10	2	1	2	0	0	3	0	3.2	25.8	12.9	45.2	12.9
	Sherpur	Gagljani	385	80	11	0	7	16	0	0	0	6	0	0.0	29.6	0.0	40.7	29.6	
	Narore	Mohesh Chandrapur	325	56	28	0	10	9	0	0	0	7	0	13.3	46.7	13.3	13.3	13.3	
	Nowalganj	Dhumihaatpur	307	18	29	3	23	8	5	0	0	13	2	6.5	0.0	9.7	6.5	77.4	
	Rajshahi	Knarebari	268	34	37	0	13	7	0	0	0	9	0	17.2	3.4	24.1	24.1	31.0	
	Pabna	Radhakantapur	300	78	11	0	1	4	0	0	1	0	6	0	0.0	22.6	19.4	38.7	19.4
	Sunamgonj	Shabrumardon	312	8	42	5	21	0	6	3	0	1	16	0	12.5	22.4	16.4	21.0	27.7
	Dhajpur	Barkha	290	18	31	2	13	12	2	0	1	2	13	6	3.1	9.4	15.9	21.9	50.0
	Tangail	Dopakhali	311	31	34	5	6	10	6	0	0	2	4	1	2.9	0.0	8.8	55.9	32.4
<b>Low Area as a Whole</b>			<b>6938</b>	<b>38</b>	<b>30</b>	<b>1</b>	<b>9</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>29.4</b>	<b>5.9</b>	<b>2.9</b>	<b>26.5</b>	<b>35.3</b>	
Shallow Area	Cowilla	Borkef	325	37	32	3	5	14	0	0	0	13	0	0.0	3.3	28.1	6.3	34.4	
	Dhaka	Deena	340	24	22	3	27	2	6	0	0	19	0	0.0	0.0	11.1	2.6	86.1	
	Munsingonj	Barokhali	340	37	1	18	1	27	1	0	0	11	0	5.1	71.9	15.6	3.1	6.3	
	Manikgonj	Pukhuria	315	51	16	6	12	0	0	0	0	14	0	0.0	15.6	56.3	15.6	12.5	
	Narayanganj	Narashundapur	357	50	14	10	6	9	0	0	0	20	0	0.0	0.0	48.5	45.5	6.1	
	Faridpur	Monsurabad	320	41	30	7	3	17	0	0	0	3	0	14.8	7.4	51.9	18.5	7.4	
	Jessore	Kha	315	53	17	0	17	8	0	0	0	4	0	50.0	25.0	15.6	3.1	6.3	
	Jhanakdah	Achhannagar	285	70	5	0	6	12	0	0	0	6	0	61.8	32.4	2.9	2.9	0.0	
	Magura	Bara Khari	269	43	24	0	13	7	1	0	0	12	0	66.7	26.7	3.3	0.0	3.3	
	Narail	Shelkh Hati	321	60	0	0	17	5	0	0	2	2	13	58.1	25.6	9.7	0.0	6.5	
	Gaibandha	Matharpara	340	29	41	5	4	18	0	0	0	3	0	6.1	60.6	21.2	3.0	9.1	
	Kurigram	Chakir Pashar Pathak	300	23	57	0	9	7	0	0	1	1	9	0	15.6	43.8	21.9	3.1	15.6
	Lalmonirhat	Norm: Satrish Hazari	321	17	47	3	11	12	3	0	0	6	0	0.0	3.8	23.1	26.9	46.2	
	Nilphamari	Kazipara	325	17	40	1	4	11	18	0	0	6	2	53.6	17.9	3.6	0.0	25.0	
	Rangpur	Shib	329	53	22	0	5	11	0	0	0	4	4	3.4	24.1	13.8	20.7	37.9	
	Hobigonj	Shadekour	261	34	37	0	10	5	7	9	0	6	0	3.0	36.4	27.3	15.2	18.2	
	Sylhet	Borchawa	283	9	35	7	12	12	2	0	0	7	15	6.1	78.8	9.1	0.0	6.1	
	Panchagorh	Kazipara	285	18	31	0	2	35	0	8	0	7	0	18.6	26.1	19.3	13.6	22.4	
Takurgaon	Bornuagaon	325	40	6	0	3	50	0	0	0	1	0	3.3	28.7	13.3	16.7	40.0		
Jamalpur	Sheharpur	327	32	60	0	8	0	0	0	0	0	0	55.2	41.4	3.4	0.0	0.0		
<b>Shallow Area as a Whole</b>			<b>6283</b>	<b>37</b>	<b>27</b>	<b>3</b>	<b>9</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>28.8</b>	<b>33.9</b>	<b>8.5</b>	<b>8.5</b>	<b>20.3</b>	
<b>Total Survey Area</b>			<b>17710</b>	<b>37</b>	<b>29</b>	<b>3</b>	<b>9</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>14.4</b>	<b>22.7</b>	<b>17.2</b>	<b>17.6</b>	<b>28.0</b>	



**Table A.3: Educational Background**

Hydro-geological Area	District	Sample Village	Total 5> population (Cal from 10% HH)	Educational background of 5> (population wise %)								
				Illiterate	Can sign only	Upto 5th standard	6th-10th standard	SSC/its equivalent	HSC/its equivalent	Graduation / its equivalent	Post Graduation / its equivalent	Others
				P 5>%	P 5>%	P%	P%	P%	P%	P%	P%	P%
Coastal	Barisal	West Tetulia	166	25.3	12.0	56.0	4.8	0.6	0.6	0.0	0.6	0.0
	Bhola	West Charsamaiya	169	18.9	50.3	23.1	7.7	0.0	0.0	0.0	0.0	0.0
	Jhalokati	Suktagoan	144	7.6	12.5	33.3	36.1	8.3	1.4	0.7	0.0	0.0
	Pirojpur	Mahmudkanda	128	6.3	20.3	35.9	28.1	7.0	1.6	0.8	0.0	0.0
	Feni	Salam Nagar	137	16.1	36.5	9.5	30.7	2.9	1.5	2.9	0.0	0.0
	Laxmipur	Char Rohita	158	15.8	26.6	39.9	13.9	1.9	1.9	0.0	0.0	0.0
	Noakhali	Char Jabbar	207	16.4	41.1	32.4	8.2	1.0	1.0	0.0	0.0	0.0
	Gopalganj	Rajapur	143	29.4	26.6	23.1	12.6	4.2	2.1	1.4	0.7	0.0
	Madaripur	Shreenathdi	129	11.6	22.5	35.7	20.9	3.1	3.1	1.6	1.6	0.0
	Shariatpur	Dakshin Goadi	130	19.2	18.5	40.8	20.0	0.8	0.8	0.0	0.0	0.0
	Bagerhat	Rajapur	174	8.6	43.1	19.0	19.0	4.0	1.7	2.9	1.7	0.0
	Khulna	Betagram	133	30.1	38.3	9.0	21.1	1.5	0.0	0.0	0.0	0.0
	Satkhira	Khalinagar	125	23.2	27.2	16.0	22.4	8.0	2.4	0.8	0.0	0.0
	<b>Coastal Area as a Whole</b>			<b>1943</b>	<b>17.5</b>	<b>29.7</b>	<b>29.1</b>	<b>18.0</b>	<b>3.1</b>	<b>1.3</b>	<b>0.8</b>	<b>0.4</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	164	31.1	21.3	33.5	8.5	1.2	1.2	0.6	0.6	1.8
	Moulvibazar	Monohapur	161	23.0	19.9	32.9	19.3	2.5	0.6	1.9	0.0	0.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>325</b>	<b>27.1</b>	<b>20.6</b>	<b>33.2</b>	<b>13.8</b>	<b>1.8</b>	<b>0.9</b>	<b>1.2</b>	<b>0.3</b>	<b>0.9</b>
Low	Bogra	Bamonpara	115	14.8	40.0	19.1	21.7	1.7	1.7	0.9	0.0	0.0
	Naogaon	Kadoya	124	21.0	16.1	32.3	26.6	2.4	1.6	0.0	0.0	0.0
	Sirajgonj	Gongoprosad	159	23.9	38.4	9.4	19.5	4.4	2.5	0.6	1.3	0.0
	Joypurhat	Baraitara	140	6.4	42.1	19.3	28.6	2.1	0.7	0.7	0.0	0.0
	Chittagong	Hashimpur	222	5.9	23.4	22.1	34.2	7.7	4.1	2.3	0.0	0.5
	B. Baria	Horinadi	150	26.0	47.3	14.0	9.3	2.0	0.0	1.3	0.0	0.0
	Gazipur	Bekashara Gararon	154	5.2	27.3	34.4	25.3	5.2	1.9	0.6	0.0	0.0
	Norshingdi	Charpara	149	19.5	21.5	30.2	17.4	4.0	4.7	2.7	0.0	0.0
	Rajbari	Komorpur	141	67.4	15.6	6.4	7.1	2.1	1.4	0.0	0.0	0.0
	Chuadanga	Subdia	101	21.8	38.6	10.9	15.8	5.0	6.9	1.0	0.0	0.0
	Kushtia	Mazhgram	129	35.7	20.9	24.0	16.3	0.8	1.6	0.8	0.0	0.0
	Meherpur	Raghunathpur	139	26.6	46.0	12.2	14.4	0.7	0.0	0.0	0.0	0.0
	Kishoregonj	Rahayla	139	22.3	52.5	20.1	5.0	0.0	0.0	0.0	0.0	0.0
	Mymensingh	Gabrakhali	180	13.9	26.1	34.4	22.8	2.2	0.6	0.0	0.0	0.0
	Netrokona	Hatkundolee	107	46.7	39.3	6.5	5.6	0.0	0.0	0.9	0.9	0.0
	Sherpur	Gaglajani	168	52.4	16.7	15.5	13.7	0.6	0.6	0.6	0.0	0.0
	Natore	Mohesh Chandrapur	140	22.1	39.3	20.0	12.9	4.3	1.4	0.0	0.0	0.0
	Nowabgonj	Dhumihatpur	170	20.0	41.2	12.4	23.5	2.4	0.6	0.0	0.0	0.0
	Rajshahi	Kharebari	118	35.6	18.6	9.3	21.2	6.8	6.8	0.8	0.8	0.0
	Pabna	Radhakantapur	157	52.2	33.8	9.6	3.8	0.6	0.0	0.0	0.0	0.0
	Sunamgonj	Shatrumardon	172	27.9	37.8	11.6	15.7	5.2	1.7	0.0	0.0	0.0
	Dinajpur	Barkona	127	18.1	38.6	16.5	15.0	8.7	2.4	0.8	0.0	0.0
	Tangail	Dopakhal	142	24.6	35.2	16.9	17.6	4.2	1.4	0.0	0.0	0.0
<b>Low Area as a whole</b>			<b>3343</b>	<b>26.0</b>	<b>32.6</b>	<b>18.0</b>	<b>17.6</b>	<b>3.3</b>	<b>1.8</b>	<b>0.6</b>	<b>0.1</b>	<b>0.0</b>
Shallow	Comilla	Borkoit	171	24.0	21.1	26.9	14.0	5.8	4.7	2.9	0.6	0.0
	Dhaka	Deonai	174	20.7	37.4	25.9	12.1	3.4	0.0	0.6	0.0	0.0
	Munshigonj	Baroikhal	194	9.8	20.6	30.9	24.2	6.7	5.2	2.1	0.5	0.0
	Manikgonj	Pukhuri	145	19.3	43.4	11.7	18.6	3.4	3.4	0.0	0.0	0.0
	Narayangonj	Narashundapur	238	4.6	24.8	23.5	31.9	10.1	3.4	1.3	0.4	0.0
	Faridpur	Monsurabad	161	44.1	25.5	24.2	6.2	0.0	0.0	0.0	0.0	0.0
	Jessore	Atlia	121	23.1	19.0	38.8	18.2	0.0	0.0	0.8	0.0	0.0
	Jhanaidah	Achintanagar	153	20.9	20.3	28.1	26.8	2.6	1.3	0.0	0.0	0.0
	Magura	Bara Khari	129	23.3	34.1	27.9	13.2	0.8	0.8	0.0	0.0	0.0
	Narail	Sheikh Hati	120	20.0	24.2	28.3	19.2	5.0	2.5	0.8	0.0	0.0
	Gaibandha	Matharpara	167	29.3	51.5	10.2	6.0	1.8	0.6	0.6	0.0	0.0
	Kurigram	Chakir Pashar Pathak	111	18.0	31.5	37.8	12.6	0.0	0.0	0.0	0.0	0.0
	Lalmonirhat	North Balirish Hazari	149	20.1	38.3	12.8	22.1	1.3	2.7	2.0	0.0	0.7
	Nilphamari	Kazipara	125	38.4	32.0	9.6	11.2	3.2	3.2	2.4	0.0	0.0
	Rangpur	Shibu	151	43.0	7.3	27.8	14.6	4.6	2.0	0.0	0.7	0.0
	Hobigonj	Shadekpur	144	27.1	22.9	25.0	16.7	4.2	1.4	0.0	0.7	2.1
	Sylhet	Borchalia	142	47.9	14.1	14.1	14.8	0.0	2.1	0.7	0.0	6.3
	Panchagorh	Kazipara	123	23.6	22.0	26.8	13.8	7.3	1.6	4.9	0.0	0.0
	Thakurgaon	Boronagaon	146	19.9	45.2	19.2	9.6	4.1	1.4	0.7	0.0	0.0
Jamalpur	Shahbajpur	180	41.7	14.4	18.3	14.4	8.3	2.2	0.0	0.6	0.0	
<b>Shallow area as a whole</b>			<b>3044</b>	<b>25.4</b>	<b>27.3</b>	<b>23.2</b>	<b>16.5</b>	<b>4.0</b>	<b>2.0</b>	<b>1.0</b>	<b>0.2</b>	<b>0.4</b>
<b>Total Survey Area</b>			<b>8655</b>	<b>23.9</b>	<b>29.6</b>	<b>22.9</b>	<b>17.2</b>	<b>3.4</b>	<b>1.7</b>	<b>0.8</b>	<b>0.2</b>	<b>0.2</b>

Table A.4: WatSan Knowledge

Hydro-geological Area	District	Sample Village	Diseases Occur (due to use of unsafe Water and improper Sanitation)								Know the Harmful Effect of Drinking Arsenic Contaminated Water	
			Can Name the disease(s)									
			Diarrhoea	Dysentery	Typhoid	Jaundice	Skin Diseases	Worm	Other	Have no idea at all		
HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%			
Coastal	Barisal	West Tetulia	81.3	3.1	0.0	3.1	0.0	0.0	0.0	18.8	15.6	
	Bhola	West Charsamaiya	96.7	0.0	0.0	0.0	0.0	0.0	0.0	3.3	26.7	
	Jhalokati	Suktagoan	85.2	33.3	7.4	7.4	11.1	11.1	0.0	7.4	48.1	
	Pirojpur	Mahmuckanda	65.5	20.7	3.4	0.0	3.4	0.0	0.0	27.6	44.8	
	Feni	Salam Nagar	64.0	56.0	4.0	4.0	0.0	0.0	0.0	36.0	75.0	
	Laxmipur	Char Rohita	68.8	15.6	0.0	0.0	31.3	0.0	0.0	31.3	18.8	
	Noakhali	Char Jabbar	100.0	28.1	3.1	3.1	6.3	0.0	0.0	0.0	29.0	
	Gopalganj	Rajapur	90.3	12.9	3.2	0.0	0.0	29.0	0.0	9.7	0.0	
	Madaripur	Shreenathdi	40.0	16.7	3.3	3.3	0.0	0.0	0.0	60.0	26.7	
	Shariatpur	Dakshin Goaldi	21.4	0.0	3.6	0.0	0.0	0.0	0.0	75.0	7.1	
	Bagerhat	Rajapur	96.9	46.9	0.0	0.0	0.0	0.0	0.0	3.1	25.0	
	Khulna	Betagram	30.0	6.7	0.0	0.0	26.7	0.0	0.0	56.7	66.7	
	Satkhira	Khailinagar	61.5	38.5	3.8	0.0	11.5	3.8	0.0	30.8	51.7	
<b>Coastal Area as a Whole</b>			<b>70.1</b>	<b>20.8</b>	<b>2.3</b>	<b>1.6</b>	<b>7.0</b>	<b>3.4</b>	<b>0.0</b>	<b>27.1</b>	<b>32.5</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	36.7	20.0	3.3	3.3	13.3	0.0	3.3	53.3	3.3	
	Moulvibazar	Monohapur	53.3	46.7	10.0	6.7	16.7	0.0	0.0	36.7	43.3	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>45.0</b>	<b>33.3</b>	<b>6.7</b>	<b>5.0</b>	<b>15.0</b>	<b>0.0</b>	<b>1.7</b>	<b>45.0</b>	<b>23.3</b>	
Low	Bogra	Bamonpara	57.1	14.3	0.0	0.0	3.6	0.0	0.0	42.9	28.6	
	Naogaon	Kadoya	92.9	46.4	0.0	0.0	28.6	14.3	0.0	3.6	21.4	
	Sirajgonj	Gongaprosad	100.0	100.0	0.0	0.0	62.1	17.2	0.0	0.0	58.6	
	Joypurhat	Baratara	92.9	57.1	0.0	0.0	0.0	0.0	0.0	7.1	39.3	
	Chittagong	Hashimpur	61.8	41.2	8.8	0.0	14.7	5.9	2.9	29.4	34.4	
	B. Baria	Horinadi	96.3	33.3	18.5	3.7	29.6	22.2	0.0	3.7	77.8	
	Gazipur	Bekashahara Gararon	75.0	21.9	9.4	6.3	6.3	0.0	0.0	25.0	46.9	
	Norshingdi	Charpara	58.1	32.3	3.2	0.0	22.6	6.5	0.0	32.3	41.9	
	Rajbari	Komorpur	57.1	28.6	0.0	3.6	0.0	0.0	0.0	42.9	28.6	
	Chuadanga	Subdia	46.4	7.1	7.1	0.0	10.7	0.0	0.0	50.0	35.7	
	Kushia	Mazhgram	11.5	3.8	0.0	0.0	3.8	0.0	0.0	88.5	11.1	
	Meherpur	Raghunathpur	35.5	3.2	6.5	0.0	6.5	3.2	0.0	64.5	29.0	
	Kishoregonj	Rahayla	51.6	3.2	0.0	0.0	3.2	0.0	0.0	48.4	9.7	
	Mymensingh	Gabrakhali	78.9	36.8	2.6	2.6	15.8	18.4	0.0	18.4	78.9	
	Netrokona	Hatkundolee	23.1	3.8	3.8	0.0	0.0	0.0	0.0	69.2	11.5	
	Sherpur	Gajlajani	13.2	5.3	0.0	0.0	0.0	2.6	0.0	86.8	17.9	
	Natore	Mohesh Chandrapur	66.7	21.2	0.0	9.1	3.0	15.2	0.0	33.3	60.6	
	Nowabgonj	Dhumihatpur	80.6	48.4	0.0	0.0	64.5	6.5	0.0	6.5	67.7	
	Rajshahi	Kharebari	59.3	25.9	3.7	0.0	18.5	11.1	0.0	37.0	48.1	
	Pabna	Radhakantapur	83.3	36.7	0.0	0.0	23.3	3.3	0.0	16.7	3.3	
	Sunamgonj	Shatrumardon	61.3	3.2	0.0	0.0	0.0	0.0	0.0	38.7	32.3	
	Dinajpur	Barkona	93.1	20.7	0.0	6.9	13.8	6.9	0.0	0.0	21.4	
Tangail	Dopakhali	54.8	19.4	0.0	0.0	0.0	3.2	0.0	41.9	12.9		
<b>Low Area as a whole</b>			<b>62.9</b>	<b>26.6</b>	<b>2.7</b>	<b>1.4</b>	<b>14.2</b>	<b>6.0</b>	<b>0.1</b>	<b>34.4</b>	<b>36.0</b>	
Shallow	Comilla	Borkoit	93.8	62.5	50.0	25.0	87.5	31.3	0.0	0.0	54.8	
	Dhaka	Deonai	76.5	29.4	5.9	5.9	29.4	0.0	0.0	23.5	35.3	
	Munshigonj	Baroikhali	97.1	61.8	11.8	8.8	58.8	23.5	0.0	2.9	64.7	
	Manikgonj	Pukhuria	81.3	46.9	0.0	0.0	3.1	6.3	0.0	18.8	40.6	
	Narayangonj	Narashundapur	25.0	16.7	0.0	0.0	55.6	2.8	0.0	41.7	61.1	
	Faridpur	Monsurabad	56.3	3.1	3.1	3.1	0.0	0.0	0.0	43.8	15.6	
	Jessore	Atlia	90.3	9.7	0.0	0.0	19.4	0.0	0.0	9.7	71.9	
	Jhanaidah	Achintanagar	87.9	21.2	0.0	3.0	18.2	0.0	0.0	9.1	62.5	
	Magura	Bara Khan	88.9	44.4	0.0	0.0	18.5	0.0	0.0	11.1	33.3	
	Narail	Sheikh Hati	50.0	6.3	0.0	0.0	6.3	0.0	0.0	50.0	21.9	
	Gaibandha	Matharpara	39.4	6.1	0.0	0.0	6.1	6.1	0.0	60.6	2.9	
	Kurigram	Chakir Pashar Pathak	90.0	66.7	3.3	6.7	26.7	3.3	0.0	6.7	30.0	
	Lalmonirhat	North Battrish Hazari	100.0	12.5	3.1	0.0	9.4	0.0	0.0	0.0	18.8	
	Nilphamari	Kazipara	18.2	18.2	0.0	0.0	6.1	0.0	0.0	75.8	21.2	
	Rangpur	Shibu	39.4	15.2	3.0	3.0	3.0	0.0	0.0	60.6	45.5	
	Hobigonj	Shadekpur	53.8	3.8	0.0	0.0	19.2	0.0	0.0	34.6	42.3	
	Sylhet	Borchalia	32.0	4.0	0.0	0.0	0.0	0.0	0.0	68.0	21.4	
	Panchagorh	Kazipara	55.2	41.4	31.0	10.3	0.0	17.2	0.0	44.8	13.8	
	Thakurgaon	Borunagaon	97.0	66.7	30.3	3.0	3.0	3.0	0.0	0.0	63.6	
	Jamalpur	Shahbajpur	66.7	18.2	0.0	0.0	3.0	0.0	0.0	21.2	45.5	
	<b>Shallow area as a whole</b>			<b>67.0</b>	<b>27.9</b>	<b>7.1</b>	<b>3.5</b>	<b>19.2</b>	<b>4.8</b>	<b>0.0</b>	<b>28.9</b>	<b>38.7</b>
	<b>Total Survey Area</b>			<b>65.3</b>	<b>26.1</b>	<b>4.4</b>	<b>2.3</b>	<b>14.5</b>	<b>4.8</b>	<b>0.1</b>	<b>31.2</b>	<b>35.8</b>

B. Access to Safe Water Supply and Water related habits:

Table B1.1: Water Supplying Hardware Status-TW and Pump (Point/Unit wise)

Hydro-geological Area	District	Sample Village	Salow TW/(No-6 TW)		Conversion Pump (sani deep-set)		Tara (deep set)pump		Deep TW		Other TW/Pump		Total TW & Pump				
			Functional	Dysfunctional	Functional	Dysfunctional	Functional	Dysfunctional	Functional	Dysfunctional	Functional	Dysfunctional	Functional		Dysfunctional		
			No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	%	No.	%	
Coastal	Barisal	West Tetulia	23	4	0	0	0	0	5	0	0	0	29	88	4	12	
	Bhola	West Charsamaiya	1	0	0	0	0	0	15	1	0	0	16	94	1	6	
	Jhalokati	Sukagaon	8	8	0	0	0	0	3	1	0	0	11	55	9	45	
	Pirojpur	Mahm. dkanda	34	14	0	0	0	0	0	0	0	0	34	71	14	29	
	Feni	Salam Nagar	50	31	0	0	0	0	2	0	0	0	52	63	31	37	
	Laxmipur	Char Pochita	2	0	0	0	0	0	15	0	0	0	17	100	0	0	
	Nokhali	Char Jabbar	7	2	0	0	0	0	14	0	0	0	21	91	2	9	
	Gopalganj	Pajapur	14	5	0	0	0	0	9	0	0	0	23	61	15	39	
	Madaripur	Shreenathgi	82	3	0	0	0	0	13	0	0	0	95	97	3	3	
	Shariatpur	Dakshin Goaldi	71	4	0	0	0	0	10	0	0	0	81	95	4	5	
	Bagerhat	Rajapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Khulna	Betagram	57	5	0	0	0	0	0	0	0	0	58	92	5	8	
	Satkhira	Khalinagar	149	1	0	0	0	0	0	0	0	0	149	99	1	1	
<b>Coastal Area as a Whole</b>			<b>497</b>	<b>87</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>585</b>	<b>87</b>	<b>89</b>	<b>13</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	52	3	0	0	0	0	0	0	0	0	52	95	3	5	
	Moulvibazar	Wonocharpur	46	49	0	0	2	0	0	0	0	0	48	49	49	51	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>98</b>	<b>52</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>66</b>	<b>52</b>	<b>34</b>	
Low Area	Bogra	Bamonpara	122	19	0	0	1	2	0	0	0	0	123	86	20	14	
	Nazgaon	Kadoya	100	4	0	0	4	2	0	0	0	0	104	95	6	5	
	Sirajgonj	Gongoprosad	129	1	0	0	2	4	0	0	0	0	133	96	5	4	
	Jaypurhat	Baratara	158	20	0	0	3	2	0	0	0	0	161	88	22	12	
	Chittagong	Hashimpur	54	8	0	0	0	0	1	0	0	0	55	87	8	13	
	B. Baria	Horinad	50	4	0	0	1	0	0	0	0	0	51	93	4	7	
	Gazipur	Bekasrafara Gararon	0	5	62	15	2	2	0	2	0	0	64	73	24	27	
	No-shirgodi	Charpara	72	5	0	0	4	1	0	0	0	0	76	93	6	7	
	Pajbari	Komerpur	51	3	0	0	0	0	0	0	7	2	58	92	5	8	
	Chuadanga	Subdia	149	6	0	0	2	0	0	0	0	0	151	96	7	4	
	Kushlia	Mazgram	55	4	0	0	8	1	0	1	0	0	64	91	6	9	
	Meherpur	Raghunathpur	191	6	0	0	0	0	0	0	0	0	192	97	6	3	
	Kishoregonj	Rahayla	12	3	0	0	5	0	0	0	0	0	17	85	3	15	
	Mymensingh	Gabrakhali	36	0	0	0	1	1	0	0	0	0	37	97	1	3	
	Netrokona	Hatikurdolee	27	5	0	0	3	0	0	0	0	0	30	86	5	14	
	Sherpur	Gajlejani	119	5	0	0	0	3	0	0	0	6	119	89	14	11	
	Natore	Mohesh Chandrapur	115	3	0	0	3	0	0	0	0	0	118	98	3	2	
	Nowabgonj	Dhumaihatpur	136	1	0	0	0	0	0	0	0	0	140	99	2	1	
	Raishahi	Kharebari	66	0	0	0	0	0	0	0	0	0	75	100	0	0	
	Pabna	Radhakanitapur	152	0	0	0	0	0	0	0	0	0	152	100	0	0	
	Suramgonj	Shatrumardon	12	3	0	0	0	0	2	0	0	0	14	82	3	18	
	Dinajpur	Barkona	164	19	8	0	0	1	2	0	0	0	174	93	20	13	
	Tangail	Dopakhalai	89	20	0	0	0	1	0	0	0	0	89	81	21	19	
<b>Low Area as a Whole</b>			<b>2059</b>	<b>143</b>	<b>70</b>	<b>15</b>	<b>39</b>	<b>20</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>8</b>	<b>2197</b>	<b>92</b>	<b>191</b>	<b>8</b>	
Shallow Area	Comilla	Borkoil	74	2	0	0	0	0	0	0	0	0	74	97	2	3	
	Dhaka	Deonai	125	2	0	0	0	1	3	0	0	0	128	98	3	2	
	Munshiganj	Barokhali	103	12	0	0	0	0	2	0	0	0	105	90	12	10	
	Manikgonj	Pukuria	139	3	0	0	0	0	1	0	0	0	110	97	3	3	
	Narayanganj	Narashundapur	90	1	0	0	0	0	5	0	0	0	95	99	1	1	
	Faridpur	Morsurabad	107	14	0	0	0	0	0	0	0	0	107	88	14	12	
	Jessore	Allia	129	0	0	0	0	0	0	0	0	0	131	100	0	0	
	Jhainadah	Achintanagar	117	6	0	0	0	0	0	0	0	0	126	95	6	5	
	Magura	Bara Khari	56	14	0	0	0	0	0	0	0	0	56	80	14	20	
	Narail	Sheikh Hali	36	5	0	0	0	0	0	0	0	0	96	95	5	5	
	Gaibandha	Matherpara	41	2	0	0	0	0	0	0	0	0	41	95	2	5	
	Kurigram	Chakir Pasha Pathak	77	7	0	0	0	0	0	0	0	0	77	92	7	8	
	Lalmonirhat	North Battrish Hazari	21	5	0	0	0	0	0	0	30	3	51	86	8	14	
	Nilphamari	Kazipara	33	0	0	0	0	0	0	0	0	0	33	100	0	0	
	Rangpur	Shibu	97	2	0	0	0	0	0	0	0	14	0	111	98	2	2
	Hobigonj	Snadexpur	7	2	0	0	0	0	0	1	1	0	8	73	3	27	
	Sylhet	Borchalia	14	8	0	0	0	0	0	0	0	0	14	64	8	36	
	Panchagarh	Kazipara	2	15	0	0	0	0	0	0	0	0	3	17	15	63	
	Thakurgaon	Berunaganj	295	1	0	0	0	0	0	0	0	0	295	100	1	0	
	Jamalpur	Shahzapur	63	0	0	0	18	2	0	0	0	0	61	98	2	2	
<b>Shallow Area as a Whole</b>			<b>1656</b>	<b>101</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>3</b>	<b>11</b>	<b>1</b>	<b>45</b>	<b>3</b>	<b>1742</b>	<b>94</b>	<b>108</b>	<b>6</b>	
<b>Total Survey Area</b>			<b>4310</b>	<b>383</b>	<b>70</b>	<b>15</b>	<b>59</b>	<b>23</b>	<b>102</b>	<b>6</b>	<b>52</b>	<b>11</b>	<b>4624</b>	<b>91</b>	<b>440</b>	<b>9</b>	

Table B1.2 Water Supply Hardware Status-plant (Point/Unit wise)

Hydro-geological Area	District	Sample Village	Ring/Dug Well		RWHS		AIRP		PSF		Total Plant			
			Functional	Dysfunctional	Functional	Dysfunctional	Functional	Dysfunctional	Functional	Dysfunctional	Functional		Dysfunctional	
			No.	No.	No.	No.	No.	No.	No.	No.	No.	%	No.	%
Coastal	Barisal	West Tetulia	0	0	1	0	0	0	0	0	1	100	0	0
	Bhola	West Charasamaiya	0	0	0	0	0	0	0	0	0	0	0	0
	Jhalokati	Suktagoan	0	0	0	0	0	0	0	0	0	0	0	0
	Pirogpur	Mahmudkanda	0	0	0	0	0	0	0	0	0	0	0	0
	Feni	Salam Nagar	0	0	0	0	0	0	0	0	0	0	0	0
	Laxmipur	Char Rohita	0	0	0	0	0	0	0	0	0	0	0	0
	Noakhali	Char Jabbar	0	0	0	0	0	0	0	0	0	0	0	0
	Gopalganj	Rajapur	0	0	0	0	0	0	0	0	0	0	0	0
	Madaripur	Shreenathdi	0	0	0	0	0	0	0	0	0	0	0	0
	Shariatpur	Dakkhin Gostdi	0	0	0	0	0	0	0	0	0	0	0	0
	Bagerhat	Rajapur	0	0	0	0	0	0	0	0	0	0	0	0
Khulna	Betagram	1	0	0	0	0	0	0	0	1	0	1	0	
Satkhira	Khallinagar	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Coastal Area as a Whole</b>			<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>100</b>	<b>0</b>	<b>0</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	0	0	0	0	0	0	0	0	0	0	0	0
	Moulvibazar	Monoharpur	0	0	0	0	0	0	0	0	0	0	0	0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Low Area	Bogra	Bamonpara	0	0	0	0	0	0	0	0	0	0	0	0
	Naogaon	Kaduya	0	0	0	0	0	0	0	0	0	0	0	0
	Sirajgonj	Gongaprosad	0	0	0	0	2	0	0	0	2	0	4	0
	Joypurhat	Baralara	0	0	0	0	0	0	0	0	0	0	0	0
	Chittagong	Hashimpur	0	0	0	0	0	0	0	0	0	0	0	0
	B. Baria	Hornadi	0	0	0	0	0	0	0	0	0	0	0	0
	Gazipur	Bekashahara Gararon	0	0	0	0	0	0	0	0	0	0	0	0
	Norshingdi	Charpara	0	0	0	0	0	0	0	0	0	0	0	0
	Rajbari	Komorpur	0	0	0	0	0	0	0	0	0	0	0	0
	Chuadanga	Subdia	0	1	0	0	0	0	0	0	0	0	1	100
	Kushtia	Mazhgram	1	0	0	0	0	0	0	0	1	100	0	0
	Meherpur	Raghunathpur	0	0	0	0	1	0	0	0	1	100	0	0
	Kishoregonj	Rahayla	0	0	0	0	0	0	0	0	0	0	0	0
	Mymensingh	Gabrakhali	0	0	0	0	0	0	0	0	0	0	0	0
	Netrokona	Hatkundolee	0	0	0	0	0	0	0	0	0	0	0	0
	Sherpur	Gaglajani	0	0	0	0	0	0	0	0	0	0	0	0
	Natore	Mohesh Chandrapur	0	0	0	0	0	0	0	0	0	0	0	0
	Nowabgonj	Dhulihayatpur	4	1	0	0	0	0	0	0	4	80	1	20
	Rajshahi	Knarebari	9	0	0	0	0	0	0	0	9	100	0	0
	Pabna	Rachantaipur	0	0	0	0	0	0	0	0	0	0	0	0
Sunamgonj	Sharunardon	0	0	0	0	0	0	0	0	0	0	0	0	
Dinajpur	Barkora	0	0	0	0	0	0	0	0	0	0	0	0	
Targai	Dopakhalli	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Low Area as a Whole</b>			<b>14</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>89</b>	<b>2</b>	<b>11</b>
Shallow Area	Comilla	Borkoil	0	0	0	0	0	0	0	0	0	0	0	0
	Dnaka	Deonai	0	0	0	0	0	0	0	0	0	0	0	0
	Munshigonj	Barokhali	0	0	0	0	0	0	0	0	0	0	0	0
	Manikgonj	Pukhuria	0	0	0	0	0	0	0	0	0	0	0	0
	Narayangonj	Narashundapur	0	0	0	0	0	0	0	0	0	0	0	0
	Faridpur	Monsurabad	0	0	0	0	0	0	0	0	0	0	0	0
	Jessore	Adia	2	0	0	0	0	0	0	0	2	0	2	0
	Jhainaidah	Achintanagar	0	0	7	0	0	0	2	0	9	0	18	0
	Magura	Bara Khari	0	0	0	0	0	0	0	0	0	0	0	0
	Narail	Sheik's Hati	0	0	0	0	0	0	0	0	0	0	0	0
	Gaibandha	Metha para	0	0	0	0	0	0	0	0	0	0	0	0
	Kurigram	Chakir Pashar Pathak	0	0	0	0	0	0	0	0	0	0	0	0
	Lalmonirhat	North Batrish Hazari	0	0	0	0	0	0	0	0	0	0	0	0
	Nilphaman	Kazipara	0	0	0	0	0	0	0	0	0	0	0	0
	Rangpur	Shibu	0	0	0	0	0	0	0	0	0	0	0	0
	Hobigonj	Shadekpur	0	0	0	0	0	0	0	0	0	0	0	0
	Sylhet	Borchalia	0	0	0	0	0	0	0	0	0	0	0	0
	Panchagarh	Kazipara	1	0	0	0	0	0	0	0	1	100	0	0
Thakurgaon	Boruragaon	0	0	0	0	0	0	0	0	0	0	0	0	
Jamalpur	Shahbajpur	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Shallow Area as a Whole</b>			<b>3</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>100</b>	<b>0</b>	<b>0</b>
<b>Total Survey Area</b>			<b>18</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>31</b>	<b>94</b>	<b>2</b>	<b>6</b>





**Table B.3: Ownership pattern of the Existing Water Supply Hardware- TW/Pump/plant (Point/Unit wise)**

Hydro-geological Area	District	Sample Village	Private				Community		Owned by institution		Total TW/Pump/Plant
			Owned by single household		Owned by multiple household		No.	%	No.	%	
			No.	%	No.	%					
Coastal	Barisal	West Tetulia	18	55	0	0	15	45	0	0	33
	Bhola	West Charsamaiya	1	6	0	0	15	88	1	6	17
	Jhalokati	Suktagoan	4	20	4	20	10	50	2	10	20
	Pirojpur	Mahmudkanda	36	75	0	0	9	19	3	6	48
	Feni	Salam Nagar	61	73	11	13	11	13	0	0	83
	Laxmipur	Char Rohita	1	6	0	0	15	88	1	6	17
	Noakhali	Char Jabbar	8	35	0	0	15	65	0	0	23
	Gopalganj	Rajapur	1	3	0	0	35	92	2	5	38
	Madaripur	Shreenathdi	54	55	19	19	20	20	5	5	98
	Shariatpur	Dakkhin Goaldi	51	60	12	14	18	21	4	5	85
	Bagerhat	Rajapur	0	0	0	0	0	0	0	0	0
	Khulna	Betagram	41	65	0	0	22	35	0	0	63
Satkhira	Khalilnagar	129	87	12	8	8	5	0	0	149	
<b>Coastal Area as a Whole</b>			<b>405</b>	<b>60</b>	<b>58</b>	<b>9</b>	<b>193</b>	<b>29</b>	<b>18</b>	<b>3</b>	<b>674</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	44	80	0	0	9	16	2	4	55
	Moulvibazar	Monoharpur	67	69	13	13	15	15	2	2	97
<b>Hilly &amp; Stony Area as a Whole</b>			<b>111</b>	<b>73</b>	<b>13</b>	<b>9</b>	<b>24</b>	<b>16</b>	<b>4</b>	<b>3</b>	<b>152</b>
Low Area	Bogra	Bamonpara	127	89	0	0	9	6	7	5	143
	Naogaon	Kadoya	93	85	0	0	17	15	0	0	110
	Sirajgonj	Gongoprosad	100	72	3	2	33	24	2	1	138
	Joypurhat	Baratara	170	93	0	0	13	7	0	0	183
	Chittagong	Hashimpur	47	75	0	0	16	25	0	0	63
	B. Baria	Honnadi	31	56	0	0	23	42	1	2	55
	Gazipur	Bekashahara Gararon	78	89	2	2	0	0	8	9	88
	Norshingdi	Charpara	58	71	2	2	21	26	1	1	82
	Rajbari	Komorpur	51	81	0	0	12	19	0	0	63
	Chudanga	Subdia	138	87	6	4	9	6	5	3	158
	Kushtia	Mazhgram	24	34	23	33	19	27	4	6	70
	Meherpur	Raghnathpur	153	77	37	19	5	3	3	2	198
	Kishoregonj	Rahayla	5	25	0	0	15	75	0	0	20
	Myrmensingh	Gabrahali	33	87	0	0	2	5	3	8	38
	Netrokona	Hatkundolee	14	40	6	17	14	40	1	3	35
	Sherpur	Gaglajani	130	98	0	0	1	1	2	2	133
	Natore	Mohesh Chandrapur	110	91	0	0	0	0	11	9	121
	Nowabgonj	Dhumihayapur	112	79	25	18	5	4	0	0	142
	Rajshahi	Kharebari	69	92	0	0	0	0	6	8	75
	Pabna	Radhakantapur	147	97	0	0	1	1	4	3	152
Sunamgonj	Shatrumardon	0	0	0	0	17	100	0	0	17	
Dinajpur	Barkona	169	87	0	0	25	13	0	0	194	
Tangail	Dopakhali	101	92	0	0	7	6	2	2	110	
<b>Low Area as a Whole</b>			<b>1960</b>	<b>82</b>	<b>104</b>	<b>4</b>	<b>264</b>	<b>11</b>	<b>60</b>	<b>3</b>	<b>2388</b>
Shallow Area	Comilla	Borkoit	48	63	16	21	11	14	1	1	76
	Dhaka	Deonai	119	91	0	0	8	6	4	3	131
	Munshigonj	Baroikhali	101	86	2	2	11	9	3	3	117
	Manikgonj	Pukhuria	94	83	0	0	14	12	5	4	113
	Narayangonj	Narashundapur	82	85	5	5	7	7	2	2	96
	Faridpur	Monsurabad	86	71	16	13	17	14	2	2	121
	Jessore	Atlia	118	90	0	0	11	8	2	2	131
	Jhanaidah	Achintanagar	84	64	8	6	37	28	3	2	132
	Magura	Bara Khari	41	59	16	23	9	13	4	6	70
	Narail	Sheikh Hati	65	64	14	14	11	11	11	11	101
	Gaibandha	Matharpara	32	74	0	0	11	26	0	0	43
	Kurigram	Chakir Pashar Pathak	42	50	25	30	11	13	6	7	84
	Lalmonirhat	North Battirish Hazari	40	68	14	24	3	5	2	3	59
	Nilphamari	Kazipara	20	61	0	0	10	30	3	9	33
	Rangpur	Shibu	108	96	0	0	3	3	2	2	113
	Hobigonj	Shadekpur	1	9	0	0	10	91	0	0	11
	Sylhet	Borchalia	0	0	0	0	22	100	0	0	22
	Panchagarh	Kazipara	1	6	0	0	15	83	2	11	18
	Thakurgaon	Borunagaon	289	98	0	0	3	1	4	1	296
Jamalpur	Shahbajpur	62	75	0	0	21	25	0	0	83	
<b>Sallow Area as a Whole</b>			<b>1433</b>	<b>77</b>	<b>116</b>	<b>6</b>	<b>245</b>	<b>13</b>	<b>56</b>	<b>3</b>	<b>1850</b>
<b>Total Survey Area</b>			<b>3909</b>	<b>77</b>	<b>291</b>	<b>6</b>	<b>726</b>	<b>14</b>	<b>138</b>	<b>3</b>	<b>5064</b>

**Table B.4: Distance between kitchen and the TW/Pump/plant from where HH collect water for domestic purposes (feet)**

Hydro-geological Area	District	Sample Village	Total Sample HH	Distance between kitchen and the TW/Pump/plant from where HH collect water for domestic purposes (feet)								
				1-50	51-100	101-150	151-200	201-250	251-300	300+	Highest	Lowest
				HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%
Coastal	Barisal	West Tetulia	32	9.4	9.4	0.0	3.1	0.0	0.0	78.1	1500	30
	Bhola	West Charsamaiya	30	6.7	16.7	0.0	16.7	3.3	6.7	50.0	9000	30
	Jhalokati	Suktagoan	27	14.8	3.7	0.0	3.7	0.0	7.4	70.4	2680	10
	Pirojpur	Mahmudkanda	28	57.1	17.9	3.6	10.7	3.6	3.6	3.6	500	14
	Feni	Salam Nagar	25	88.0	4.0	4.0	0.0	4.0	0.0	0.0	210	7
	Laxmipur	Char Rohita	32	28.1	15.6	9.4	6.3	9.4	0.0	31.3	1200	10
	Noakhali	Char Jabbar	33	24.2	3.0	3.0	6.1	3.0	9.1	51.5	1600	10
	Gopalganj	Rajapur	24	37.5	16.7	8.3	8.3	0.0	0.0	29.2	1200	10
	Madaripur	Shreenathdi	30	50.0	10.0	6.7	6.7	0.0	6.7	20.0	1000	10
	Shariatpur	Dakkhin Goadi	28	78.6	3.6	7.1	0.0	3.6	3.6	3.6	500	10
	Bagerhat	Rajapur	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
	Khulna	Betagram	30	43.3	16.7	6.7	0.0	0.0	6.7	26.7	2500	5
Satkhira	Bhalinagar	29	89.7	10.3	0.0	0.0	0.0	0.0	0.0	75	5	
<b>Coastal Area as a Whole</b>			<b>348</b>	<b>42.8</b>	<b>10.6</b>	<b>4.0</b>	<b>5.2</b>	<b>2.3</b>	<b>3.7</b>	<b>31.3</b>	<b>9000</b>	<b>0</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	29	48.3	10.3	6.9	10.3	0.0	10.3	13.8	1200	3
	Moulvibazar	Monohapur	30	33.3	3.3	6.7	3.3	0.0	6.7	46.7	1200	3
<b>Hilly &amp; Stony Area as a Whole</b>			<b>59</b>	<b>40.7</b>	<b>6.8</b>	<b>6.8</b>	<b>6.8</b>	<b>0.0</b>	<b>8.5</b>	<b>30.5</b>	<b>1200</b>	<b>6</b>
Low	Bogra	Bamonpara	28	71.4	21.4	0.0	3.6	3.6	0.0	0.0	250	3
	Naogaon	Kadoya	28	78.6	14.3	3.6	0.0	0.0	0.0	3.6	400	6
	Sirajgonj	Gongaprosad	28	96.4	3.6	0.0	0.0	0.0	0.0	0.0	60	5
	Joypurhat	Barata	28	100.0	0.0	0.0	0.0	0.0	0.0	0.0	50	2
	Chittagong	Hashampur	34	70.6	17.6	5.9	0.0	0.0	0.0	5.9	600	5
	B. Baria	Horinadi	27	55.6	18.5	11.1	0.0	3.7	7.4	3.7	350	5
	Gazipur	Bekashahara Gararon	32	50.0	9.4	3.1	6.3	3.1	12.5	15.6	1000	10
	Norshingdi	Charpara	28	67.9	3.6	0.0	3.6	3.6	10.7	10.7	500	10
	Rajbari	Komorpur	28	53.6	21.4	14.3	10.7	0.0	0.0	0.0	200	8
	Chuadanga	Subdia	28	96.4	3.6	0.0	0.0	0.0	0.0	0.0	70	5
	Kushtia	Mazhgram	27	70.4	0.0	3.7	14.8	0.0	0.0	11.1	1000	10
	Meherpur	Raghunathpur	31	96.8	3.2	0.0	0.0	0.0	0.0	0.0	65	2
	Kishoregonj	Rahayla	31	22.6	19.4	6.5	12.9	0.0	3.2	35.5	600	20
	Mymensingh	Gabrakhali	31	38.7	25.8	6.5	6.5	0.0	16.1	6.5	500	10
	Netrokona	Hatkundolee	26	23.1	0.0	3.8	23.1	0.0	34.6	15.4	500	10
	Sherpur	Gaglajani	38	92.1	2.6	2.6	0.0	2.6	0.0	0.0	250	12
	Natore	Mohesh Chandrapur	33	57.6	18.2	6.1	3.0	3.0	6.1	6.1	500	4
	Nowabgonj	Dhumihayatpur	30	53.3	20.0	20.0	3.3	0.0	0.0	3.3	500	5
	Rajshahi	Kharerbari	23	52.2	26.1	13.0	4.3	0.0	0.0	4.3	2000	5
	Pabna	Radhakantapur	30	86.7	10.0	0.0	3.3	0.0	0.0	0.0	200	2
	Sunamgonj	Shatrurardon	31	45.2	12.9	22.6	12.9	3.2	0.0	3.2	400	3
	Dinajpur	Barkona	26	76.9	11.5	3.8	7.7	0.0	0.0	0.0	200	5
Tangail	Dopakhali	31	67.7	19.4	6.5	0.0	0.0	3.2	3.2	900	5	
<b>Low Area as a whole</b>			<b>677</b>	<b>66.5</b>	<b>12.3</b>	<b>5.8</b>	<b>4.9</b>	<b>1.0</b>	<b>4.0</b>	<b>5.6</b>	<b>2000</b>	<b>2</b>
Shallow	Comilla	Borkoit	32	65.6	6.3	12.5	3.1	0.0	3.1	9.4	1000	3
	Dhaka	Deonai	34	76.5	8.8	5.9	5.9	0.0	0.0	2.9	500	10
	Munshigonj	Baroikhal	34	32.4	8.8	11.8	2.9	0.0	5.9	38.2	2000	5
	Manikgonj	Pukhuria	32	46.9	18.8	3.1	9.4	9.4	3.1	9.4	1440	10
	Narayangonj	Narashundapur	15	26.7	20.0	6.7	0.0	0.0	13.3	33.3	500	15
	Faridpur	Monsurabad	31	67.7	16.1	3.2	3.2	6.5	3.2	0.0	300	5
	Jessore	Atlia	32	87.5	12.5	0.0	0.0	0.0	0.0	0.0	70	10
	Jhanaidah	Achintanagar	33	84.8	6.1	6.1	0.0	0.0	0.0	3.0	500	10
	Magura	Bara Khari	27	88.9	3.7	0.0	3.7	0.0	3.7	0.0	300	10
	Narail	Sheikh Hati	32	56.3	15.6	0.0	12.5	3.1	3.1	9.4	1200	5
	Gaibandha	Matharpara	34	73.5	20.6	0.0	2.9	0.0	2.9	0.0	300	20
	Kurigram	Chakir Pashar Pathak	30	80.0	13.3	3.3	3.3	0.0	0.0	0.0	200	3
	Lalmonirhat	North Baitrish Hazari	31	100.0	0.0	0.0	0.0	0.0	0.0	0.0	15	2
	Nilphamari	Kazipara	27	81.5	7.4	0.0	3.7	0.0	7.4	0.0	300	8
	Rangpur	Shibu	32	93.8	3.1	3.1	0.0	0.0	0.0	0.0	150	3
	Hobigonj	Shadekpur	26	30.8	19.2	19.2	3.8	3.8	15.4	7.7	800	20
	Sylhet	Borchalia	20	55.0	5.0	15.0	10.0	5.0	10.0	0.0	300	3
	Panchagorh	Kazipara	29	86.2	6.9	3.4	0.0	3.4	0.0	0.0	250	5
	Thakurgaon	Borunagaon	33	100.0	0.0	0.0	0.0	0.0	0.0	0.0	15	3
Jamalpur	Shahbajpur	33	54.5	21.2	0.0	9.1	0.0	9.1	6.1	500	3	
<b>Shallow area as a whole</b>			<b>597</b>	<b>70.9</b>	<b>10.6</b>	<b>4.4</b>	<b>3.7</b>	<b>1.5</b>	<b>3.5</b>	<b>5.5</b>	<b>2000</b>	<b>2</b>
<b>Total Survey Area</b>			<b>1681</b>	<b>62.2</b>	<b>11.1</b>	<b>4.9</b>	<b>4.6</b>	<b>1.4</b>	<b>3.9</b>	<b>11.8</b>	<b>9000</b>	<b>0</b>



Table B.5: Safe Water Point Status (Point/Unit wise)

Hydro-geological Area	District	Sample Village	Arsenic Tested Tubewells						Having unaccepted level of Iron and Salt contamination (reported case)				No. of Safe water point	No. of safe functional water point	Population of the selected portion of the village (Estimated)	Average population for single functions. safe water point (Estimated)	% HH having TW/pump/plant in safe distance (distance between TW & latrine is more than 33 feet)				
			TW having unaccepted level of arsenic		TW having less than unaccepted level/free of arsenic contaminate		Total Arsenic Tested TW		TW having unaccepted level of Iron contamination		TW having unaccepted level of salinity							Total TW & pump			
			No.	%	No.	%	No.	%	No.	%	No.	%									
Coastal	Barisal	West Tetulia	6	100	0	0	6	19	20	63	15	47	32	14	42	14	42	1819	130	71.4	
		West Charsamaiya	0	0	0	0	0	0	0	0	1	6	17	16	94	15	88	1582	105	16.7	
		Jhaokati	0	0	0	0	0	0	0	0	10	50	20	10	50	6	30	1270	212	30.0	
		Phojpur	2	100	0	0	2	4	48	100	24	50	48	0	0	0	0	1318	0	50.0	
		Feni	0	0	0	0	0	0	0	19	23	0	0	83	64	77	38	46	1464	39	16.7
		Laxmipur	0	0	0	0	0	0	0	0	0	0	0	17	17	190	17	100	1727	102	78.9
		Noakhali	Char Jabbar	2	9	21	91	23	100	3	13	1	4	23	20	87	20	87	2225	111	62.5
		Gopalganj	Rajapur	0	0	0	0	0	0	29	76	0	0	38	9	24	9	24	1690	188	50.0
		Madaripur	Shreenathdi	85	87	13	13	98	100	31	32	0	0	98	0	0	0	0	1625	0	14.3
		Shariatpur	Dakshin Goaldi	0	0	0	0	0	0	21	25	6	7	85	58	66	54	64	1441	27	20.0
		Bagerhat	Rajapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1612	0	0.0
		Khulna	Belagram	54	93	4	7	58	94	62	100	0	0	62	0	0	0	0	1395	0	84.2
			Salkhira	0	0	0	0	0	0	75	50	0	0	148	74	50	73	49	1174	16	70.4
		Khalinagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
<b>Coastal Area as a Whole</b>			<b>149</b>	<b>80</b>	<b>38</b>	<b>20</b>	<b>187</b>	<b>28</b>	<b>308</b>	<b>46</b>	<b>57</b>	<b>8</b>	<b>672</b>	<b>282</b>	<b>42</b>	<b>246</b>	<b>36</b>	<b>20942</b>	<b>83</b>	<b>55.7</b>	
Hilly & Story	Cox's Bazar	Razar Bil Noyapara	0	0	0	0	0	0	25	45	0	0	55	29	53	27	49	1710	63	10.0	
	Moulvibazar	Monoranpur	10	21	38	79	46	49	7	7	0	0	97	80	62	38	39	1809	48	0.0	
<b>Hilly &amp; Story Area as a Whole</b>			<b>10</b>	<b>21</b>	<b>38</b>	<b>79</b>	<b>46</b>	<b>49</b>	<b>32</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>152</b>	<b>109</b>	<b>72</b>	<b>65</b>	<b>43</b>	<b>3519</b>	<b>54</b>	<b>5.6</b>	
Low Area	Bogra	Bamonpara	0	0	2	100	2	1	11	8	0	0	143	132	92	113	79	1278	11	86.7	
		Kadaya	0	0	0	0	0	0	0	0	0	0	110	110	100	104	95	1622	16	0.0	
		Sirajgonj	Gongoprosad	9	60	6	40	15	11	87	63	0	0	138	51	37	46	33	1750	38	20.8
		Joyputat	Baratala	0	0	0	0	0	0	0	0	0	0	183	183	100	161	88	2000	12	0.0
		Chittagong	Hashimpur	0	0	0	0	0	0	12	19	0	0	63	51	81	43	68	1930	45	61.5
		E. Bara	Horinadi	0	0	0	0	0	0	46	84	0	0	55	9	16	9	16	1439	160	47.6
		Gazipur	Bekashahara Garaton	0	0	0	0	0	0	0	0	0	0	88	88	100	64	73	1505	24	31.6
		Narsingdi	Cnarpata	0	0	0	0	0	0	21	26	0	0	82	61	74	55	67	1433	26	63.6
		Rajbari	Komorpur	32	100	0	0	32	59	30	56	0	0	54	22	35	20	32	1503	75	77.8
		Chuadanga	Subdia	14	70	6	30	20	13	64	41	0	0	157	80	51	74	47	1151	16	50.0
		Kushtia	Mazgram	16	62	10	38	26	38	25	36	0	0	68	29	41	23	33	1254	55	41.7
		Meherpur	Raghunathpur	7	100	0	0	7	4	14	7	0	0	198	177	89	171	86	1392	8	72.2
		Kishoregonj	Rahayia	0	0	0	0	0	0	0	0	0	0	20	20	100	17	85	2500	147	20.0
		Myrsensingh	Gabrakhali	0	0	0	0	0	0	36	95	0	0	38	2	5	1	3	1867	1867	50.0
		Hetrokona	Hakundolee	0	0	0	0	0	0	20	57	0	0	35	15	40	10	29	1414	141	60.0
		Sherpur	Gaglajani	2	2	118	98	120	94	15	12	0	0	127	112	84	105	79	2325	22	30.4
		Natore	Mohesh Chandrapur	0	0	0	0	0	0	53	44	0	0	121	68	56	65	54	1432	22	59.4
		Nowabgonj	Dnumihayatpur	20	16	109	84	129	94	41	30	0	0	137	111	78	110	77	1842	17	84.0
		Raishani	Kharerbari	40	68	19	32	59	89	40	61	0	0	86	35	47	35	47	1200	34	71.4
		Pabna	Radrakanatapur	0	0	0	0	0	0	9	6	0	0	152	143	94	143	94	2478	17	36.8
		Sunamgonj	Shatrumardon	2	12	15	88	17	100	0	0	0	0	17	15	88	12	71	3550	296	63.6
		Dinajpur	Barkona	0	0	0	0	0	0	14	7	0	0	194	80	83	150	82	1388	9	14.3
		Tangail	Dopakhal	0	0	1	100	1	1	43	39	0	0	110	67	61	65	59	905	14	46.7
	<b>Low Area as a Whole</b>			<b>142</b>	<b>33</b>	<b>286</b>	<b>67</b>	<b>428</b>	<b>18</b>	<b>581</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>2357</b>	<b>1761</b>	<b>74</b>	<b>1606</b>	<b>67</b>	<b>39159</b>	<b>24</b>	<b>48.7</b>
	Shallow Area	Cornilla	Borkoil	0	0	0	0	0	0	2	3	0	0	76	76	100	74	97	1831	25	40.0
		Deonai	4	20	16	80	20	15	29	22	0	0	131	102	78	99	76	1540	16	56.7	
		Munshigonj	Barokhal	61	85	11	15	72	62	2	2	0	0	117	54	46	44	38	1907	43	31.6
		Manikgonj	Pukhuria	1	25	3	75	4	74	85	0	0	113	38	34	38	34	1383	36	70.6	
		Narayanganj	Narashundapur	82	86	13	14	95	99	11	11	0	0	96	14	15	13	14	1851	142	4.5
		Faridpur	Monsurabad	0	0	0	0	0	0	35	29	0	0	121	86	71	72	60	1774	25	5.9
		Jessore	Atlia	72	78	23	24	95	74	37	29	0	0	129	22	17	22	17	2206	100	75.0
		Jhanaidah	Achintanagar	35	40	53	60	88	72	26	21	0	0	123	71	54	65	49	1294	20	87.0
		Magura	Bara Khan	0	0	12	100	12	17	3	4	0	0	70	67	96	53	76	1114	21	40.0
		Narail	Shekh Hati	10	67	5	33	15	15	90	89	0	0	101	6	6	1	1	1616	1616	62.5
		Gaibandha	Matherpara	0	0	0	0	0	0	10	23	0	0	43	33	77	31	72	1355	44	66.7
		Kurigram	Chakir Pashar Pathak	2	2	82	98	84	100	0	0	0	0	84	82	98	75	89	2045	27	71.4
		Lalmonirhat	North Batrish Hazari	0	0	0	0	0	0	0	0	0	0	26	59	100	51	86	1602	31	5.9
		Nilphamari	Kazipara	0	0	0	0	0	0	0	0	0	0	33	33	100	33	100	2120	64	0.0
		Rangpur	Shibu	0	0	0	0	0	0	9	9	0	0	99	90	80	88	78	1502	17	26.7
		Hobigonj	Shadekpur	0	0	0	0	0	0	7	70	0	0	10	4	36	3	27	1696	565	80.0
		Syhet	Borchalia	1	10	9	90	10	45	11	50	0	0	22	10	45	8	36	1682	210	50.0
		Panchagom	Kazipara	0	0	0	0	0	0	0	0	0	0	17	18	100	3	17	1476	492	44.4
		Thakurgaon	Bonunagaon	0	0	0	0	0	0	0	0	0	0	296	296	100	295	100	2042	7	26.7
		Jamalpur	Shehbabpur	0	0	0	0	0	0	0	0	0	0	83	83	100	81	98	1412	17	61.0
<b>Shallow Area as a Whole</b>			<b>268</b>	<b>54</b>	<b>227</b>	<b>46</b>	<b>495</b>	<b>28</b>	<b>346</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>1790</b>	<b>1244</b>	<b>67</b>	<b>1149</b>	<b>62</b>	<b>33447</b>	<b>29</b>	<b>48.7</b>	
<b>Total Survey Area</b>			<b>569</b>	<b>49</b>	<b>589</b>	<b>51</b>	<b>1158</b>	<b>23</b>	<b>1267</b>	<b>25</b>	<b>57</b>	<b>1</b>	<b>4971</b>	<b>3396</b>	<b>67</b>	<b>3066</b>	<b>61</b>	<b>96467</b>	<b>31</b>	<b>48.9</b>	

**Table B.6: Drinking Water Related Habit**

Hydro-geological Area	District	Sample Village	Total Sample HH	Source of Drinking Water						Drinking water-pot was found cleaned	Drinking water-pot was found covered
				Tubewell/pump/plants		Non-technological source					
				Safe	Unsafe	Rain water	well/pond	River/Canal	others		
HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%				
Coastal	Barisal	West Tetulia	32	96.9	3.1	0.0	0.0	0.0	0.0	83.3	96.7
	Bhola	West Charsamaiya	30	100.0	0.0	0.0	0.0	0.0	0.0	82.8	55.2
	Jhalokati	Suktagoon	27	100.0	0.0	0.0	0.0	0.0	0.0	100.0	92.6
	Pirojpur	Mahmudkanda	29	93.1	0.0	0.0	6.9	0.0	0.0	93.1	89.7
	Feni	Salam Nagar	25	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	Laxmipur	Char Rohita	32	96.9	0.0	0.0	3.1	0.0	0.0	86.7	80.0
	Noakhali	Char Jabbar	33	100.0	0.0	0.0	0.0	0.0	0.0	84.2	52.6
	Gopalganj	Rajapur	31	64.5	12.9	0.0	9.7	12.9	0.0	67.7	0.0
	Madaripur	Shreenathdi	30	50.0	50.0	0.0	0.0	0.0	0.0	27.6	27.6
	Shariatpur	Dakkhin Goaldi	28	96.4	3.6	0.0	0.0	0.0	0.0	61.5	42.3
	Bagerhat	Rajapur	32	0.0	0.0	0.0	100.0	0.0	0.0	96.9	93.8
Khulna	Betagram	30	46.7	53.3	0.0	0.0	0.0	0.0	95.5	95.5	
Satkhira	Khalifanagar	29	96.6	3.4	0.0	0.0	0.0	0.0	92.3	88.5	
<b>Coastal Area as a Whole</b>			<b>388</b>	<b>79.4</b>	<b>9.8</b>	<b>0.0</b>	<b>9.8</b>	<b>1.0</b>	<b>0.0</b>	<b>82.0</b>	<b>69.9</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	30	96.7	0.0	0.0	0.0	3.3	0.0	56.7	93.3
	Moulvibazar	Monohapur	30	93.3	3.3	0.0	3.3	0.0	0.0	77.8	37.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>60</b>	<b>95.0</b>	<b>1.7</b>	<b>0.0</b>	<b>1.7</b>	<b>1.7</b>	<b>0.0</b>	<b>66.7</b>	<b>66.7</b>
Low	Bogra	Bamonpara	28	96.4	3.6	0.0	0.0	0.0	0.0	88.5	0.0
	Naogaon	Kadoya	28	100.0	0.0	0.0	0.0	0.0	0.0	100.0	93.8
	Sirajgonj	Gongaprosad	29	93.1	0.0	0.0	0.0	6.9	0.0	92.9	28.6
	Joypurhat	Baratarra	28	89.3	10.7	0.0	0.0	0.0	0.0	100.0	84.6
	Chittagong	Hashimpur	34	88.2	11.8	0.0	0.0	0.0	0.0	93.9	84.8
	B. Baria	Horiuadi	27	100.0	0.0	0.0	0.0	0.0	0.0	85.2	66.7
	Gazipur	Bekashahara Gararon	32	93.8	6.3	0.0	0.0	0.0	0.0	79.2	58.3
	Norshingdi	Charpara	31	80.6	9.7	0.0	9.7	0.0	0.0	42.3	11.5
	Rajbari	Komorpur	28	78.6	3.6	0.0	17.9	0.0	0.0	57.7	38.5
	Chuadanga	Subdia	28	82.1	17.9	0.0	0.0	0.0	0.0	64.3	32.1
	Kushitia	Mazhgram	27	100.0	0.0	0.0	0.0	0.0	0.0	22.2	11.1
	Meherpur	Ragunathpur	31	100.0	0.0	0.0	0.0	0.0	0.0	60.0	6.7
	Kishoregonj	Rahayla	31	100.0	0.0	0.0	0.0	0.0	0.0	85.7	60.7
	Mymensingh	Gabrahkali	38	0.0	81.6	0.0	18.4	0.0	0.0	86.8	78.9
	Netrokona	Iatkundolee	26	100.0	0.0	0.0	0.0	0.0	0.0	57.7	30.8
	Sherpur	Gaglajani	39	94.9	2.6	0.0	2.6	0.0	0.0	41.0	23.1
	Natore	Mohesh Chandrapur	33	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	Nowabgonj	Dhumihayatpur	31	93.5	3.2	0.0	3.2	0.0	0.0	96.6	72.4
	Rajshahi	Kharebari	27	40.7	33.3	0.0	25.9	0.0	0.0	13.6	9.1
	Pabna	Radhakantapur	30	100.0	0.0	0.0	0.0	0.0	0.0	90.9	77.3
	Sunamgonj	Shatrumardon	30	93.3	0.0	0.0	6.7	0.0	0.0	79.3	51.7
	Dinajpur	Barkona	29	65.5	24.1	0.0	10.3	0.0	0.0	55.2	41.4
	Tangail	Dopakhali	31	64.5	35.5	0.0	0.0	0.0	0.0	52.9	0.0
	<b>Low Area as a whole</b>			<b>696</b>	<b>84.2</b>	<b>11.4</b>	<b>0.0</b>	<b>4.2</b>	<b>0.3</b>	<b>0.0</b>	<b>70.8</b>
Shallow	Comilla	Borkoit	31	96.8	3.2	0.0	0.0	0.0	0.0	41.4	41.4
	Dhaka	Deoai	34	100.0	0.0	0.0	0.0	0.0	0.0	88.2	73.5
	Munshigonj	Baroikhali	34	82.4	17.6	0.0	0.0	0.0	0.0	81.8	84.8
	Manikgonj	Pukhuria	32	53.1	46.9	0.0	0.0	0.0	0.0	93.8	40.6
	Narayanganj	Narashundapur	36	94.4	5.6	0.0	0.0	0.0	0.0	62.9	42.9
	Faridpur	Monsurabad	32	56.3	43.8	0.0	0.0	0.0	0.0	77.3	40.9
	Jessore	Atlia	32	25.0	75.0	0.0	0.0	0.0	0.0	28.1	0.0
	Jhanaidah	Achintanagar	33	33.3	66.7	0.0	0.0	0.0	0.0	69.7	3.0
	Magura	Bara Khari	27	92.6	7.4	0.0	0.0	0.0	0.0	77.8	37.0
	Narail	Sheikh Hati	32	81.4	15.6	0.0	0.0	0.0	0.0	35.5	29.0
	Gaibandha	Matharpara	34	94.1	5.9	0.0	0.0	0.0	0.0	0.0	0.0
	Kurigram	Chakir Pashar Pathak	30	90.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
	Lalmonirhat	North Batrish Hazari	32	96.9	0.0	0.0	3.1	0.0	0.0	75.0	25.0
	Nilphamari	Kazipara	33	69.7	12.1	0.0	18.2	0.0	0.0	46.7	6.7
	Rangpur	Shibu	33	90.9	3.0	0.0	0.0	0.0	6.1	0.0	0.0
	Hobigonj	Shadepur	26	100.0	0.0	0.0	0.0	0.0	0.0	80.0	76.0
	Sylhet	Borchalia	28	71.4	0.0	0.0	7.1	21.4	0.0	39.1	30.4
	Panchagorh	Kazipara	29	41.4	58.6	0.0	0.0	0.0	0.0	100.0	100.0
Thakurgaon	Boronagaon	33	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Jamalpur	Shabbajpur	33	93.9	0.0	0.0	6.1	0.0	0.0	90.9	57.6	
<b>Shallow area as a whole</b>			<b>634</b>	<b>78.4</b>	<b>18.6</b>	<b>0.0</b>	<b>1.7</b>	<b>0.9</b>	<b>0.3</b>	<b>66.4</b>	<b>41.3</b>
<b>Total Survey Area</b>			<b>1778</b>	<b>81.4</b>	<b>13.3</b>	<b>0.0</b>	<b>4.4</b>	<b>0.7</b>	<b>0.1</b>	<b>72.0</b>	<b>51.0</b>

**Table B.7 Drinking Water Related Habit-Issue of purification**

Hydro-geological Area	District	Sample Village	Total Sample HH	Information regarding the use of water from Non-technological source for drinking purposes					
				have used					
				Drank only after boiling	Used after purifying through (Fitkari)	Used after filtering through filter	Used after purifying through purifier tablets	Drank after straining	Used without any form of purification/ filter
			HH%	HH%	HH%	HH%	HH%	HH%	
Coastal	Barisal	West Tetulia	0	0.0	0.0	0.0	0.0	0.0	0.0
	Bhola	West Charsamaiya	0	0.0	0.0	0.0	0.0	0.0	0.0
	Jhalokati	Suktagoan	1	100.0	0.0	0.0	0.0	0.0	0.0
	Pirojpur	Mahmudkanda	2	0.0	50.0	50.0	0.0	0.0	0.0
	Feni	Salam Nagar	0	0.0	0.0	0.0	0.0	0.0	0.0
	Laxmipur	Char Rohita	1	100.0	0.0	0.0	0.0	0.0	0.0
	Noakhali	Char Jabbar	5	0.0	40.0	0.0	0.0	0.0	60.0
	Gopalganj	Rajapur	6	0.0	0.0	0.0	0.0	0.0	100.0
	Madaripur	Shreenathdi	0	0.0	0.0	0.0	0.0	0.0	0.0
	Shariatpur	Dakkhin Goidi	0	0.0	0.0	0.0	0.0	0.0	0.0
	Bagerhat	Rajapur	32	3.1	90.6	0.0	0.0	0.0	6.3
	Khulna	Betagram	1	0.0	0.0	0.0	0.0	0.0	100.0
Satkhira	Khailinagar	0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Coastal Area as a Whole</b>			<b>48</b>	<b>6.3</b>	<b>66.7</b>	<b>2.1</b>	<b>0.0</b>	<b>0.0</b>	<b>25.0</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	1	0.0	0.0	0.0	0.0	0.0	100.0
	Moulvibazar	Monohapur	0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>
Low	Bogra	Bamonpara	0	0.0	0.0	0.0	0.0	0.0	0.0
	Naogaon	Kadoya	0	0.0	0.0	0.0	0.0	0.0	0.0
	Sirajgonj	Gongaprosad	5	0.0	0.0	0.0	0.0	0.0	100.0
	Joypurhat	Baratara	0	0.0	0.0	0.0	0.0	0.0	0.0
	Chittagong	Hashimpur	0	0.0	0.0	0.0	0.0	0.0	0.0
	B. Baria	Horinadi	0	0.0	0.0	0.0	0.0	0.0	0.0
	Gazipur	Bekashahara Gararon	0	0.0	0.0	0.0	0.0	0.0	0.0
	Norshingdi	Charpara	3	0.0	0.0	0.0	0.0	0.0	100.0
	Rajbari	Komorpur	5	0.0	20.0	0.0	0.0	0.0	80.0
	Chuadanga	Subdia	0	0.0	0.0	0.0	0.0	0.0	0.0
	Kushtia	Mazhgram	0	0.0	0.0	0.0	0.0	0.0	0.0
	Meherpur	Raghunathpur	0	0.0	0.0	0.0	0.0	0.0	0.0
	Kishoregonj	Rahayla	0	0.0	0.0	0.0	0.0	0.0	0.0
	Mymensingh	Gabrakhali	7	0.0	0.0	0.0	0.0	100.0	0.0
	Netrokona	Hatkundolee	0	0.0	0.0	0.0	0.0	0.0	0.0
	Sherpur	Gagajani	1	0.0	0.0	0.0	0.0	100.0	0.0
	Natore	Mohesh Chandrapur	1	0.0	0.0	0.0	0.0	0.0	100.0
	Nowabgonj	Dhumihayatpur	1	100.0	0.0	0.0	0.0	0.0	0.0
	Rajshahi	Kharebari	7	0.0	0.0	0.0	0.0	0.0	100.0
	Pabna	Radhakantapur	0	0.0	0.0	0.0	0.0	0.0	0.0
	Sunamgonj	Shatrumardon	0	0.0	0.0	0.0	0.0	0.0	0.0
	Dinajpur	Barkona	3	0.0	0.0	0.0	0.0	0.0	100.0
	Tangail	Dopakhal	1	0.0	0.0	0.0	0.0	0.0	100.0
<b>Low Area as a whole</b>			<b>34</b>	<b>2.9</b>	<b>2.9</b>	<b>0.0</b>	<b>0.0</b>	<b>23.5</b>	<b>70.6</b>
Shallow	Comilla	Borkoit	0	0.0	0.0	0.0	0.0	0.0	0.0
	Dhaka	Deonai	0	0.0	0.0	0.0	0.0	0.0	0.0
	Munshigonj	Baroikhali	1	0.0	100.0	0.0	0.0	0.0	0.0
	Manikgonj	Pukhuria	0	0.0	0.0	0.0	0.0	0.0	0.0
	Narayangonj	Narashundapur	1	100.0	0.0	0.0	0.0	0.0	0.0
	Faridpur	Monsurabad	0	0.0	0.0	0.0	0.0	0.0	0.0
	Jessore	Atlia	0	0.0	0.0	0.0	0.0	0.0	0.0
	Jhainadah	Achintanagar	0	0.0	0.0	0.0	0.0	0.0	0.0
	Magura	Bara Khari	0	0.0	0.0	0.0	0.0	0.0	0.0
	Narail	Sheikh Hati	0	0.0	0.0	0.0	0.0	0.0	0.0
	Gaibandha	Matharpara	0	0.0	0.0	0.0	0.0	0.0	0.0
	Kurigram	Chakir Pashar Pathak	0	0.0	0.0	0.0	0.0	0.0	0.0
	Lalmonirhat	North Battirish Hazari	1	0.0	0.0	0.0	0.0	0.0	100.0
	Nilphamari	Kazipara	6	0.0	0.0	0.0	0.0	0.0	100.0
	Rangpur	Shibu	3	0.0	0.0	0.0	0.0	0.0	100.0
	Hobigonj	Shadekpur	0	0.0	0.0	0.0	0.0	0.0	0.0
	Sylhet	Borchalia	8	12.5	0.0	0.0	0.0	0.0	87.5
	Panchagorh	Kazipara	1	100.0	0.0	0.0	0.0	0.0	0.0
	Thakurgaon	Borunagaon	0	0.0	0.0	0.0	0.0	0.0	0.0
	Jamalpur	Shahbajpur	0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>Shallow area as a whole</b>			<b>21</b>	<b>14.3</b>	<b>4.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total Survey Area</b>			<b>104</b>	<b>6.7</b>	<b>32.7</b>	<b>1.0</b>	<b>0.0</b>	<b>7.7</b>	<b>51.9</b>

**Table B.8: Water sources for purposes other than drinking**

Hydro-geological Area	District	Sample Village	Gargling and mouth washing		Raw Food/ Vegetable		Utensil Washing		Cooking	
			Safe TW/Pump/ Plants	Unsafe Sources	Safe TW/Pump/ Plants	Unsafe Sources	Safe TW/Pump/ Plants	Unsafe Sources	Safe TW/Pump/ Plants	Unsafe Sources
			HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%
Coastal	Barisal	West Tetulia	3.1	96.9	3.1	96.9	3.1	96.9	9.4	90.6
	Bhola	West Charsamaiya	0.0	100.0	10.0	90.0	3.3	96.7	83.3	16.7
	Jhalokati	Suktagoan	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0
	Pirojpur	Mahmudkanda	0.0	100.0	0.0	100.0	3.4	96.6	3.4	96.6
	Feni	Salam Nagar	4.0	96.0	4.0	96.0	16.0	84.0	4.0	96.0
	Laxmipur	Char Rohita	9.4	90.6	12.5	87.5	9.4	90.6	59.4	40.6
	Noakhali	Char Jabbar	3.0	97.0	3.0	97.0	6.1	93.9	27.3	72.7
	Gopalganj	Rajapur	0.0	100.0	9.7	90.3	6.5	93.5	9.7	90.3
	Madaripur	Shreenathdi	0.0	100.0	6.7	93.3	3.3	96.7	23.3	76.7
	Shariatpur	Dakkhin Goadi	0.0	100.0	10.7	89.3	7.1	92.9	21.4	78.6
	Bagerhat	Rajapur	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0
Khulna	Betagram	0.0	100.0	10.0	90.0	20.0	80.0	36.7	63.3	
	Satkhira	Khallinagar	24.1	75.9	65.5	34.5	93.1	6.9	89.7	10.3
<b>Coastal Area as a Whole</b>			<b>3.4</b>	<b>96.6</b>	<b>10.3</b>	<b>89.7</b>	<b>12.9</b>	<b>87.1</b>	<b>28.7</b>	<b>71.3</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	16.7	83.3	20.0	80.0	23.3	76.7	56.7	43.3
	Moulvibazar	Monohapur	33.3	66.7	51.7	48.3	43.3	56.7	66.7	33.3
<b>Hilly &amp; Stony Area as a Whole</b>			<b>25.0</b>	<b>75.0</b>	<b>35.6</b>	<b>64.4</b>	<b>33.3</b>	<b>66.7</b>	<b>61.7</b>	<b>38.3</b>
Low	Bogra	Bamonpara	60.7	39.3	85.7	14.3	82.1	17.9	96.4	3.6
	Naogaon	Kadoya	100.0	0.0	100.0	0.0	92.9	7.1	100.0	0.0
	Sirajgonj	Gongaprosad	3.4	96.6	13.8	86.2	13.8	86.2	10.3	89.7
	Joypurhat	Baratara	60.7	39.3	82.1	17.9	82.1	17.9	89.3	10.7
	Chittagong	Hashimpur	2.9	97.1	11.8	88.2	11.8	88.2	61.8	38.2
	B. Baria	Horinadi	11.1	88.9	48.1	51.9	59.3	40.7	100.0	0.0
	Gazipur	Bekashahara Gararon	28.1	71.9	53.1	46.9	56.3	43.8	84.4	15.6
	Norshingdi	Charpara	67.7	32.3	80.6	19.4	80.6	19.4	80.6	19.4
	Rajbari	Komorpur	21.4	78.6	25.0	75.0	17.9	82.1	25.0	75.0
	Chuadanga	Subdia	78.6	21.4	82.1	17.9	82.1	17.9	85.7	14.3
	Kushia	Mazhgram	3.7	96.3	63.0	37.0	66.7	33.3	74.1	25.9
	Meherpur	Raghunathpur	90.3	9.7	96.8	3.2	96.8	3.2	96.8	3.2
	Kishoregonj	Rahayla	16.1	83.9	64.5	35.5	74.2	25.8	96.8	3.2
	Mymensingh	Gabrakhali	0.0	100.0	7.9	92.1	0.0	100.0	0.0	100.0
	Netrokona	Hatkundolee	3.8	96.2	7.7	92.3	19.2	80.8	42.3	57.7
	Sherpur	Gaglajani	92.3	7.7	92.3	7.7	92.3	7.7	94.9	5.1
	Natore	Mohesh Chandrapur	15.2	84.8	63.6	36.4	57.6	42.4	100.0	0.0
	Nowabgonj	Dhumihayatpur	83.9	16.1	83.9	16.1	83.9	16.1	93.5	6.5
	Rajshahi	Kharerbari	18.5	81.5	25.9	74.1	25.9	74.1	40.7	59.3
	Pabna	Radhakantapur	90.0	10.0	90.0	10.0	90.0	10.0	90.0	10.0
	Sunamgonj	Shatrumardon	9.7	90.3	19.4	80.6	13.3	86.7	23.3	76.7
Dinajpur	Barkona	65.5	34.5	65.5	34.5	65.5	34.5	65.5	34.5	
Tangail	Dopakhali	22.6	77.4	51.6	48.4	51.6	48.4	61.3	38.7	
<b>Low Area as a whole</b>			<b>41.3</b>	<b>58.7</b>	<b>57.1</b>	<b>42.9</b>	<b>57.0</b>	<b>43.0</b>	<b>70.0</b>	<b>30.0</b>
Shallow	Comilla	Borkoit	3.1	96.9	12.5	87.5	6.3	93.8	35.5	64.5
	Dhaka	Deonai	94.1	5.9	100.0	0.0	100.0	0.0	100.0	0.0
	Munshigonj	Baroikhali	5.9	94.1	11.8	88.2	8.8	91.2	29.4	70.6
	Manikgonj	Pukhuria	43.8	56.3	46.9	53.1	46.9	53.1	53.1	46.9
	Narayanganj	Narashundapur	27.8	72.2	30.6	69.4	30.6	69.4	30.6	69.4
	Faridpur	Monsurabad	6.3	93.8	53.1	46.9	53.1	46.9	59.4	40.6
	Jessore	Atlia	25.0	75.0	25.0	75.0	25.0	75.0	25.0	75.0
	Jhainadah	Achintanagar	33.3	66.7	33.3	66.7	33.3	66.7	33.3	66.7
	Magura	Bara Khari	92.6	7.4	92.6	7.4	92.6	7.4	92.6	7.4
	Narail	Sheikh Hati	3.1	96.9	31.3	68.8	43.8	56.3	62.5	37.5
	Gaibandha	Matharpara	47.1	52.9	29.4	70.6	38.2	61.8	94.1	5.9
	Kurigram	Chakir Pashar Pathak	10.0	90.0	90.0	10.0	90.0	10.0	90.0	10.0
	Lalmonirhat	North Battrish Hazari	93.8	6.3	96.9	3.1	93.8	6.3	96.9	3.1
	Nilphamari	Kazipara	57.6	42.4	63.6	36.4	57.6	42.4	66.7	33.3
	Rangpur	Shibu	66.7	33.3	87.9	12.1	84.8	15.2	90.9	9.1
	Hobigonj	Shadekpur	7.7	92.3	30.8	69.2	38.5	61.5	92.3	7.7
	Sylhet	Borchalia	0.0	100.0	0.0	100.0	0.0	100.0	10.7	89.3
	Panchagarh	Kazipara	37.9	62.1	37.9	62.1	37.9	62.1	41.4	58.6
	Thakurgaon	Boronagaon	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
	Jamalpur	Shahbajpur	15.2	84.8	42.4	57.6	42.4	57.6	93.8	6.3
<b>Shallow area as a whole</b>			<b>38.9</b>	<b>61.1</b>	<b>50.9</b>	<b>49.1</b>	<b>51.2</b>	<b>48.8</b>	<b>64.8</b>	<b>35.2</b>
<b>Total Survey Area</b>			<b>31.6</b>	<b>68.4</b>	<b>44.0</b>	<b>56.0</b>	<b>44.5</b>	<b>55.5</b>	<b>58.8</b>	<b>41.2</b>

### C. Issue of Environmental Sanitation

Table C.1: Sanitation Hardware Status (Unit)

Hydro-geological Area	District	Sample Village	Total HH of the selected portion	Pit Latrine		Number of Ring Slab		Number of Septic/Offset		Hanging and open latrine		Total latrine	Ring Slab latrine have proper Gooseneck
				No	%	No	%	No	%	No	%	No.	Unit%
Coastal	Barisal	West Tetulia	321	0	0	43	13	0	0	278	87	321	25
	Bhola	West Charsamaiya	300	0	0	39	13	2	1	259	86	300	25
	Jhalokati	Suktagoan	270	35	13	25	9	0	0	210	78	270	50
	Projpur	Mahmudkanda	293	0	0	67	23	8	3	211	74	296	29
	Feni	Salam Nagar	254	5	4	37	30	4	3	79	63	125	25
	Laxmipur	Char Rohita	323	11	3	30	9	8	3	271	85	320	33
	Noakhali	Char Jabbar	325	0	0	9	3	1	0	315	97	325	50
	Gopalganj	Rajapur	309	0	0	22	7	0	0	287	93	309	50
	Madaripur	Shreenaladi	300	0	0	66	22	1	0	233	78	300	17
	Shariatpur	Dakkhin Goidi	280	0	0	41	15	7	3	232	83	280	25
	Bagerhat	Rajapur	324	29	22	24	18	1	1	78	59	132	50
	Khuina	Beltagram	300	193	64	41	14	10	3	56	19	300	25
Saikhira	Khallinagar	288	116	41	44	15	26	9	99	35	285	25	
<b>Coastal Area as a Whole</b>			<b>3887</b>	<b>389</b>	<b>11</b>	<b>488</b>	<b>14</b>	<b>68</b>	<b>2</b>	<b>2608</b>	<b>73</b>	<b>3553</b>	<b>29</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	298	5	2	24	8	2	1	267	90	298	50
	Moulvibazar	Monoharpur	304	99	33	13	4	32	11	160	53	304	0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>602</b>	<b>104</b>	<b>17</b>	<b>37</b>	<b>6</b>	<b>34</b>	<b>6</b>	<b>427</b>	<b>71</b>	<b>602</b>	<b>25</b>
Low Area	Bogra	Bamonpara	276	48	17	58	21	18	7	152	55	276	0
	Naogaon	Kadoya	276	7	12	32	55	5	9	14	24	58	33
	Sirajgonj	Gongaprosad	290	0	0	31	11	22	8	220	81	273	33
	Joypurhat	Baralara	280	0	0	68	80	7	8	10	12	85	43
	Chittagong	Hashimpur	336	21	6	105	31	22	7	188	56	336	40
	B. Baria	Horinadi	265	23	9	4	2	14	5	224	85	265	50
	Gazipur	Bekashahara Gararon	324	187	58	69	21	21	6	47	15	324	57
	Norshingdi	Charpara	312	15	39	13	34	10	26	0	0	35	50
	Rajbari	Komorpur	275	37	13	12	4	1	0	225	82	275	0
	Chuadanga	Subdia	278	29	40	20	27	24	33	0	0	73	0
	Kushlia	Maazhgram	270	154	71	51	24	7	3	5	2	217	40
	Meherpur	Raghunathpur	310	95	72	23	17	14	11	0	0	132	0
	Kishoregonj	Rahayla	310	0	0	6	5	1	1	125	95	132	100
	Mymensingh	Gabrakhali	381	10	3	21	6	0	0	350	92	381	0
	Netrokona	Hatkundolee	257	0	0	40	59	0	0	29	41	69	50
	Sherpur	Gaglajani	385	15	4	40	10	0	0	330	86	385	25
	Natore	Mohesh Chandrapur	325	0	0	18	15	0	0	104	85	122	50
	Nowabgonj	Dhumihaipalpur	307	103	53	35	18	55	28	0	0	193	50
	Rajshahi	Kharerbari	268	0	0	5	7	6	8	64	85	75	0
	Pabna	Radhakantapur	300	95	39	15	6	3	1	131	54	244	50
Sunamgonj	Shatrumardon	312	0	0	20	6	10	3	282	90	312	50	
Dinajpur	Barkona	290	16	14	35	31	48	42	15	13	114	50	
Tangail	Dopakhali	311	13	6	32	15	5	2	164	77	214	0	
<b>Low Area as a Whole</b>			<b>6998</b>	<b>868</b>	<b>19</b>	<b>753</b>	<b>16</b>	<b>293</b>	<b>6</b>	<b>2678</b>	<b>58</b>	<b>4592</b>	<b>35</b>
Shallow Area	Comilla	Borkoit	325	10	15	31	48	6	9	18	28	65	33
	Dhaka	Deonai	340	112	40	42	15	8	3	120	43	282	25
	Munshigonj	Baroikhali	340	7	2	26	8	14	4	293	86	340	33
	Manikgonj	Pukhuria	315	19	6	58	18	8	3	230	73	315	50
	Narayangonj	Narashundapur	357	0	0	17	5	5	1	333	94	355	50
	Faridpur	Monsurabad	320	0	0	1	0	0	0	319	100	320	0
	Jessore	Atlia	315	110	64	43	25	20	12	0	0	173	20
	Jhanaidah	Achintanagar	285	103	63	30	18	17	10	13	8	163	25
	Magura	Bara Khan	269	67	57	34	29	17	14	0	0	118	25
	Narail	Sheikh Hati	321	193	71	54	20	23	9	0	0	270	17
	Gaibandha	Matharpara	340	0	0	55	16	0	0	285	84	340	40
	Kurigram	Chakir Pashar Pathak	300	11	21	42	79	0	0	0	0	53	25
	Lalmonirhat	North Baltrish Hazari	321	106	74	23	16	14	10	0	0	143	33
	Nilphamari	Kazipara	325	20	77	2	8	4	15	0	0	26	0
	Rangpur	Shibu	329	7	6	15	13	1	1	93	80	116	0
	Hobigonj	Shadekpur	261	71	31	18	8	6	3	135	59	230	50
	Sylhet	Borchalia	283	197	85	11	5	7	3	17	7	232	0
	Panchagarh	Kazipara	285	0	0	21	91	2	9	0	0	23	50
Thakurgaon	Borunagaon	325	100	52	60	31	12	6	20	10	192	33	
Jamalpur	Shahbajpur	327	20	19	34	32	8	8	43	41	105	33	
<b>Shallow Area as a Whole</b>			<b>6283</b>	<b>1153</b>	<b>30</b>	<b>617</b>	<b>16</b>	<b>172</b>	<b>4</b>	<b>1919</b>	<b>50</b>	<b>3861</b>	<b>31</b>
<b>Total Survey Area</b>			<b>17710</b>	<b>2514</b>	<b>20</b>	<b>1895</b>	<b>15</b>	<b>567</b>	<b>4</b>	<b>7632</b>	<b>61</b>	<b>12608</b>	<b>32</b>

Table C.2: Ownership pattern wise Septic/Offset/Ring Slab/ Pit latrine (Unit) &amp; information regarding Ring Slab Production centre

Hydro-geological Area	District	Sample Village	Ownership wise Septic/Offset/Ring Slab/Pit latrine										Information regarding Ring Slab production centre exit in the village/nearest to the village										
			Total	Owned by single H/H		Owned by multiple H/H		Other category		VSC situated in the entire Village	Distance between village and nearest VSC (if the village does not have any VSC) (In Miles)	The running authority of the VSC(s) situated in the village/nearest place											
				No.	%	No.	%	No.	%			No.	%	Total	Private		Govt.		NGOF Supported		Other NGO		
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Coastal	Barisal	West Tetulia	43	35	81	8	19	0	0	0	0	0	3	1	0	0	0	0	0	1	100	0	0
	Bhola	West Charsamaiya	41	28	68	13	32	0	0	1	0	0	1	1	100	0	0	0	0	0	0	0	
	Jhalokati	Suktagan	60	55	92	5	8	0	0	0	0	0	3	1	1	100	0	0	0	0	0	0	
	Pirojpur	Mahmudkanda	75	68	91	7	9	0	0	0	0	0	2	1	1	100	0	0	0	0	0	0	
	Feni	Salam Nagar	46	38	83	8	17	0	0	1	0	0	0	1	1	100	0	0	0	0	0	0	
	Laxmipur	Char Rohita	49	47	96	0	0	2	4	0	0	0	1	1	1	100	0	0	0	0	0	0	
	Noakhali	Char Jabbar	10	10	100	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	1	100
	Gopalganj	Rajapur	22	22	100	0	0	0	0	0	0	0	5	1	1	100	0	0	0	0	0	0	0
	Madaripur	Shreenathdi	67	60	90	7	10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	100
	Sariatpur	Dakkhin Goaldi	48	48	100	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	100	0	0
	Bagerhat	Rajapur	54	26	48	27	50	1	2	0	0	0	10	1	1	100	0	0	0	0	0	0	0
	Khulna	Betagram	244	238	98	6	2	0	0	1	0	0	0	1	0	0	0	0	0	1	100	0	0
	Saikhira	Khalinagar	186	181	97	5	3	0	0	1	0	0	0	1	0	0	0	0	1	100	0	0	0
<b>Coastal Area as a Whole</b>			<b>945</b>	<b>856</b>	<b>91</b>	<b>86</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>28</b>	<b>13</b>	<b>7</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>31</b>	<b>2</b>	<b>15</b>	<b>0</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	31	31	100	0	0	0	0	0	0	2	1	1	100	0	0	0	0	0	0	0	0
	Moulvibazar	Monoharpur	144	126	88	18	13	0	0	0	0	2	1	0	0	0	0	0	1	100	0	0	0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>175</b>	<b>157</b>	<b>90</b>	<b>18</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	
Low Table Area	Bogra	Bamonpara	124	119	96	0	0	5	4	0	0	0	1	1	100	0	0	0	0	0	0	0	
	Naogaon	Kadaya	44	44	100	0	0	0	0	0	0	2	1	1	100	0	0	0	0	0	0	0	
	Sirajgonj	Gongoprosad	53	53	100	0	0	0	0	0	0	3	2	1	50	1	50	0	0	0	0	0	
	Joypurhat	Baratara	75	50	67	25	33	0	0	0	0	2	1	0	0	0	0	0	0	0	1	100	
	Chittagong	Hashampur	148	147	99	1	1	0	0	0	0	1	1	1	100	0	0	0	0	0	0	0	
	B. Baria	Horinadi	41	38	93	3	7	0	0	0	0	1	1	1	100	0	0	0	0	0	0	0	
	Gazipur	Bekashahara Gararon	277	272	98	5	2	0	0	0	0	1	1	1	100	0	0	0	0	0	0	0	
	Norsingdi	Charpara	38	29	76	9	24	0	0	0	0	2	1	0	0	0	0	0	0	1	100	0	0
	Rajbari	Komortpur	50	39	78	11	22	0	0	0	0	3	1	0	0	0	0	0	0	0	1	100	
	Chuadanga	Subdia	73	73	100	0	0	0	0	1	0	0	1	0	0	0	0	0	1	100	0	0	
	Kushilia	Mazhigram	212	186	88	26	12	0	0	0	0	1	1	0	0	0	0	0	1	100	0	0	
	Meherganj	Raghunathpur	132	131	99	1	1	0	0	0	0	2	1	0	0	0	0	0	1	100	0	0	
	Kishoreganj	Rahayla	7	7	100	0	0	0	0	0	0	3	1	1	100	0	0	0	0	0	0	0	
	Mymensingh	Gabrakhali	31	29	94	0	0	2	6	1	0	0	7	1	1	100	0	0	0	0	0	0	
	Netrokona	Hatkundolee	40	30	75	10	25	0	0	0	0	5	1	1	100	0	0	0	0	0	0	0	
	Sherpur	Gajlajani	55	55	100	0	0	0	0	0	0	2	1	1	100	0	0	0	0	0	0	0	
	Natore	Mohesh Chandrapur	19	18	100	0	0	0	0	0	0	2	2	0	0	1	50	0	0	1	50	0	0
	Newsabgonj	Dhumihatpur	193	155	80	38	20	0	0	0	0	1	1	0	0	0	0	0	1	100	0	0	
	Rajshahi	Kharerbari	11	11	100	0	0	0	0	0	0	1	2	1	50	0	0	0	0	0	1	50	
	Pabna	Radhakantapur	113	113	100	0	0	0	0	0	0	1	1	1	100	0	0	0	0	0	0	0	
Sunamgonj	Shatrumardon	30	30	100	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1	100		
Dinajpur	Barkna	99	99	100	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	100		
Tangail	Dopkhalil	50	47	94	3	6	0	0	0	0	4	1	1	100	0	0	0	0	0	0	0		
<b>Low Area as a Whole</b>			<b>1914</b>	<b>1775</b>	<b>93</b>	<b>132</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>37</b>	<b>26</b>	<b>13</b>	<b>50</b>	<b>2</b>	<b>8</b>	<b>5</b>	<b>19</b>	<b>6</b>	<b>23</b>	<b>0</b>	
Shallow Area	Comilla	Borkoit	47	43	91	4	9	0	0	1	0	0	1	1	100	0	0	0	0	0	0	0	
	Dhaka	Deonai	162	147	91	15	9	0	0	1	0	0	1	0	0	0	0	0	0	0	1	100	
	Munshiganj	Barokhali	47	47	100	0	0	0	0	5	0	5	5	100	0	0	0	0	0	0	0	0	
	Manikgonj	Pukhura	85	83	98	2	2	0	0	1	0	1	1	0	0	0	0	1	100	0	0	0	
	Narayanganj	Narashundapur	22	20	91	2	9	0	0	0	0	1	1	1	100	0	0	0	0	0	0	0	
	Faridpur	Monsurabad	1	0	0	0	0	1	100	0	0	4	2	0	0	1	50	1	50	0	0	0	
	Jessore	Atlia	173	173	100	0	0	0	0	0	0	4	2	1	50	0	0	0	1	50	0	0	
	Jhanaidah	Achinlanagar	150	124	83	26	17	0	0	0	0	4	1	0	0	0	0	0	0	0	1	100	
	Magura	Bera Khan	118	113	96	5	4	0	0	0	0	6	3	1	33	1	33	0	0	1	33		
	Narail	Sheikh Hati	270	228	84	37	14	5	2	2	0	2	1	1	50	0	0	1	50	0	0		
	Gaibandha	Matbarpara	55	55	100	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1	100	
	Kurigram	Chakir Pashar Pathak	53	48	91	5	9	0	0	1	0	0	1	1	100	0	0	0	0	0	0	0	
	Lalmonirhat	North Batrish Hazari	143	128	90	15	10	0	0	2	0	2	2	100	0	0	0	0	0	0	0	0	
	Nilphaman	Kazipara	26	26	100	0	0	0	0	0	0	14	1	0	0	0	0	0	1	100	0	0	
	Rangpur	Shibu	23	10	43	9	39	4	17	0	0	1	0	0	0	0	0	0	0	0	0	0	
	Hobiganj	Shadekpur	85	85	100	0	0	0	0	0	0	1	1	0	0	0	0	0	1	100	0	0	
	Sylhet	Borchalia	215	212	99	0	0	3	1	1	0	1	0	0	0	0	0	0	1	100	0	0	
	Panchagarh	Kazipara	23	23	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Thakurgaon	Borunagaon	172	172	100	0	0	0	0	1	0	0	1	0	0	0	0	0	1	100	0	0	
Jamalpur	Shabbajpur	62	56	90	5	8	1	2	0	0	3	1	1	100	0	0	0	0	0	0	0		
<b>Shallow Area as a Whole</b>			<b>1942</b>	<b>1803</b>	<b>93</b>	<b>125</b>	<b>6</b>	<b>14</b>	<b>1</b>	<b>15</b>	<b>4</b>	<b>28</b>	<b>14</b>	<b>50</b>	<b>2</b>	<b>7</b>	<b>8</b>	<b>29</b>	<b>4</b>	<b>14</b>	<b>0</b>		
<b>Total Survey Area</b>			<b>4976</b>	<b>4591</b>	<b>92</b>	<b>361</b>	<b>7</b>	<b>24</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>109</b>	<b>69</b>	<b>35</b>	<b>51</b>	<b>4</b>	<b>6</b>	<b>18</b>	<b>26</b>	<b>12</b>	<b>17</b>		

**Table C.3: Distance between House & Latrine (In Feet)**

Hydro-geological Area	District	Sample Village	Total Sample HH	Distance between House & Latrine(In Feet)									Highest	Lowest	Average
				Upto 15	16-30	31-45	46-60	61-75	76-100	100+					
Coastal	Barisal	West Tetulia	20	5.0	30.0	25.0	40.0	0.0	0.0	0.0	60	15	40		
	Bhola	West Charsamalya	7	28.6	42.9	28.6	0.0	0.0	0.0	0.0	35	10	25		
	Jhalokati	Suktagoan	26	11.5	19.2	19.2	34.6	7.7	7.7	0.0	100	10	45		
	Pirojpur	Mahmudkanda	26	11.5	50.0	11.5	19.2	3.8	0.0	3.8	300	12	42		
	Feni	Salam Nagar	21	42.9	42.9	9.5	4.8	0.0	0.0	0.0	60	10	22		
	Laxmipur	Char Rohita	29	20.7	41.4	24.1	13.8	0.0	0.0	0.0	60	8	30		
	Noakhali	Char Jabbar	27	7.4	63.0	11.1	14.8	3.7	0.0	0.0	70	15	32		
	Gopalganj	Rajapur	3	0.0	66.7	33.3	0.0	0.0	0.0	0.0	40	17	29		
	Madaripur	Shreenathdi	7	42.9	42.9	14.3	0.0	0.0	0.0	0.0	35	10	20		
	Shariatpur	Dakkhin Goaldi	5	20.0	60.0	20.0	0.0	0.0	0.0	0.0	35	10	25		
	Bagerhat	Rajapur	32	0.0	43.8	43.8	6.3	3.1	3.1	0.0	95	25	39		
	Khulna	Betagram	20	15.0	30.0	10.0	5.0	10.0	0.0	30.0	500	0	64		
	Satkhira	Khalilnagar	27	25.9	22.2	3.7	0.0	3.7	7.4	37.0	250	5	77		
	<b>Coastal Area as a Whole</b>			<b>250</b>	<b>16.0</b>	<b>39.6</b>	<b>18.8</b>	<b>13.6</b>	<b>3.2</b>	<b>2.0</b>	<b>6.8</b>	<b>500</b>	<b>0</b>	<b>38</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	30	46.7	50.0	0.0	0.0	0.0	0.0	3.3	160	4	23		
	Moulvibazar	Monohapur	21	57.1	42.9	0.0	0.0	0.0	0.0	0.0	24	10	16		
<b>Hilly &amp; Stony Area as a Whole</b>			<b>51</b>	<b>51.0</b>	<b>47.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2.0</b>	<b>160</b>	<b>14</b>	<b>19</b>		
Low	Bogra	Bamonpara	6	0.0	50.0	50.0	0.0	0.0	0.0	0.0	45	18	32		
	Naogaon	Kadoya	9	66.7	33.3	0.0	0.0	0.0	0.0	0.0	25	10	15		
	Sirajgonj	Gongaprosad	29	69.0	24.1	0.0	6.9	0.0	0.0	0.0	50	5	16		
	Joypurhat	Baratara	10	30.0	70.0	0.0	0.0	0.0	0.0	0.0	30	1	16		
	Chittagong	Hashimpur	34	38.2	29.4	2.9	2.9	0.0	11.8	14.7	300	4	55		
	B. Baria	Horinadi	25	48.0	44.0	4.0	4.0	0.0	0.0	0.0	50	6	20		
	Gazipur	Bekashahara Gararon	29	13.8	51.7	24.1	3.4	3.4	0.0	3.4	150	10	33		
	Norshingdi	Charpara	14	14.3	50.0	21.4	0.0	7.1	0.0	7.1	150	10	40		
	Rajbari	Komorpur	13	7.7	53.8	23.1	15.4	0.0	0.0	0.0	50	15	32		
	Chuadanga	Subdia	14	28.6	28.6	21.4	14.3	0.0	7.1	0.0	100	3	32		
	Kushtia	Mazhgram	16	18.8	31.3	18.8	25.0	6.3	0.0	0.0	70	10	33		
	Meherpur	Raghunathpur	18	11.1	16.7	44.4	11.1	0.0	11.1	5.6	125	7	47		
	Kishoregonj	Rahayla	27	7.4	33.3	7.4	29.6	3.7	11.1	7.4	150	15	54		
	Mymensingh	Gabrakhali	9	22.2	44.4	11.1	22.2	0.0	0.0	0.0	50	10	28		
	Netrokona	Hatkundolee	6	0.0	66.7	16.7	16.7	0.0	0.0	0.0	50	20	32		
	Sherpur	Gaglajani	24	20.8	16.7	37.5	16.7	0.0	4.2	4.2	200	3	43		
	Natore	Mohesh Chandrapur	32	21.9	21.9	0.0	15.6	9.4	15.6	15.6	500	7	77		
	Nowabgonj	Dhumihatpur	28	10.7	14.3	3.6	10.7	0.0	17.9	42.9	500	10	151		
	Rajshahi	Kharerbari	14	0.0	35.7	7.1	21.4	7.1	28.6	0.0	100	30	59		
	Pabna	Radhakantapur	20	10.0	45.0	5.0	10.0	0.0	10.0	20.0	300	5	75		
	Sunamgonj	Shatrumardon	13	38.5	53.8	0.0	0.0	0.0	0.0	7.7	150	5	25		
	Dinajpur	Barkona	7	28.6	28.6	0.0	42.9	0.0	0.0	0.0	50	15	34		
	Tangail	Dopakhali	14	7.1	64.3	7.1	14.3	0.0	7.1	0.0	80	15	33		
	<b>Low Area as a whole</b>			<b>411</b>	<b>24.1</b>	<b>35.5</b>	<b>11.9</b>	<b>11.7</b>	<b>1.9</b>	<b>6.8</b>	<b>8.0</b>	<b>500</b>	<b>1</b>	<b>43</b>	
Shallow	Cornilla	Borkoit	17	76.5	17.6	0.0	0.0	0.0	5.9	0.0	100	8	19		
	Dhaka	Deonai	27	29.6	25.9	18.5	22.2	0.0	3.7	0.0	100	5	32		
	Munshigonj	Baroikhali	29	48.3	37.9	3.4	0.0	3.4	3.4	3.4	500	5	39		
	Manikgonj	Pukhuria	31	9.7	41.9	3.2	29.0	0.0	16.1	0.0	100	10	44		
	Narayangonj	Narashundapur	34	50.0	50.0	0.0	0.0	0.0	0.0	0.0	30	5	17		
	Faridpur	Monsurabad	31	93.5	6.5	0.0	0.0	0.0	0.0	0.0	30	5	12		
	Jessore	Atlia	16	6.3	68.8	12.5	6.3	0.0	0.0	6.3	200	10	37		
	Jhanaidah	Achintanagar	23	13.0	30.4	8.7	34.8	8.7	0.0	4.3	150	10	43		
	Magura	Bara Khari	21	0.0	47.6	52.4	0.0	0.0	0.0	0.0	45	20	33		
	Narail	Sheikh Hati	14	7.1	28.6	21.4	28.6	0.0	7.1	7.1	200	15	53		
	Gaibandha	Matharpara	6	0.0	0.0	16.7	83.3	0.0	0.0	0.0	60	40	53		
	Kurigram	Chakir Pashar Pathak	14	0.0	35.7	7.1	28.6	14.3	14.3	0.0	80	20	49		
	Lalmonirhat	North Batrish Hazari	18	38.9	61.1	0.0	0.0	0.0	0.0	0.0	30	5	18		
	Nilphamari	Kazipara	8	25.0	25.0	37.5	0.0	0.0	12.5	0.0	100	15	38		
	Rangpur	Shibu	16	31.3	50.0	6.3	12.5	0.0	0.0	0.0	50	10	26		
	Hobigonj	Shadepur	24	12.5	25.0	12.5	8.3	16.7	8.3	16.7	200	5	64		
	Sylhet	Borchalia	26	65.4	19.2	3.8	3.8	0.0	7.7	0.0	100	5	20		
	Panchagorh	Kazipara	10	50.0	30.0	10.0	10.0	0.0	0.0	0.0	50	8	21		
	Thakurgaon	Boronagaon	19	89.5	5.3	0.0	0.0	0.0	5.3	0.0	100	5	17		
	Jamalpur	Shahbajpur	21	0.0	4.8	14.3	19.0	14.3	38.1	9.5	280	30	84		
	<b>Shallow area as a whole</b>			<b>405</b>	<b>35.8</b>	<b>31.4</b>	<b>9.6</b>	<b>11.6</b>	<b>3.0</b>	<b>6.2</b>	<b>2.5</b>	<b>500</b>	<b>5</b>	<b>36</b>	
<b>Total Survey Area</b>			<b>1117</b>	<b>27.8</b>	<b>35.5</b>	<b>12.1</b>	<b>11.5</b>	<b>2.5</b>	<b>5.2</b>	<b>5.5</b>	<b>500</b>	<b>0</b>	<b>38</b>		

Table C4: Defecation site

Hydro-geological Area	District	Sample Village	Defecation sites											
			Septic/Offset/Ring slab Latrine			Pit			Hanging/open Latrine			Open place/bush/others		
			Member Category			Member Category			Member Category			Member Category		
			M	F	C<5	M	F	C<5	M	F	C<5	M	F	C<5
			HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%	HH%
Coastal	Barisal	West Tetulia	12.5	12.5	0.0	0.0	0.0	0.0	62.5	65.6	13.3	25.0	21.9	86.7
	Bhola	West Charsamalya	13.3	13.3	0.0	0.0	0.0	0.0	73.3	76.7	0.0	13.3	10.0	100.0
	Jhalokati	Suktagoan	7.4	7.4	12.5	14.8	14.8	12.5	74.1	74.1	6.3	3.7	3.7	68.8
	Pirojpur	Mahmudkanda	24.1	24.1	5.9	3.4	3.4	0.0	58.6	62.1	11.8	13.8	10.3	82.4
	Feni	Salam Nagar	16.0	16.0	0.0	4.0	4.0	0.0	36.0	40.0	0.0	44.0	40.0	100.0
	Laxmipur	Char Rohita	12.5	12.5	7.7	3.1	3.1	0.0	71.9	71.9	7.7	12.5	12.5	84.6
	Noakhali	Char Jabbar	3.0	3.0	4.3	0.0	0.0	0.0	78.8	81.8	8.7	18.2	15.2	87.0
	Gopalganj	Rajapur	6.5	6.5	0.0	0.0	0.0	0.0	45.2	48.4	0.0	48.4	45.2	100.0
	Madaripur	Shreenathdi	20.0	20.0	0.0	0.0	0.0	0.0	70.0	73.3	0.0	10.0	6.7	100.0
	Shariatpur	Dakshin Goidi	17.9	17.9	0.0	0.0	0.0	0.0	60.7	60.7	0.0	21.4	21.4	100.0
	Bagerhat	Rajapur	6.3	6.3	14.3	9.4	9.4	0.0	21.9	25.0	28.6	62.5	59.4	57.1
	Khulna	Betagram	16.7	16.7	9.1	50.0	56.7	0.0	13.3	13.3	0.0	20.0	13.3	90.9
	Satkhira	Khailnagar	24.1	24.1	38.5	31.0	34.5	0.0	27.6	31.0	7.7	17.2	10.3	53.8
<b>Coastal Area as a Whole</b>			<b>13.7</b>	<b>13.7</b>	<b>7.0</b>	<b>8.8</b>	<b>9.5</b>	<b>1.1</b>	<b>53.6</b>	<b>55.9</b>	<b>7.0</b>	<b>24.0</b>	<b>20.9</b>	<b>84.9</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	6.7	6.7	0.0	3.3	3.3	0.0	80.0	80.0	15.0	10.0	10.0	85.0
	Moulvibazar	Monohapur	13.3	13.3	0.0	30.0	30.0	0.0	46.7	46.7	0.0	10.0	10.0	100.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>10.0</b>	<b>10.0</b>	<b>0.0</b>	<b>16.7</b>	<b>16.7</b>	<b>0.0</b>	<b>63.3</b>	<b>63.3</b>	<b>7.3</b>	<b>10.0</b>	<b>10.0</b>	<b>92.7</b>
Low	Bogra	Bamonpara	17.9	21.4	8.3	14.3	14.3	0.0	39.3	42.9	0.0	28.6	21.4	91.7
	Naogaon	Kadoya	14.3	14.3	0.0	3.6	3.6	0.0	7.1	3.6	0.0	75.0	78.6	100.0
	Sirajgonj	Gongoprosad	17.2	17.2	20.0	0.0	0.0	0.0	72.4	75.9	0.0	10.3	6.9	80.0
	Joypurhat	Barataria	25.0	25.0	18.2	0.0	0.0	0.0	7.1	3.6	9.1	67.9	71.4	72.7
	Chittagong	Hashimpur	29.4	35.3	23.1	5.9	5.9	0.0	52.9	52.9	7.7	11.8	5.9	69.2
	B. Baria	Horinadi	7.4	7.4	8.3	7.4	7.4	0.0	74.1	81.5	8.3	11.1	3.7	83.3
	Gazipur	Bekashahara Gararon	28.1	28.1	25.0	50.0	56.3	0.0	12.5	12.5	0.0	9.4	3.1	75.0
	Norshingdi	Charpara	6.5	6.5	0.0	6.5	6.5	0.0	0.0	0.0	0.0	87.1	87.1	100.0
	Rajbari	Komorpur	3.6	3.6	0.0	14.3	14.3	0.0	64.3	78.6	0.0	17.9	3.6	100.0
	Chuadanga	Subdia	14.3	14.3	0.0	14.3	14.3	7.7	0.0	0.0	0.0	71.4	71.4	92.3
	Kushtia	Mazhgram	29.6	29.6	0.0	44.4	51.9	16.7	0.0	0.0	0.0	25.9	18.5	83.3
	Meherpur	Raghnathpur	9.7	9.7	17.6	25.8	32.3	5.9	0.0	0.0	0.0	64.5	58.1	76.5
	Kishoregonj	Rahayla	3.2	3.2	6.7	0.0	0.0	0.0	41.9	45.2	13.3	54.8	51.6	80.0
	Mymensingh	Gabraxhali	5.3	5.3	0.0	2.6	2.6	3.2	78.9	86.8	0.0	13.2	5.3	96.8
	Netrokona	Hatkundolee	15.4	15.4	0.0	0.0	0.0	0.0	11.5	11.5	6.3	73.1	73.1	93.8
	Sherpur	Gagljani	10.3	10.3	0.0	5.1	5.1	0.0	76.9	82.1	0.0	7.7	2.6	100.0
	Natore	Mohesh Chandrapur	6.1	6.1	0.0	0.0	0.0	0.0	27.3	30.3	0.0	66.7	63.6	100.0
	Nowabgonj	Dhumihatpur	29.0	29.0	8.3	35.5	35.5	8.3	0.0	0.0	0.0	35.5	35.5	83.3
	Rajshahi	Kharerbari	3.7	3.7	0.0	0.0	0.0	0.0	29.6	33.3	0.0	66.7	63.0	100.0
	Pabna	Radhakantapur	6.7	6.7	5.6	30.0	30.0	0.0	33.3	40.0	0.0	30.0	23.3	94.4
	Sunamgonj	Shatrumardon	9.7	9.7	9.1	0.0	0.0	0.0	77.4	90.3	4.5	12.9	0.0	86.4
Dinajpur	Barkona	24.1	24.1	0.0	6.9	6.9	0.0	3.4	3.4	0.0	65.5	65.5	100.0	
Tangail	Dopakhali	12.9	12.9	0.0	3.2	3.2	0.0	41.9	45.2	0.0	41.9	38.7	100.0	
<b>Low Area as a whole</b>			<b>14.2</b>	<b>14.6</b>	<b>6.5</b>	<b>11.6</b>	<b>12.5</b>	<b>1.7</b>	<b>34.0</b>	<b>37.0</b>	<b>2.4</b>	<b>40.2</b>	<b>35.9</b>	<b>89.4</b>
Shallow	Comilla	Borkoit	9.4	9.4	0.0	3.1	3.1	0.0	6.3	6.3	0.0	81.3	81.3	100.0
	Dhaka	Deonai	14.7	14.7	0.0	35.3	35.3	0.0	32.4	32.4	0.0	17.6	17.6	100.0
	Munshigonj	Baroikhali	11.8	11.8	0.0	2.9	2.9	0.0	76.5	82.4	21.1	8.8	2.9	78.9
	Manikgonj	Pukhuria	21.9	21.9	23.1	6.3	6.3	15.4	62.5	68.8	30.8	9.4	3.1	30.8
	Narayanganj	Narashundapur	5.6	5.6	15.4	0.0	0.0	0.0	83.3	88.9	15.4	11.1	5.6	69.2
	Faridpur	Monsurabad	0.0	0.0	0.0	0.0	0.0	0.0	87.5	93.8	0.0	12.5	6.3	100.0
	Jessore	Atlia	21.9	21.9	13.3	31.3	31.3	6.7	0.0	0.0	0.0	46.9	46.9	80.0
	Jhanaidah	Achintanagar	15.2	15.2	0.0	36.4	36.4	0.0	3.0	3.0	0.0	45.5	45.5	100.0
	Magura	Bara Khari	18.5	18.5	9.1	18.5	18.5	0.0	0.0	0.0	0.0	63.0	63.0	90.9
	Narail	Sheikh Hati	18.8	21.9	18.2	59.4	59.4	27.3	0.0	0.0	0.0	21.9	18.8	54.5
	Gaibandha	Matharpara	14.7	14.7	0.0	0.0	0.0	0.0	73.5	79.4	0.0	11.8	5.9	100.0
	Kurigram	Chakir Pashar Pathak	13.3	13.3	0.0	3.3	3.3	0.0	0.0	0.0	0.0	83.3	83.3	100.0
	Lalmonirhat	North Battrish Hazari	9.4	9.4	0.0	31.3	31.3	0.0	0.0	0.0	0.0	59.4	59.4	100.0
	Nilphamari	Kazipara	0.0	0.0	0.0	9.1	9.1	4.8	0.0	0.0	0.0	90.9	90.9	95.2
	Rangpur	Shibu	3.0	3.0	10.0	3.0	3.0	0.0	27.3	27.3	0.0	66.7	66.7	90.0
	Hobigonj	Shadekpur	7.7	7.7	6.3	26.9	26.9	6.3	42.3	50.0	0.0	23.1	15.4	87.5
	Sylhet	Borchalia	7.1	7.1	7.1	67.9	67.9	7.1	3.6	3.6	0.0	21.4	21.4	85.7
	Panchagarh	Kazipara	6.9	6.9	6.7	0.0	0.0	6.7	0.0	0.0	0.0	93.1	93.1	86.7
	Thakurgaon	Boronagaon	21.2	21.2	11.1	30.3	30.3	5.6	6.1	6.1	0.0	42.4	42.4	83.3
	Jamalpur	Shahbajpur	12.1	12.1	0.0	6.1	6.1	0.0	15.2	15.2	0.0	66.7	66.7	100.0
<b>Shallow area as a whole</b>			<b>11.7</b>	<b>11.8</b>	<b>6.2</b>	<b>18.1</b>	<b>18.1</b>	<b>4.3</b>	<b>26.9</b>	<b>28.8</b>	<b>3.9</b>	<b>43.3</b>	<b>41.3</b>	<b>85.6</b>
<b>Total Survey Area</b>			<b>13.0</b>	<b>13.3</b>	<b>6.2</b>	<b>13.5</b>	<b>14.0</b>	<b>2.3</b>	<b>36.7</b>	<b>39.1</b>	<b>4.3</b>	<b>36.7</b>	<b>33.7</b>	<b>87.2</b>



**Table C.5: Reason for not using hygienic latrine and hygiene related practices**

Hydro-geological Area	District	Sample Village	Reason for not using hygienic latrine			HH had cleaned pan slab	HH kept the surrounding areas of the latrine cleaned (human faeces was not there)	Use slipper for going to latrine	
			Due to lack of space	Due to lack of finance	Doesn't use septic/offset/ring slab latrine due to reasons other than lack of finance and space(Not Aware/others)				
			HH%	HH%	HH%				
Coastal	Barisal	West Tetulia	15.4	61.5	53.8	50.0	50.0	21.9	
	Bhola	West Charsamaiya	0.0	52.2	47.8	50.0	25.0	0.0	
	Jhalokati	Suktagoan	0.0	60.0	40.0	50.0	50.0	33.3	
	Pirojpur	Mahmudkanda	5.6	33.3	61.1	14.3	14.3	17.2	
	Feni	Salam Nagar	50.0	100.0	0.0	25.0	25.0	60.0	
	Laxmipur	Char Rohita	10.0	30.0	65.0	25.0	25.0	68.8	
	Noakhali	Char Jabbar	8.3	29.2	66.7	0.0	0.0	48.5	
	Gopalganj	Rajapur	0.0	74.1	100.0	0.0	0.0	6.5	
	Madaripur	Shreenathdi	0.0	30.4	100.0	16.7	16.7	10.0	
	Shariatpur	Dakkhin Goaldi	0.0	69.6	100.0	20.0	20.0	3.6	
	Bagerhat	Rajapur	0.0	30.0	70.0	33.3	33.3	50.0	
	Khulna	Betagram	0.0	0.0	100.0	22.2	22.2	10.3	
Satkhira	Khalinagar	0.0	0.0	100.0	42.9	42.9	37.9		
<b>Coastal Area as a Whole</b>			<b>5.8</b>	<b>45.3</b>	<b>71.7</b>	<b>27.6</b>	<b>25.9</b>	<b>28.4</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	0.0	34.6	65.4	50.0	50.0	20.0	
	Moulvibazar	Monohapur	4.2	83.3	33.3	50.0	50.0	3.3	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>2.0</b>	<b>58.0</b>	<b>50.0</b>	<b>50.0</b>	<b>50.0</b>	<b>11.7</b>	
Low	Bogra	Bamonpara	22.7	59.1	40.9	66.7	50.0	53.6	
	Naogaon	Kadoya	12.5	29.2	79.2	25.0	50.0	50.0	
	Sirajgonj	Gongaprosad	12.5	0.0	100.0	40.0	40.0	27.6	
	Joypurhat	Barataria	15.8	42.1	42.1	85.7	57.1	42.9	
	Chittagong	Hashimpur	5.9	17.6	94.1	41.7	50.0	44.1	
	B. Baria	Horinadi	13.3	73.3	26.7	50.0	100.0	59.3	
	Gazipur	Bekashahara Gararon	0.0	92.3	7.7	44.4	55.6	28.1	
	Norshingdi	Charpara	4.3	69.6	91.3	0.0	0.0	19.4	
	Rajbari	Komorpur	17.6	76.5	76.5	0.0	0.0	39.3	
	Chuadanga	Subdia	11.1	44.4	44.4	50.0	50.0	53.6	
	Kushtia	Mazhgram	23.5	88.2	58.8	12.5	37.5	11.1	
	Meherpur	Raghunathpur	0.0	65.2	34.8	0.0	0.0	32.3	
	Kishoregonj	Rahayla	0.0	14.3	100.0	100.0	100.0	22.6	
	Mymensingh	Gabrakhali	5.9	61.8	82.4	50.0	50.0	36.8	
	Netrokona	Hatkundolee	4.5	72.7	36.4	25.0	25.0	7.7	
	Sherpur	Gagajani	0.0	32.1	96.4	0.0	0.0	28.2	
	Natore	Mohesh Chandrapur	12.5	45.8	75.0	50.0	50.0	48.5	
	Nowabgonj	Dhumihatpur	0.0	43.8	56.3	44.4	55.6	51.6	
	Rajshahi	Kharerbari	0.0	14.8	85.2	0.0	0.0	11.1	
	Pabna	Radhakantapur	6.9	79.3	37.9	50.0	0.0	16.7	
	Sunamgonj	Shatrumardon	60.7	60.7	96.4	33.3	33.3	16.1	
	Dinajpur	Barkona	21.7	65.2	21.7	42.9	42.9	27.6	
	Tangail	Dopakhalai	10.0	35.0	65.0	25.0	25.0	16.1	
	<b>Low Area as a whole</b>			<b>11.5</b>	<b>49.9</b>	<b>66.1</b>	<b>39.6</b>	<b>42.6</b>	<b>32.4</b>
Shallow	Cornilla	Borkoit	11.1	50.0	66.7	33.3	33.3	28.1	
	Dhaka	Deonai	7.1	92.9	50.0	20.0	40.0	8.8	
	Munshigonj	Baroikhal	10.3	48.3	51.7	50.0	25.0	29.4	
	Manikgonj	Pukhuria	14.3	52.4	33.3	42.9	57.1	56.3	
	Narayanganj	Narashundapur	37.9	51.7	69.0	50.0	50.0	41.7	
	Faridpur	Monsurabad	0.0	68.8	62.5	0.0	0.0	0.0	
	Jessore	Atlia	9.1	77.3	13.6	42.9	42.9	18.8	
	Jhainadah	Achintanagar	4.3	78.3	17.4	20.0	20.0	42.4	
	Magura	Bara Khan	0.0	68.8	37.5	40.0	40.0	44.4	
	Narail	Sheikh Hati	25.9	66.7	88.9	14.3	14.3	21.9	
	Gaibandha	Matharpara	10.7	96.4	42.9	20.0	40.0	29.4	
	Kurigram	Chakir Pashar Pathak	40.0	100.0	100.0	25.0	25.0	36.7	
	Lalmonirhat	North Battirish Hazari	22.2	66.7	63.0	33.3	33.3	68.8	
	Nilphamari	Kazipara	3.0	75.8	21.2	0.0	0.0	3.0	
	Rangpur	Shibu	3.6	71.4	64.3	0.0	0.0	42.4	
	Hobigonj	Shadekpur	13.3	73.3	46.7	0.0	50.0	7.7	
	Sylhet	Borchalia	4.3	60.9	100.0	0.0	0.0	7.1	
	Panchagorh	Kazipara	0.0	90.5	33.3	50.0	50.0	65.5	
	Thakurgaon	Borunagaon	3.8	23.1	73.1	42.9	28.6	57.6	
	Jamalpur	Shahbajpur	20.7	10.3	79.3	50.0	50.0	15.2	
	<b>Shallow area as a whole</b>			<b>12.3</b>	<b>64.7</b>	<b>56.3</b>	<b>32.0</b>	<b>34.7</b>	<b>31.3</b>
	<b>Total Survey Area</b>			<b>10.3</b>	<b>54.8</b>	<b>63.0</b>	<b>34.6</b>	<b>36.3</b>	<b>30.5</b>

**Table C.6: Dispose Infants Faeces & Waste materials**

Hydro-geological Area	District	Sample Village	Dispose Infants Faeces							Faeces was seen in the courtyard	Disposes Waste materials			
			At Latrine	At a fixed Hole	At Garden	Wash in the pond/river/canal	Wash at the site of TW/pump/ plant	Any place	Left open		At a fixed Hole/place	Canal/river/ lake /pond	Any place	
			HH%	HH%	HH%	HH%	HH%	HH%	HH%		HH%	HH%	HH%	
Coastal	Barisal	West Tetulia	0.0	0.0	64.7	17.6	0.0	11.8	5.9	9.4	62.5	3.1	34.4	
	Bhola	West Charsamaiya	0.0	22.7	27.3	0.0	0.0	50.0	0.0	23.3	56.7	0.0	43.3	
	Jhalokati	Suktagoan	5.9	35.3	5.9	29.4	0.0	17.6	5.9	14.8	33.3	11.1	55.6	
	Pirojpur	Mahmudkanda	0.0	20.0	40.0	13.3	0.0	13.3	13.3	17.2	31.0	3.4	65.5	
	Feni	Salam Nagar	7.1	28.6	14.3	28.6	0.0	21.4	0.0	12.0	88.0	0.0	12.0	
	Laxmipur	Char Rohita	0.0	14.3	42.9	7.1	0.0	21.4	14.3	28.1	31.3	3.1	65.6	
	Noakhali	Char Jabbar	0.0	10.0	25.0	0.0	0.0	65.0	0.0	18.2	6.1	0.0	93.9	
	Gopalganj	Rajapur	0.0	0.0	13.3	86.7	0.0	0.0	0.0	45.2	0.0	93.5	6.5	
	Madaripur	Shreenathdi	0.0	0.0	57.1	21.4	0.0	21.4	0.0	13.3	3.4	24.1	72.4	
	Shariatpur	Dakkhin Goaldi	0.0	0.0	16.7	5.6	0.0	61.1	16.7	18.5	0.0	3.6	96.4	
	Bagerhat	Rajapur	30.8	7.7	15.4	23.1	0.0	23.1	0.0	9.4	18.8	0.0	81.3	
	Khulna	Betagram	7.7	0.0	61.5	7.7	0.0	0.0	23.1	13.8	56.7	6.7	36.7	
	Satkhira	Khalinagar	0.0	0.0	50.0	0.0	0.0	37.5	12.5	6.9	72.4	0.0	27.6	
<b>Coastal Area as a Whole</b>			<b>3.5</b>	<b>11.5</b>	<b>32.0</b>	<b>18.0</b>	<b>0.0</b>	<b>28.5</b>	<b>6.5</b>	<b>17.9</b>	<b>34.6</b>	<b>11.6</b>	<b>53.7</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	5.3	5.3	0.0	36.8	0.0	52.6	0.0	23.3	16.7	33.3	50.0	
	Moulvibazar	Monohapur	9.5	38.1	0.0	0.0	0.0	52.4	0.0	36.7	60.0	0.0	40.0	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>7.5</b>	<b>22.5</b>	<b>0.0</b>	<b>17.5</b>	<b>0.0</b>	<b>52.5</b>	<b>0.0</b>	<b>30.0</b>	<b>38.3</b>	<b>16.7</b>	<b>45.0</b>	
Low	Bogra	Bamonpara	0.0	9.1	54.5	0.0	0.0	27.3	9.1	7.1	67.9	10.7	21.4	
	Naogaon	Kadoya	0.0	16.7	0.0	0.0	33.3	33.3	16.7	3.6	67.9	0.0	32.1	
	Sirajgonj	Gongoprosad	0.0	0.0	0.0	10.0	0.0	90.0	0.0	10.3	0.0	0.0	100.0	
	Joypurhat	Baratara	0.0	0.0	0.0	54.5	0.0	36.4	9.1	10.7	71.4	3.6	25.0	
	Chittagong	Hashimpur	0.0	21.4	7.1	50.0	7.1	0.0	14.3	23.5	44.1	11.8	44.1	
	B. Baria	Horinadi	0.0	9.1	0.0	36.4	0.0	54.5	0.0	23.1	42.3	42.3	15.4	
	Gazipur	Bekashahara Gararon	0.0	60.0	0.0	0.0	10.0	20.0	10.0	8.4	65.6	0.0	34.4	
	Norshingdi	Charpara	0.0	0.0	14.3	21.4	14.3	50.0	0.0	19.4	3.2	0.0	96.8	
	Rajbari	Komorpur	9.1	9.1	0.0	27.3	0.0	54.5	0.0	17.9	53.6	0.0	46.4	
	Chuadanga	Subdia	15.4	7.7	23.1	7.7	0.0	46.2	0.0	17.9	75.0	0.0	25.0	
	Kushlia	Mazhgram	0.0	0.0	0.0	54.5	0.0	45.5	0.0	11.5	18.5	0.0	81.5	
	Meherpur	Raghunathpur	0.0	0.0	58.3	0.0	0.0	41.7	0.0	19.4	67.7	0.0	32.3	
	Kishoregonj	Rahayla	0.0	0.0	0.0	53.8	0.0	38.5	7.7	12.9	16.1	45.2	38.7	
	Mymensingh	Gabrakhali	3.3	3.3	0.0	0.0	0.0	76.7	16.7	39.5	18.4	0.0	81.6	
	Netrokona	Hatkundolee	6.3	18.8	0.0	0.0	0.0	75.0	0.0	65.4	15.4	3.8	80.8	
	Sherpur	Gaglajani	0.0	0.0	11.1	11.1	33.3	0.0	44.4	38.5	7.7	35.9	56.4	
	Natore	Mohesh Chandrapur	6.7	0.0	0.0	26.7	0.0	46.7	20.0	15.2	6.1	39.4	54.5	
	Nowabgonj	Dhumihayatpur	0.0	36.4	9.1	0.0	0.0	54.5	0.0	6.5	67.7	0.0	32.3	
	Rajshahi	Kharerbari	0.0	0.0	14.3	0.0	0.0	85.7	0.0	18.5	3.7	0.0	96.3	
	Pabna	Radhakantapur	0.0	0.0	0.0	5.9	0.0	94.1	0.0	13.3	13.3	0.0	86.7	
	Sunamgonj	Shatrumardon	0.0	50.0	15.0	25.0	0.0	10.0	0.0	22.6	58.1	16.1	25.8	
	Dinajpur	Barkona	8.3	16.7	8.3	0.0	0.0	66.7	0.0	34.5	62.1	0.0	37.9	
	Tangail	Dopakhal	0.0	15.4	7.7	0.0	0.0	76.9	0.0	12.9	35.5	12.9	51.6	
	<b>Low Area as a whole</b>			<b>2.4</b>	<b>12.1</b>	<b>9.1</b>	<b>16.5</b>	<b>3.0</b>	<b>50.5</b>	<b>6.4</b>	<b>20.0</b>	<b>37.6</b>	<b>10.1</b>	<b>52.3</b>
	Shallow	Cornilla	Borkoit	0.0	7.1	0.0	0.0	0.0	85.7	7.1	65.6	53.1	0.0	46.9
		Dhaka	Deonai	14.3	7.1	0.0	21.4	14.3	42.9	0.0	5.9	29.4	14.7	55.9
Munshigonj		Baroikhal	5.6	11.1	0.0	0.0	0.0	83.3	0.0	11.8	14.7	2.9	82.4	
Manikgonj		Pukhuria	50.0	0.0	0.0	16.7	16.7	16.7	0.0	3.1	28.1	0.0	71.9	
Narayangonj		Narashundapur	36.4	18.2	0.0	36.4	0.0	9.1	0.0	19.4	19.4	63.9	16.7	
Faridpur		Monsurabad	11.1	11.1	0.0	16.7	5.6	33.3	22.2	9.4	3.1	37.5	59.4	
Jessore		Atlia	0.0	0.0	25.0	0.0	12.5	43.8	18.8	18.8	37.5	0.0	62.5	
Jhanaidah		Achintanagar	0.0	8.3	33.3	0.0	8.3	41.7	8.3	9.1	68.8	0.0	31.3	
Magura		Bara Khari	0.0	8.3	58.3	0.0	8.3	25.0	0.0	15.4	33.3	0.0	66.7	
Narail		Sheikh Hati	0.0	0.0	11.1	33.3	0.0	55.6	0.0	6.3	28.1	0.0	71.9	
Gaibandha		Matharpara	16.7	0.0	0.0	0.0	0.0	83.3	0.0	5.9	5.9	0.0	94.1	
Kurigram		Chakir Pashar Pathak	0.0	9.1	0.0	0.0	0.0	90.9	0.0	13.3	73.3	6.7	20.0	
Lalmonirhat		North Battirish Hazari	0.0	38.5	0.0	0.0	0.0	61.5	0.0	18.8	62.5	0.0	37.5	
Nilphamari		Kazipara	0.0	0.0	0.0	0.0	0.0	91.3	8.7	33.3	24.2	0.0	75.8	
Rangpur		Shibu	0.0	14.3	0.0	0.0	21.4	64.3	0.0	15.2	30.3	0.0	69.7	
Hobigonj		Shadekpur	0.0	18.8	0.0	50.0	0.0	12.5	18.8	7.7	15.4	15.4	69.2	
Sylhet		Borchalia	8.3	0.0	0.0	8.3	0.0	83.3	0.0	25.0	7.1	14.3	78.6	
Panchagorh		Kazipara	0.0	17.6	0.0	11.8	0.0	41.2	29.4	20.7	79.3	3.4	17.2	
Thakurgaon		Boronagaon	0.0	26.7	6.7	0.0	0.0	60.0	6.7	9.1	63.6	12.1	24.2	
Jamalpur		Shahbajpur	0.0	0.0	0.0	5.9	0.0	94.1	0.0	24.2	42.4	0.0	57.6	
<b>Shallow area as a whole</b>			<b>5.1</b>	<b>10.2</b>	<b>6.2</b>	<b>9.5</b>	<b>4.0</b>	<b>57.7</b>	<b>7.3</b>	<b>16.9</b>	<b>35.8</b>	<b>8.8</b>	<b>55.4</b>	
<b>Total Survey Area</b>			<b>3.8</b>	<b>11.8</b>	<b>13.3</b>	<b>14.5</b>	<b>2.5</b>	<b>47.6</b>	<b>6.4</b>	<b>18.8</b>	<b>36.4</b>	<b>10.2</b>	<b>53.5</b>	

**D: Hand Washing Practices:**

**Table D1: Hand Washing Before Meal (Household wise)**

Hydro-geological Area	District	Sample Village	Total Sample HH	Wash One hand		Both Hands		Total Hand wash	Doesn't Wash	
				With only water	With soap	With only water	With soap			
				HH%	HH%	HH%	HH%			
Coastal	Barisal	West Tetulia	32	96.9	0.0	0.0	0.0	96.9	3.1	
	Bhola	West Charsamaiya	30	83.3	0.0	16.7	0.0	100.0	0.0	
	Jhalokati	Suktagoan	27	100.0	0.0	0.0	0.0	100.0	0.0	
	Pirojpur	Mahmudkanda	29	96.6	0.0	3.4	0.0	100.0	0.0	
	Feni	Salam Nagar	25	92.0	0.0	4.0	4.0	100.0	0.0	
	Laxmipur	Char Rohita	32	78.1	9.4	6.3	0.0	93.8	6.3	
	Noakhali	Char Jabbar	33	100.0	0.0	0.0	0.0	100.0	0.0	
	Gopalganj	Rajapur	31	25.8	0.0	0.0	3.2	29.0	71.0	
	Madaripur	Shreenathdi	30	30.0	0.0	0.0	0.0	30.0	70.0	
	Shariatpur	Dakkhin Goadi	28	100.0	0.0	0.0	0.0	100.0	0.0	
	Bagerhat	Rajapur	32	100.0	0.0	0.0	0.0	100.0	0.0	
	Khulna	Betagram	30	96.7	0.0	0.0	0.0	96.7	3.3	
	Satkhira	Khalilnagar	29	96.6	3.4	0.0	0.0	100.0	0.0	
<b>Coastal Area as a Whole</b>			<b>388</b>	<b>84.0</b>	<b>1.0</b>	<b>2.3</b>	<b>0.5</b>	<b>87.9</b>	<b>12.1</b>	
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	30	86.7	3.3	3.3	6.7	100.0	0.0	
	Moulvibazar	Monohapur	30	100.0	0.0	0.0	0.0	100.0	0.0	
<b>Hilly &amp; Stony Area as a Whole</b>			<b>60</b>	<b>93.3</b>	<b>1.7</b>	<b>1.7</b>	<b>3.3</b>	<b>100.0</b>	<b>0.0</b>	
Low	Bogra	Bamonpara	28	71.4	10.7	7.1	10.7	100.0	0.0	
	Naogaon	Kadoya	28	92.9	7.1	0.0	0.0	100.0	0.0	
	Sirajgonj	Gongaprosad	29	89.7	10.3	0.0	0.0	100.0	0.0	
	Joypurhat	Baratara	28	60.7	17.9	3.6	17.9	100.0	0.0	
	Chittagong	Hashimpur	34	82.4	0.0	14.7	2.9	100.0	0.0	
	B. Baria	Horinadi	27	74.1	18.5	0.0	7.4	100.0	0.0	
	Gazipur	Bekashahara Gararon	32	100.0	0.0	0.0	0.0	100.0	0.0	
	Norshingdi	Charpara	31	100.0	0.0	0.0	0.0	100.0	0.0	
	Rajbari	Komorpur	28	82.1	3.6	0.0	3.6	89.3	10.7	
	Chuadanga	Subdia	28	100.0	0.0	0.0	0.0	100.0	0.0	
	Kushtia	Mazhgram	27	100.0	0.0	0.0	0.0	100.0	0.0	
	Meherpur	Raghunathpur	31	100.0	0.0	0.0	0.0	100.0	0.0	
	Kishoregonj	Rahayla	31	96.8	0.0	0.0	0.0	96.8	3.2	
	Mymensingh	Gabrakhali	37	97.3	0.0	0.0	0.0	97.3	2.7	
	Netrokona	Hatkundolee	26	100.0	0.0	0.0	0.0	100.0	0.0	
	Sherpur	Gaglajani	39	51.3	0.0	0.0	0.0	51.3	48.7	
	Natore	Mohesh Chandrapur	33	78.8	3.0	15.2	3.0	100.0	0.0	
	Nowabgonj	Dhumihayatpur	31	100.0	0.0	0.0	0.0	100.0	0.0	
	Rajshahi	Kharerbari	27	100.0	0.0	0.0	0.0	100.0	0.0	
	Pabna	Radhakantapur	30	100.0	0.0	0.0	0.0	100.0	0.0	
	Sunamgonj	Shatrumardon	31	100.0	0.0	0.0	0.0	100.0	0.0	
	Dinajpur	Barkona	29	65.5	0.0	34.5	0.0	100.0	0.0	
		Tangail	Dopakhal	31	100.0	0.0	0.0	0.0	100.0	0.0
	<b>Low Area as a whole</b>			<b>696</b>	<b>88.5</b>	<b>2.9</b>	<b>3.3</b>	<b>1.9</b>	<b>96.6</b>	<b>3.4</b>
	Shallow	Comilla	Borkoit	32	90.6	0.0	9.4	0.0	100.0	0.0
Dhaka		Deonai	34	82.4	2.9	11.8	2.9	100.0	0.0	
Munshigonj		Baroikhali	34	94.1	0.0	5.9	0.0	100.0	0.0	
Manikgonj		Pukhuria	32	100.0	0.0	0.0	0.0	100.0	0.0	
Narayangonj		Narashundapur	36	69.4	8.3	16.7	5.6	100.0	0.0	
Faridpur		Monsurabad	32	56.3	0.0	0.0	0.0	56.3	43.8	
Jessore		Atlia	32	100.0	0.0	0.0	0.0	100.0	0.0	
Jhanaidah		Achintanagar	33	97.0	0.0	3.0	0.0	100.0	0.0	
Magura		Bara Khari	27	96.3	3.7	0.0	0.0	100.0	0.0	
Narail		Sheikh Hati	32	100.0	0.0	0.0	0.0	100.0	0.0	
Gaibandha		Matharpara	34	100.0	0.0	0.0	0.0	100.0	0.0	
Kurigram		Chakir Pashar Pathak	30	96.7	3.3	0.0	0.0	100.0	0.0	
Lalmonirhat		North Batrish Hazari	32	71.9	6.3	21.9	0.0	100.0	0.0	
Nilphamari		Kazipara	33	93.9	0.0	0.0	0.0	93.9	6.1	
Rangpur		Shibu	33	97.0	3.0	0.0	0.0	100.0	0.0	
Hobigonj		Shadekpur	26	96.2	3.8	0.0	0.0	100.0	0.0	
Sylhet		Borchalia	27	77.8	0.0	0.0	0.0	77.8	22.2	
Panchagorh		Kazipara	29	96.6	0.0	3.4	0.0	100.0	0.0	
Thakurgaon		Borunagaon	33	57.6	0.0	42.4	0.0	100.0	0.0	
		Jamalpur	Shahbajpur	33	100.0	0.0	0.0	0.0	100.0	0.0
<b>Shallow area as a whole</b>			<b>634</b>	<b>88.5</b>	<b>1.6</b>	<b>6.0</b>	<b>0.5</b>	<b>96.5</b>	<b>3.5</b>	
<b>Total Survey Area</b>			<b>1778</b>	<b>87.7</b>	<b>2.0</b>	<b>4.0</b>	<b>1.1</b>	<b>94.8</b>	<b>5.2</b>	

**Table D2: Hand Washing After Defecation (Household wise)**

Hydro-geological Area	District	Sample Village	Wash One hand			Washing Both Hands			Do not Wash separately	Keep Water/Soap/ Ash near latrine
			With only water	With soap	With Ash/soil	With only water	With soap	With Ash/soil		
			HH%	HH%	HH%	HH%	HH%	HH%		
Coastal	Barisal	West Totulla	15.6	3.1	6.3	0.0	0.0	0.0	75.0	3.8
	Bhola	West Charsamaiya	53.3	0.0	46.7	0.0	0.0	0.0	0.0	0.0
	Jhalokati	Suktagoon	77.8	0.0	22.2	0.0	0.0	0.0	0.0	15.4
	Pirojpur	Mahmudkanda	58.6	0.0	34.5	3.4	0.0	0.0	3.4	6.9
	Feni	Salam Nagar	40.0	20.0	20.0	4.0	8.0	8.0	0.0	8.3
	Laxmipur	Char Rohita	87.5	3.1	9.4	0.0	0.0	0.0	0.0	3.6
	Noakhali	Char Jabbar	75.8	0.0	21.2	0.0	3.0	0.0	0.0	0.0
	Gopalganj	Rajapur	71.0	6.5	16.1	0.0	0.0	0.0	6.5	0.0
	Madaripur	Shreenathdi	53.3	10.0	3.3	0.0	0.0	0.0	33.3	3.8
	Shariatpur	Dakkhin Goidi	96.4	0.0	3.6	0.0	0.0	0.0	0.0	0.0
	Bagerhat	Rajapur	84.4	12.5	3.1	0.0	0.0	0.0	0.0	0.0
	Khulna	Betagram	73.3	3.3	10.0	0.0	0.0	0.0	13.3	10.0
	Satkhira	Khallinagar	31.0	10.3	48.3	6.9	3.4	0.0	0.0	3.7
	<b>Coastal Area as a Whole</b>			<b>63.1</b>	<b>5.2</b>	<b>18.6</b>	<b>1.0</b>	<b>1.0</b>	<b>0.5</b>	<b>10.6</b>
Hilly & Stony	Cox's Bazar	Hazar Bil Noyapara	60.0	10.0	23.3	3.3	3.3	0.0	0.0	4.0
	Moulvibazar	Monohapur	63.3	0.0	30.0	0.0	0.0	6.7	0.0	0.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>61.7</b>	<b>5.0</b>	<b>26.7</b>	<b>1.7</b>	<b>1.7</b>	<b>3.3</b>	<b>0.0</b>	<b>2.2</b>
Low	Bogra	Bamonpara	42.9	17.9	17.9	7.1	7.1	7.1	0.0	10.0
	Naogaon	Kadoya	28.6	7.1	60.7	0.0	3.6	0.0	0.0	18.2
	Sirajgonj	Gongaprosad	55.2	20.7	20.7	0.0	3.4	0.0	0.0	10.3
	Joypurhat	Baratarata	25.0	14.3	35.7	10.7	14.3	0.0	0.0	33.3
	Chittagong	Hashimpur	38.2	8.8	29.4	11.8	11.8	0.0	0.0	9.4
	B. Baria	Horinadi	22.2	29.6	25.9	11.1	11.1	0.0	0.0	14.8
	Gazipur	Bekashahara Gararon	28.1	9.4	18.8	0.0	0.0	0.0	43.8	3.4
	Norshingdi	Charpara	6.5	3.2	90.3	0.0	0.0	0.0	0.0	0.0
	Rajbari	Komorpur	46.4	3.6	42.9	0.0	3.6	0.0	3.6	11.5
	Chuadanga	Subdia	3.6	25.0	67.9	0.0	3.6	0.0	0.0	16.7
	Kushtia	Mazhgram	3.7	7.4	88.9	0.0	0.0	0.0	0.0	12.5
	Meherpur	Raghunathpur	0.0	6.5	87.1	0.0	6.5	0.0	0.0	0.0
	Kishoregonj	Rahayla	41.9	0.0	54.8	0.0	0.0	0.0	3.2	6.5
	Mymensingh	Gabrakhali	97.4	2.6	0.0	0.0	0.0	0.0	0.0	5.9
	Netrokona	Hatkundolee	96.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0
	Sherpur	Gaglajani	23.7	2.6	68.4	0.0	0.0	2.6	2.6	0.0
	Natore	Mohesh Chandrapur	12.1	3.0	72.7	6.1	6.1	0.0	0.0	37.5
	Nowabgonj	Dhurmihayatpur	29.0	16.1	54.8	0.0	0.0	0.0	0.0	14.8
	Rajshahi	Kharerbari	88.9	0.0	11.1	0.0	0.0	0.0	0.0	0.0
	Pabna	Radhakantapur	20.0	3.3	76.7	0.0	0.0	0.0	0.0	4.8
	Sunamgonj	Shatrumardon	96.8	0.0	3.2	0.0	0.0	0.0	0.0	10.0
	Dinajpur	Barkona	3.4	0.0	82.8	0.0	10.3	3.4	0.0	57.1
	Tangail	Dopakhal	71.0	3.2	9.7	16.1	0.0	0.0	0.0	0.0
<b>Low Area as a whole</b>			<b>38.5</b>	<b>7.9</b>	<b>44.4</b>	<b>2.7</b>	<b>3.4</b>	<b>0.6</b>	<b>2.4</b>	<b>11.3</b>
Shallow	Comilla	Borkoit	71.9	3.1	3.1	9.4	9.4	3.1	0.0	4.5
	Dhaka	Deonai	82.4	2.9	5.9	0.0	2.9	5.9	0.0	12.5
	Munshigonj	Baroikhali	35.3	14.7	35.3	11.8	2.9	0.0	0.0	9.4
	Manikgonj	Pukhuria	3.1	15.6	81.3	0.0	0.0	0.0	0.0	38.7
	Narayangonj	Narashundapur	30.6	22.2	5.6	36.1	5.6	0.0	0.0	5.6
	Faridpur	Monsurabad	68.8	0.0	28.1	0.0	0.0	0.0	3.1	0.0
	Jessore	Atlia	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
	Jhanaidah	Achintanagar	0.0	6.1	84.8	0.0	6.1	3.0	0.0	0.0
	Magura	Bara Khari	51.9	0.0	40.7	0.0	7.4	0.0	0.0	4.8
	Narail	Sheikh Hati	0.0	3.1	96.9	0.0	0.0	0.0	0.0	0.0
	Gaibandha	Matharpara	58.8	0.0	41.2	0.0	0.0	0.0	0.0	0.0
	Kurigram	Chakir Pashar Pathak	60.0	0.0	36.7	0.0	0.0	3.3	0.0	35.7
	Lalmonirhat	North Battirish Hazari	0.0	6.3	87.5	0.0	3.1	3.1	0.0	11.1
	Nilphamari	Kazipara	6.1	0.0	36.4	0.0	0.0	0.0	57.6	0.0
	Rangpur	Shibu	21.2	12.1	63.6	0.0	0.0	3.0	0.0	0.0
	Hobigonj	Shadekpur	69.2	3.8	19.2	0.0	7.7	0.0	0.0	4.0
	Sylhet	Borchalia	75.0	3.6	3.6	0.0	0.0	0.0	17.9	0.0
	Panchagarh	Kazipara	44.8	13.8	41.4	0.0	0.0	0.0	0.0	40.0
	Thakurgaon	Borunagaon	0.0	6.1	51.5	0.0	21.2	21.2	0.0	21.1
	Jamalpur	Shahbajpur	30.3	3.0	66.7	0.0	0.0	0.0	0.0	9.5
<b>Shallow area as a whole</b>			<b>34.6</b>	<b>6.0</b>	<b>46.8</b>	<b>3.1</b>	<b>3.3</b>	<b>2.2</b>	<b>3.9</b>	<b>9.4</b>
<b>Total Survey Area</b>			<b>43.3</b>	<b>6.5</b>	<b>39.0</b>	<b>2.5</b>	<b>2.8</b>	<b>1.2</b>	<b>4.7</b>	<b>8.4</b>

**Table D.3: Hand Washing After Cleaning Children's bottom (Household wise)**

Hydro-geological Area	District	Sample Village	Total Sample HH	Wash One hand			Washing Both Hands			Do not Wash separately
				With only water	With soap	With Ash/soil	With only water	With soap	With Ash/soil	
				HH%	HH%	HH%	HH%	HH%	HH%	
Coastal	Barisal	West Tetulia	18	44.4	0.0	38.9	0.0	0.0	0.0	16.7
	Bhola	West Charsamaiya	22	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Jhalokati	Suktagoan	16	81.3	6.3	12.5	0.0	0.0	0.0	0.0
	Pirojpur	Mahmudkanda	16	75.0	0.0	18.8	0.0	0.0	6.3	0.0
	Feni	Salam Nagar	14	0.0	7.1	7.1	7.1	71.4	7.1	0.0
	Laxmipur	Char Rohita	14	50.0	14.3	28.6	7.1	0.0	0.0	0.0
	Noakhali	Char Jabbar	23	87.0	8.7	4.3	0.0	0.0	0.0	0.0
	Gopalganj	Rajapur	15	80.0	0.0	20.0	0.0	0.0	0.0	0.0
	Madaripur	Shreenathdi	13	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Shariatpur	Dakkhin Goaldi	18	83.3	0.0	16.7	0.0	0.0	0.0	0.0
	Bagerhat	Rajapur	13	46.2	0.0	53.8	0.0	0.0	0.0	0.0
	Khulna	Betagram	10	90.0	0.0	10.0	0.0	0.0	0.0	0.0
Satkhira	Khalinagar	9	33.3	11.1	55.6	0.0	0.0	0.0	0.0	
<b>Coastal Area as a Whole</b>			<b>201</b>	<b>69.7</b>	<b>3.5</b>	<b>18.4</b>	<b>1.0</b>	<b>5.0</b>	<b>1.0</b>	<b>1.5</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	20	85.0	0.0	5.0	5.0	5.0	0.0	0.0
	Moulvibazar	Monohapur	19	73.7	0.0	5.3	0.0	0.0	21.1	0.0
<b>Hilly &amp; Stony Area as a Whole</b>			<b>39</b>	<b>79.5</b>	<b>0.0</b>	<b>5.1</b>	<b>2.6</b>	<b>2.6</b>	<b>10.3</b>	<b>0.0</b>
Low	Bogra	Bamonpara	11	36.4	27.3	18.2	0.0	9.1	9.1	0.0
	Naogaon	Kadoya	5	60.0	20.0	20.0	0.0	0.0	0.0	0.0
	Sirajgonj	Gongaprosad	10	70.0	10.0	20.0	0.0	0.0	0.0	0.0
	Joypurhat	Baratara	12	41.7	8.3	16.7	0.0	33.3	0.0	0.0
	Chittagong	Hashimpur	18	38.9	11.1	22.2	0.0	22.2	5.6	0.0
	B. Baria	Horinadi	13	61.5	7.7	7.7	0.0	15.4	7.7	0.0
	Gazipur	Bekashahara Gararon	13	23.1	23.1	46.2	0.0	0.0	0.0	7.7
	Norshingdi	Charpara	14	14.3	14.3	71.4	0.0	0.0	0.0	0.0
	Rajbari	Komorpur	11	63.6	18.2	18.2	0.0	0.0	0.0	0.0
	Chuadanga	Subdia	12	8.3	16.7	75.0	0.0	0.0	0.0	0.0
	Kushtia	Mazhgram	10	30.0	10.0	60.0	0.0	0.0	0.0	0.0
	Meherpur	Raghunathpur	13	7.7	15.4	69.2	0.0	0.0	0.0	7.7
	Kishoregonj	Rahayla	14	78.6	0.0	21.4	0.0	0.0	0.0	0.0
	Mymensingh	Gabrakhali	32	96.9	0.0	3.1	0.0	0.0	0.0	0.0
	Netrokona	Hatkundolee	16	87.5	6.3	6.3	0.0	0.0	0.0	0.0
	Sherpur	Gaglajani	11	81.8	0.0	18.2	0.0	0.0	0.0	0.0
	Natore	Mohesh Chandrapur	14	35.7	0.0	50.0	0.0	14.3	0.0	0.0
	Nowabgonj	Dhumihatpur	11	18.2	18.2	63.6	0.0	0.0	0.0	0.0
	Rajshahi	Kharebari	5	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pabna	Radhakantapur	16	25.0	6.3	68.8	0.0	0.0	0.0	0.0
	Sunamgonj	Shatrumardon	21	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Dinajpur	Barkona	11	27.3	9.1	54.5	0.0	0.0	9.1	0.0
	Tangail	Dopakali	13	69.2	7.7	15.4	0.0	7.7	0.0	0.0
<b>Low Area as a whole</b>			<b>306</b>	<b>53.9</b>	<b>8.8</b>	<b>30.7</b>	<b>0.0</b>	<b>4.6</b>	<b>1.3</b>	<b>0.7</b>
Shallow	Comilla	Borkoit	13	30.8	15.4	30.8	15.4	7.7	0.0	0.0
	Dhaka	Deonai	14	71.4	14.3	7.1	7.1	0.0	0.0	0.0
	Munshigonj	Baroikhali	19	21.1	5.3	42.1	15.8	0.0	15.8	0.0
	Manikgonj	Pukhuria	8	12.5	25.0	62.5	0.0	0.0	0.0	0.0
	Narayangonj	Narashundapur	12	75.0	16.7	0.0	0.0	0.0	0.0	8.3
	Faridpur	Monsurabad	15	73.3	0.0	20.0	6.7	0.0	0.0	0.0
	Jessore	Atlia	14	0.0	0.0	100.0	0.0	0.0	0.0	0.0
	Jhanaidah	Achintanagar	12	25.0	8.3	66.7	0.0	0.0	0.0	0.0
	Magura	Bara Khari	12	58.3	0.0	25.0	0.0	8.3	0.0	8.3
	Narail	Sheikh Hati	9	11.1	0.0	88.9	0.0	0.0	0.0	0.0
	Gaibandha	Matharpara	6	50.0	0.0	50.0	0.0	0.0	0.0	0.0
	Kurigram	Chakir Pashar Pathak	8	75.0	12.5	0.0	0.0	0.0	0.0	12.5
	Lalmonirhat	North Battirish Hazari	11	9.1	18.2	63.6	0.0	0.0	9.1	0.0
	Nilphamari	Kazipara	24	54.2	0.0	8.3	0.0	0.0	0.0	37.5
	Rangpur	Shibu	15	26.7	6.7	60.0	0.0	0.0	6.7	0.0
	Hobigonj	Shadekpur	16	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sylhet	Borchalia	11	45.5	0.0	0.0	0.0	0.0	0.0	54.5
	Panchagarh	Kazipara	13	53.8	23.1	23.1	0.0	0.0	0.0	0.0
	Thakurgaon	Borunagaon	14	0.0	14.3	28.6	0.0	28.6	21.4	7.1
Jamalpur	Shahbajpur	17	41.2	0.0	58.8	0.0	0.0	0.0	0.0	
<b>Shallow area as a whole</b>			<b>263</b>	<b>42.6</b>	<b>7.2</b>	<b>35.0</b>	<b>2.7</b>	<b>2.3</b>	<b>3.0</b>	<b>7.2</b>
<b>Total Survey Area</b>			<b>809</b>	<b>55.4</b>	<b>6.6</b>	<b>27.8</b>	<b>1.2</b>	<b>3.8</b>	<b>2.2</b>	<b>3.0</b>

E: Supplementary Information for Hardware & Software Intervention

Hydro-geological Area	District	Sample Village	Educational Institutional							Religious		For PSF	For RWHS	Human Resource	
			NGO School	Primary	Junior High School	High School	College	Madrashta	Other	Mosque	Temple/ churches	Medium and big size ponds that have water round the year and appropriate for PSF	Num. of Chal (Roof) that can be use as catchment	Number of person who can repair/ install TW Mason	Number of Mason who can/ trained to construct ring slab
			No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Coastal	Barisal	West Tetulia	4	2	0	0	0	0	0	6	3	34	103	1	0
	Bhola	West Charsamaiya	0	2	0	1	0	0	3	0	8	0	5	192	3
	Jhelokati	Suktagaan	0	2	0	1	0	2	0	9	2	3	76	1	0
	Piro pur	Mahmuckanda	1	0	0	0	0	1	0	2	0	1	161	3	2
	Feni	Sa am Nagar	0	1	0	0	0	0	2	0	1	1	21	0	2
	Laxmipur	Char Pohita	0	5	0	1	0	1	1	17	0	0	16	0	2
	Noakhali	Char Jabbar	2	1	1	0	0	2	0	8	0	5	2	4	5
	Gosalgonj	Rajapur	7	2	1	0	0	0	0	9	9	14	37	0	0
	Macaripur	Shreenathdi	2	1	0	0	0	3	1	9	0	3	45	0	0
	Sariatpur	Dakhin Gaidi	0	1	0	0	0	0	0	5	0	0	81	0	1
	Bagerhat	Raapur	0	1	0	0	0	0	1	4	2	6	98	1	4
	Khulna	Betagram	3	1	0	0	3	1	1	10	1	3	18	0	0
	Sabirga	Khalinagar	0	1	0	1	3	1	0	2	0	7	23	10	0
<b>Coastal Area as a Whole</b>			<b>19</b>	<b>20</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>14</b>	<b>4</b>	<b>80</b>	<b>17</b>	<b>82</b>	<b>887</b>	<b>17</b>	<b>32</b>
Hilly & Stony	Cox's Bazar	Razar Bil Noyapara	0	1	0	0	0	1	0	5	3	4	120	0	0
	Moulvibazar	Monoharpur	1	3	0	0	0	1	0	2	2	5	65	1	5
<b>Hilly &amp; Stony Area as a Whole</b>			<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>9</b>	<b>185</b>	<b>1</b>	<b>5</b>
Low Table	Bogra	Bamopara	1	1	0	1	0	5	0	5	0	4	201	3	2
	Naogaon	Kadoya	4	0	0	0	0	1	0	2	0	0	227	0	0
	Sirajgonj	Gongoprosad	3	0	0	0	0	1	0	2	0	0	190	0	1
	Joydurhat	Baratara	2	1	0	1	0	0	0	4	3	0	50	0	0
	Chittagong	Hashimpur	3	5	0	1	0	1	0	10	2	3	22	0	0
	B. Sara	Hornadi	5	0	1	0	0	1	0	2	0	6	132	0	6
	Gazipur	Bekasrahara Gararon	0	1	0	0	0	1	0	4	1	4	113	1	1
	Norshingdi	Charpara	0	1	0	0	0	0	0	3	0	16	22	0	4
	Rajbari	Komarpur	1	0	0	0	0	0	0	1	1	4	197	1	0
	Chusdanga	Subbia	3	1	0	0	0	0	0	4	0	2	59	0	0
	Kushla	Mazhgram	1	1	0	0	1	3	0	1	0	11	150	3	1
	Meherpur	Raghubarapur	0	2	0	0	0	0	1	3	0	0	104	0	0
	Kishoregonj	Rahayla	1	1	0	0	0	1	0	1	0	1	20	0	0
	Mymensingh	Gabrakhali	1	1	0	1	0	0	0	2	0	17	10	1	3
	Netrokona	Halkundolee	0	1	0	0	0	1	0	2	3	6	36	0	0
	Shezpur	Gaglajani	1	1	0	0	0	0	0	2	0	0	41	0	0
	Natore	Mohesh Chandrapur	2	1	0	0	0	1	0	3	0	2	189	0	0
	Nowshgonj	Dhumirayatpur	0	0	0	0	0	0	0	7	0	0	210	2	0
	Rajshahi	Kraterbari	2	1	1	0	0	0	0	4	0	22	0	0	0
	Pabna	Raorakantapur	0	1	0	0	0	1	0	5	0	0	98	5	7
	Sunamgonj	Shatmardon	1	2	0	1	0	1	0	3	3	22	40	0	32
Dinapur	Barkona	1	1	0	0	0	0	0	3	0	0	109	5	3	
Tangail	Dopaknali	2	1	0	1	0	0	0	3	1	3	101	2	3	
<b>Low Area as a Whole</b>			<b>34</b>	<b>24</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>18</b>	<b>1</b>	<b>76</b>	<b>14</b>	<b>123</b>	<b>2422</b>	<b>23</b>	<b>63</b>
Shallow Area	Comilla	Sorkoil	2	1	0	1	0	1	6	3	0	4	5	3	4
	Dhaka	Deonai	3	1	0	0	0	1	0	3	0	2	226	3	2
	Munshigonj	Barcikhal	3	2	0	1	0	0	0	2	2	0	76	4	8
	Manikgonj	Puknua	0	1	0	0	0	2	0	2	2	0	140	2	2
	Narayanganj	Narasundepur	0	1	0	0	0	0	2	0	0	0	40	0	0
	Fardpur	Monsarabed	2	1	0	0	0	0	0	5	0	0	136	0	0
	Jessore	Atlia	1	1	0	0	0	1	1	3	0	3	37	3	2
	Jhansidah	Achintanagar	1	1	0	0	0	0	2	0	4	4	94	0	15
	Magura	Bara Kheri	2	1	0	0	0	1	0	3	2	1	54	3	1
	Narail	Shekn-Hali	3	2	0	1	0	3	3	5	3	5	174	0	2
	Gaibandha	Matatpara	5	0	0	1	0	1	3	4	1	5	285	2	7
	Kurigram	Chakir Pashar Pathak	2	1	0	0	0	0	5	0	4	122	13	5	
	Lalmonirhat	North Batrish Hazari	3	1	0	0	0	0	2	1	2	30	7	3	
	Nilphamari	Kazipara	1	1	0	0	0	0	2	0	0	0	17	7	10
	Rangpur	Shibu	1	2	0	0	0	1	0	6	1	0	43	0	1
	Hobigonj	Shadekpur	0	0	0	0	0	0	0	3	1	18	20	0	0
	Sylhet	Borenalia	0	1	0	1	0	0	0	3	2	5	23	1	2
	Panchagarh	Kazipara	2	1	0	1	0	0	2	1	2	2	20	0	0
	Thakurgaon	Sorunagaon	0	1	0	0	1	1	0	3	1	1	6	4	5
	Jamalpur	Shahosipur	1	1	0	0	0	0	0	3	0	5	160	2	2
	<b>Shallow Area as a Whole</b>			<b>29</b>	<b>21</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>9</b>	<b>13</b>	<b>63</b>	<b>17</b>	<b>61</b>	<b>1708</b>	<b>45</b>
<b>Total Survey Area</b>			<b>63</b>	<b>69</b>	<b>4</b>	<b>15</b>	<b>2</b>	<b>43</b>	<b>18</b>	<b>226</b>	<b>50</b>	<b>275</b>	<b>5202</b>	<b>66</b>	<b>171</b>

## **Appendix-B**

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## Questionnaire

For

### Household Based Data Collection of the Villages Selected for 2002-2003 to Implement Community Managed WatSan Program

#### General Information

- NGO Forum Regional office name : .....
- Partner Organisation's name : .....
- Name of the selected village : .....
- Address of the selected village :  
Union.....Thana / Upazila.....District.....

#### 1. Information regarding the respondent

- Respondent's name : .....Father/ Husband's name.....
- Sex : a. (Male)  b. (Female)  c. Trans gender
- Respondent's profile: a.(Household head)  b. (Housewife)  c. (Other member)
- Respondent's Educational Background
  - a. Illiterate  b. Only can signature  c. Up to 5th Standard
  - d. 6th- 10th standard  e. S.S.C/ Equivalent  f. H.S.C/ Equivalent
  - g. Graduate Equivalent  h. Post Graduate/ Equivalent  i. Other (specify)-----

#### 2. Household's information:

- Household's population : a. Male..... b. Female ..... c. < 5 Children ..... d) Total.....
- Educational background of 5+ age members of the Household (write the category wise persons)
  - a. Illiterate ----- b. Only can signature ----- c. Up to 5th Standard -----
  - d. 6th- 10th standard ----- e. S.S.C/ Equivalent ----- f. H.S.C/ Equivalent -----
  - g. Graduate Equivalent ----- h. Post Graduate/ Equivalent ----- i. Other (specify) -----
- Principal earning source of the Household
  - a. Agriculture  b. Daily Labour  c. Fish related profession  d. Business/ Contractorship
  - e. Rickshaw/ Van/pushcart pulling/ boat roaring/ car driving  f. Working in other's houses  g. Potting
  - h. Blacksmithing  i. Goldsmithing  j. Other professions
- Early earning pattern of the Household: (in taka)
  - a. < 10000  b. Between 10,000 to 15 thousand  c. Between 15,000 to 20 thousand
  - d. Between 20,000 to 25 thousand  e. More than 25 thousand



2. Which sources of water do your household members generally use for the following purposes?

(✓ mark in the appropriate column)

Uses of water	Sources of water					
	Tubewell/pump/plants	Pond	well	Canal/River	Rain water	Others
	Safe	Unsafe (have unacceptable level of Arsenic/ Iron Salinity)				
Drinking						
Cooking						
Utensil washing						
Gargling/ Uzu/ washing face/ bathing						
Raw Vegetable/ Fruits washing						

3. What is the distance between your kitchen and the TW/pump/plant from where your family collects water?

a. Not applicable because we do not collect water from TW/Pump/plant  b. Distance ----- (feet)

4. Which type of purification method you have followed to purify water if you had collected it from pond/lake/canal/river/traditional well/rainwater within last one year?

a. Not applicable  b. Haven't purified  c. Have drunk after boiling  d. Have used *Fitkeri*

d. Have filtered through straining  e. Have used Filter  f. Have used purifying tablets

5. Where do your household members (age more than 5 years) go for defecation? (✓ mark in the appropriate column)

Household member category	Defecation site				
	Septic/Offset latrine	Ring slab latrine	Pit Latrine	Hanging/ open Latrine	Open place/ bush/others
Male					
Female					

6. What are the reasons for which your household members (age more than 5 years) do not use pit/septic/ring slab/offset latrine ? (Might have multiple answers)

a. Not applicable because household members use pit/septic/ring slab/offset latrine

b. Don't know/ unawareness  c. Due to lack of space  d. Due to lack of finance

e. Others------(specify)

7. Do your household members always wash hands before meal?

a. Do not wash  b. wash one hand only with water  c. wash one hand with soap

e. Wash both the hands only with water  f. Wash both the hands with soap

8. Do your household members always wash hands after defecation?

a. Do not wash b. wash one hand only with water  c. Wash one hand with Ash/ Soil

e. Wash one hand with Soap  f. Wash both the hands only with water

g. Wash both the hands with Ash/Soil  h. Wash both the hands with Soap

9. Do your household members always wear slipper during defecation?

- a. Use slipper  b. Do not use slipper

10. Where your household members dispose of household waste?

- a. At fixed place/hole  b. At water bodies (canal/river/lake/ponds)  c. Any place

**WatSan knowledge related information**

11. Do you know what happens if arsenic contaminated water is drunk?

- a. Yes  b. No

12. What types of diseases might occur if surface water is drunk water filtration/purification and due to existence of improper sanitation? (Might have multiple answers)

- a. Diarrhoea  b. Dysentery  c. Typhoid  d. Jaundice   
e. Skin disease  f. worm  g. Others  h. Do not know

13. Did any of your household members having age more than 5 years have suffered diarrhoeal attack within last one month?

- a. Yes  if yes than how many persons ----- b. No

**The following questions are only applicable for those whose household have under five children**

14. Not applicable because household does not have under five children

14.1. Did any of your household members (children) having age less than 5 years have suffered diarrhoeal attack within last one month?

- a. Yes  if yes than how many persons ----- b. No

14.2. Where does the under 5 children of your household defecate?

- a. Not applicable for children having 0-2 years age  b. At septic/offset latrine   
c. At ring-slab latrine  d. At pit latrine  e. At open/hanging latrine   
f. At open place/courtyard  g. Any place/bush/others

14.3. Where do you dispose of faeces of your household's under five children?

- a. Not applicable because household does not have under five children  b. At latrine   
c. At fixed hole  d. At garden  f. wash in the pond/canal/lake/river   
g. Wash on the platform of TW/pump/plant  h. any place  i. Left open

14.4. Do your household members always wash hands after cleaning the bottom of <5 children?

a. Not applicable because children themselves wash

- b. Do not wash  c. wash one hand only with water  d. Wash one hand with Ash/ Soil   
e. Wash one hand with Soap  f. Wash both the hands only with water   
g. Wash both the hands with Ash/Soil  h. Wash both the hands with Soap

**Observation:**

15. Whether the drinking water pot is cleaned?

- a. Not applicable because the pot is empty  b. Yes  c. No

16. Whether the drinking water pot is covered

- a. Not applicable because the pot is empty/ there is no pot  b. Yes  c. No

17. Distance between house and latrine

- a. Not applicable because household does not have any latrine  b. distance ----- feet

18. Whether ash/soap/soil/water is preserved near the latrine?

- a. Not applicable because household does not have any latrine   
b. Yes  c. No

19. Distance between latrine and TW/pump/plant

- a. Not applicable because household does not have any latrine or TW/pump/plant   
b. Less than 7 feet  c. 7-15 feet  d. 16-32 feet  e. More than 33 feet

20. Whether the ring slab latrine has proper gooseneck (water seal)?

- a. Not applicable because household does not have any ring-slab latrine   
b. Yes  c. No

21. Whether the pan slab of septic/offset/ring-slab is cleaned?

- a. Not applicable because household does not have any septic/offset/ring-slab latrine   
b. Yes  c. No

22. Whether the surrounding areas of of septic/offset/ring-slab is cleaned? (faeces are not there)

- a. Not applicable because household does not have any septic/offset/ring-slab latrine  
b. Yes  c. No

23. Whether human excreta is seen in the courtyard

- a. Yes  b. No

Name of the Data Collector (NGO Forum Staff):-----

Signature:-----

Name of the Co-data Collector (PNGO Staff) :-----

Signature:-----

## Checklist

For

### Baseline survey through WatSan Mappings of the Villages Selected for 2002-2003 to Implement Community Managed WatSan Program

*(Using 1, 4,5,17,18, 19 & 20 no variables collect information about the entire village and use rest of the variable to acquire data about the Watsan selected portion of the village)*

#### Checklist for data collection through Social Mapping

1. Information of the entire village:
  - Total population
  - Total Household
2. Information of the portion of the village selected for WatSan program
  - Population:
    - Male .....
    - Female .....
    - under five children .....
  - Number of Household:
    - Total households.....
    - Number of households having under five children.....
3. Principal Earning source wise Households figure:
  - Number of Households whose principal earning source is Agriculture
  - Number of Households whose principal earning source is day labour
  - Number of Households whose principal earning source is fish related economic activity
  - Number of Households whose principal earning source is Business/ Contactorship
  - Number of Households whose principal earning source is Rickshaw/Van/ Pushcart pulling or boat roaring or car driving
  - Number of Households whose principal earning source is working at others house
  - Number of Households whose principal earning source is pottering
  - Number of Households whose principal earning source is the work of blacksmith
  - Number of Households whose principal earning source is the work of goldsmith
  - Number of Households whose principal earning source is service
  - Others

#### Checklist for data collection through Resource and Hazard Mapping

4. Number of school situated in the entire village
  - NGO School
  - Primary School (up to 5<sup>th</sup> standard)
  - Junior High School (up to 8<sup>th</sup> standard)
  - High School (up to 10<sup>th</sup> standard)
  - College
  - Madrasha
  - Others

5. Number of school situated in the entire village
  - Mashzed
  - Mandir/ Church/ Pagoda
6. Number of big & medium size ponds that can be use as catchment pond for PSF (Pond Sand Filter) (information about the Watsan selected portion)
7. Number of Roof that can be use as catchment for RWHS (Rain Water Harvesting System) (information about the Watsan selected portion)
8. Category and collection source wise number of functional and dysfunctional Tubewell/Pump/Plant available in the the Watsan program selected portion:
  - No 6 Tubewell (Shallow suction pump):
    - Government
    - Market
    - NGO Forum
    - Other NGOs
  - Conversion Pump (Suction pump):
    - Government
    - Market
    - NGO Forum
    - Other NGOs
  - Deep Tubewell (deep suction pump):
    - Government
    - Market
    - NGO Forum
    - Other NGOs
  - Tara Deep set Pump (Force mode pump):
    - Government
    - Market
    - NGO Forum
    - Other NGOs
  - Arsenic Iron Removal plant:
    - Government
    - Locally made
    - NGO Forum
    - Other NGOs
  - Rain Water Harvesting System (RWHS):
    - Government
    - Locally made
    - NGO Forum
    - Other NGOs
  - Pond Sand Filter (PSF):
    - Government
    - Locally made
    - NGO Forum
    - Other NGOs
  - Others:
    - Government
    - Market/ locally made
    - NGO Forum
    - Other NGOs
    -

9. Ownership pattern wise number of Tubewell available in the Watsan program selected portion of the village:
  - Number of Private TW/Pump/plant:
    - Owned by single household
    - Owned by multipale households
  - Number of Community owned TW/pump/plant:
  - Number of TW/pump/plant owned by institution:
10. Number of TW/pump have tested for Arsenic contamination:
  - Number of tested TW/pump/plants' water have unacceptable level of arsenic contamination :
  - Number of tested TW/pump/plants' water does not have unacceptable level of arsenic contamination:
11. Number of TW/pump/plants' water reportedly have unacceptable level of Iron contamination:
12. Number of TW/pump/plants' water reportedly have high salinity:
13. Number of Safe TW/pump/plant situated in the Watsan program selected portion of the village
  - Number of safe functional TW/pump/plants :
  - Number of safe dysfunctional TW/pump/plant
14. Number of TW/pump/plants does not have proper platform:
  - Number of TW/pump/plants does not have any platform :
  - Number of TW/pump/plants does not have drain
  - Number of TW/Pump/Plants' platform/drain have cracks
15. Category wise number of Latrine available in the in the Watsan program selected portion of the village
  - Number of septic/Offset latrine:
  - Number of Ring slab latrine:
  - Number of covered and uncovered pit latrine:
  - Number of open/hanging latrine
16. Ownership pattern wise septic/offset/ring slab/pit latrine
  - Number of Private latrine:
    - Owned by single household
    - Owned by multipale households
  - Others
17. Village sanitation Center related information:
  - Number VSC situated in the entire village:
  - If there is no VSC in the entire village than the distance of nearest VSC (in Mile):
18. Running authority of the VSC situated in the village/nearest one
  - Number VSC run by governmet:
  - Number of VSC run by private producer
  - Number of VSC run with support of NGO Forum
  - Number of VSC run by other NGOs
19. Number of Mason available in the entire village who can make ring slab
20. Number of Mechanic available in the entire village who can repair/ install TW/pump/plants: