Baseline Study Report on Arsenic Mitigation Project 2016

Final Report

Prepared for

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ACRONYMS

CC	Community Clinic
CG	Community Group
CHCP	Community Health Care Promoter
CSG	Community Support Group
FGD	Focus Group Discussion
FWC	Family Welfare Centre
HA	Health Assistant
HH	Household
KII	Key Informant Interview
MICS	Multiple Indicator Cluster Survey
NGO	Non-Government Organization
SACMO	Sub Assistant Community Medical Officer
UHC	Upazila Health Complex
UFPO	Upazila Family Planning Officer
WASH	Water, Sanitation and Hygiene

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Executive summary

Introduction: WaterAid Bangladesh has designed Arsenic Mitigation Project in Meherpur in May 2016 to be implemented in Meherpur and Sunamganj districts with an aim to make change in the systems to get services in favour of the poor and disadvantaged groups and create sustainable access to safe water, improve sanitation and hygiene behaviour especially for arsenic victims. Comprehensive WASH and Health projectwas also launched in May 2016 with an aim to integrate water, sanitation and hygiene (WASH) issues with health and nutrition to enhance overall health status of the communities in Tahirpur Upazila of Sunamganj district and Meherpur Upazila of Meherpur district. To understand the present situation in intervention area WaterAid has planned to conduct a baseline study. The study will provide necessary benchmark information to WaterAid and its partner NGO in setting intervention priorities towards implementation of the project and assessing outcomes at the end of the project.

Methodology: A cross-sectional study was designed to get an understanding of present WASH situation at households as well as healthcare facilities in intervention areas. Both quantitative and qualitative approaches were applied in this study. Data were collected through survey, observation at facilities, focus group discussion (FGD) and key informant interviews (KII). Quantitative survey covered 820 households (Meherpur: 420 HHs and Tahirpur: 400 HHs) while qualitative study covered a wide range of population including community influential, government officials and community group members of community clinics, traditional birth attendants and other health care providers. Data collection took place in September, 2016 in Tahirpur and November to December, 2016 in Meherpur.

Results: Findings show that majority of the respondents in two upazilas (60 percent) were below 35 years and overall 48 percent (Meherpur: 36 percent, Tahirpur: 60 percent) of the respondents were non-literate. Almost all (94 percent) of the respondents in two upazilas were housewives. Regarding occupational status findings also show that over 40 percent of the household heads (Meherpur: 30 percent, Tahirpur: 54 percent) were mainly involved in skilled or unskilled labours, agriculture (29 percent) and business (15 percent).Average number of household members in two upazilas stood at 5 persons.

Data shows that almost all households (94 percent) in both upazilas reported and were found to use shallow tubewell for drinking water purposes. In Meherpur platforms of tubewell of over half of the households (55 percent) were found connected to the respective tubewell and mostly made of cement (90 percent).About 48 percent (Meherpur: 65 percent, Tahirpur: 29 percent) of the household in two upazilas had their own source of drinking water, followed by joint or shared (24 percent). Overall 30 percent (Meherpur: 12 percent, Tahirpur: 49 percent) households in two upazilas were found which needed to fetch water for drinking purposes from outside. The water sources were located within short distance around 50.9 meters (Meherpur: 16.9 meters, Tahirpur: 59.5 meters) and it needed around 7 minutes on an average. Around 43 percent households in two upazilas faced problem while fetching water that included ‘scuffles with others’ (35 percent), ‘too far from home’ (34 percent) and ‘owner restriction’ (25 percent).Findings show that over 40 percent of the households reported that they shared their water sources with1-5 households. Around 61 percent (Meherpur: 52 percent, Tahirpur: 70 percent) of the respondents had knowledge on the meaning of unsafe water and 59 percent (Meherpur: 52 percent, Tahirpur: 65 percent) the risk of using unsafe water and 63 percent of them mentioned that ‘attack by diseases’ is the main type of risk of using unsafe water.

It was found that the water of tubewells of over 60 percent of households in two upazilas was reported to have been tested. Over arsenic test was carried out for 97 percent tubewells while iron test was done for only 5 percent of the tubewells. Around 78 percent of the tubewells were marked as green colour and 14 percent of them were marked as red.

Findings show that 71 percent of the households in two upazila had access to unimproved latrine while only 29 percent of them had access to improved latrine. Existence of sandals was found rare near latrine. About 94 percent households' latrines in both upazila were found accessible round the year.

Slightly over half of the households (53 percent) had hand washing facilities in their respective latrine. 'Tubewell' (66 percent) and 'haor/river' (26 percent) were found the main hand washing place. Water and soap were available at only 32 percent households during survey. Overall 48 percent of the household kitchen had hand washing facilities. Majority (91 percent) of households' respondent mentioned that everybody should wash hand after defecation, followed by 'before/after other works' (59 percent) and 'before eating' (52 percent).Overall 76 percent households respondent mentioned that they got to know about hand washing practice from their relatives and neighbours are the main sources of getting information of hand washing. At households, the practice of child defecation is still unhealthy. Findings also reveal that only 41 percent household respondents mentioned washing hand with water and soap after child defecation. It was found that 54 percent households' courtyards were clean. Thirty four percent households' place of waste disposal was courtyard or elsewhere, followed by 'courtyard or here-and-there' (26 percent).

One of the objectives of this survey was to assess situation in healthcare facilities in terms of safe drinking water provision, improved sanitation facilities and hand washing facilities. Findings show that the most common source of drinking water in health centres in two upazilas was shallow tubewell (overall 77 percent).Still 10 percent of the health centres had no source for drinking water and majority of the tubewells were found functional.

In over half (56 percent) of the health centres, all latrines were functional during survey. However, findings also depict that 75 percent of health centres had 'Flush to safe tank', followed by 'Water seal slab latrine and dirt/filth discharge to unsafe tank' (10 percent).In 94 to 96 percent cases, there was no separate latrine for male and female. Data shows that none of the latrines was found clean at over half of health centres in both upazila. It is noted that there was no separate arrangement for menstrual hygiene. It was found that overall 75 percent of health centres in both upazila had no place for hand washing facilities for patients. Slightly over half of such health centres (54 percent) had both water and soap available at hand washing place.

Findings show that about 62 percent of health centres surroundings and 83 percent of health centres corridor and rooms were found unclean in both upazilas. However, in Meherpur almost all of the health centres (91percent) had manpower for cleaning, while in Tahirpur almost all of the health centres (90 percent) had no manpower for cleaning. Data shows that 75 percent of health centres had arrangement for waste disposal and only44percent of the centres (Meherpur: 63 percent, Tahirpur: 15 percent) of health centre had fund for WASH.

In this survey, the team tried to understand knowledge of health service provider in two upazila about hand washing at critical times. Health care providers possessed good knowledge (99 percent) about washing hand after defecation and before eating. However, only 14 percent of them mentioned that hand washing is needed after visiting patients. It is important to note that 95 percent service provider never washed hands before and after examining patients. Only twenty nine percent of the service providers advised some patients about hygiene and cleanliness.

This survey also aims to understand the knowledge and practice of traditional birth attendants (TBA) with regard to hygiene and sanitation. Findings reveals that about 99 percent of TBA's washed hand before conducting delivery and about 93 percent of them washed both hand. Findings also reveal that majority (89 percent) of them washed hand with soap and water. About 93 percent of the TBA used new blade in cutting cord. More than half of TBA used detol/savlon/chlorhexidine after cutting cord, while 28 percent of them used nothing after cutting cord.

This baseline survey also aims to understand dynamics of community groups (CG) to mobilize resources in operation and maintenances of water and sanitation facilities at community clinics in two upazilas. Findings reveal that most of the groups performed well in conducting meeting. They mostly discuss on various issues and conclude with decisions but there is no implementation information except for few cases of few groups. They have limited fund which means that fund collection was made only for few times. Some groups performed some activities related to water and sanitation facilities in clinic, cleanliness around clinic, support to poor pregnant women from the fund and motivating community people to take healthcare from the clinic etc. but the frequency of such activities is very few. Performance of such groups should be measured by meeting conduction and activities performed in last 6 months.

Recommendation: A qualitative study also supplemented to the quantitative survey. Some recommendations and suggestions have been proposed by the key informants such as community leaders, health care providers and government officials. Many of them suggested that enhanced importance should be given on the use of safe drinking water and hygienic latrine. Concerned office should increase allocation for installation and proper maintenance of these water and sanitation facilities. At the same time different awareness activities should be under taken at community level to make community people aware about the use of safe drinking water and hygienic latrine. It is also recommended that the situation can be improved in Tahirpur if public toilet/latrines are installed with government grant or NGOs' fund and by raising public awareness to use latrine.

CHAPTER ONE
INTRODUCTION AND METHODOLOGY

1.1. Introduction

WaterAid Bangladesh has designed Arsenic Mitigation Project in Meherpur in May 2016 to be implemented in Meherpur and Sunamganj districts with an aim to make change in the systems to get services in favour of the poor and disadvantaged groups and create sustainable access to safe water, improve sanitation and hygiene behaviour especially for arsenic victims. With the support of Impact Foundation Bangladesh (IFB) project is being implemented in five Unions under Meherpur Upazila of Meherpur district covering 53,712 households. Comprehensive WASH and Health project was also launched in May 2016 with an aim to integrate water, sanitation and hygiene (WASH) issues with health and nutrition to enhance overall health status of the communities in hard to reach haor areas in Bangladesh. The project will be implemented in three years in seven unions under Tahirpur Upazila of Sunamganj district covering 37,9311 households. These two projects will also work to improve WASH situation at healthcare facilities i.e., Upazila Health Complex (UHC), Family Welfare Centres (FWCs), Community Clinics (CCs) and Union Sub-Centres (USCs) in the project area.

To understand the present situation in the project area WaterAid Bangladesh implemented baseline studies in the two project areas. This study provides necessary benchmark information in setting intervention priorities towards implementation of the project and assessing outcomes at the end of the project. This is the report of the baseline study.

1.2. Objectives of the study

The broad objective of the study was to understand and analyse:

- Present WASH situation in the households, school and healthcare facilities of the intervention area
- Level of knowledge of health force in intervention area on importance of hygiene in promoting health and nutrition

The specific objectives of the study were the following:

1. To know the proportion of households in intervention area having access[2] to safe drinking water supply.
2. To know the proportion of households in intervention area having access to improved sanitation[3] facilities.
3. To know the proportion of households having hand washing facilities with water and soap near the latrines and kitchen.
4. To measure knowledge and practice of mothers/caregivers of under five children on safe disposal of child faeces.
5. To identify the proportion of households with clean courtyard and provision of safe disposal of waste[4].

[1] http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/PopCen2011/COMMUNITY_Sunamganj.pdf
[2] Access refers to distance from household to water point, water collection times and availability of water.
[3] Improved latrines are flush or pour flush to piped sewer system or septic tank or pit latrine, ventilitated improved pit latrine, pit latrine with slab and composting toilet and unimproved latrines are flush/pour flush to elsewhere, pit latrine without slab, bucket, hanging toilet or hanging latrine, no facilities or bush or field and shared facilities of any type.

6. To assess situation in healthcare facilities in terms of safe drinking water provision, improved sanitation facilities and hand washing facilities[5].
7. To understand dynamics of community groups (CG) to mobilise resources in operation and maintenances of water and sanitation facilities at community clinics.
8. To understand level of awareness of healthcare providers at healthcare facilities on importance of WASH in promoting health and nutrition.
9. To understand level of awareness of traditional birth attendants on maintenance of cleanliness[6] during conducting delivery.
10. Arsenic mitigation issues are prioritised in UDCC meetings at Upazila and Union level.
11. Union Parishads (all five Union Parishads) incorporated activities related to arsenic mitigation in their annual plan and allocated budget.

1.3. Implementation of study

1.3.1 Development of study tools and instruments

A set of draft study instruments was developed in consultation with the concerned officials of WaterAid Bangladesh, covering all issues of interest and was finalized after field-testing with necessary changes and approval.

1.3.2Training

Two-day long training programs on (1) household survey, household listing operation and data collection on TBAs and(2) data collection from health facilities and qualitative data collection were organized for Research Assistants (RAs) for each project. Training consisted of lectures, classroom practices, group discussions and role playing on draft study instruments.

1.3.3Study methodology and sampling design

Each of the studies was a cross sectional study aimed to get an understanding of current WASH situation at households as well as healthcare facilities in all five unions of Meherpur Sadar and seven unions of Tahirpur Upazila. Both quantitative and qualitative approaches of study were applied in the studies. Required samples for the household survey were selected following a two stage cluster sampling technique. Thus, data were collected through a household survey, observation at health facilities and focus group discussions (FGD). For the purpose of triangulation some key informant interviews (KII) were also conducted.

Study population included households in the communities, healthcare facilities (UHC, FWCs, USCs and CCs), health service providers of these facilities, TBAs and skilled birth attendants (SBAs) working in the community, members of CGs and Community Support Groups (CSGs)associated with CCs of the area.

A two-stage cluster sampling design for each upazila of both the districts. At the first stage 20 clusters (mauza/village in the rural area) were drawn with a standard probability proportional to size sampling (PPS) method. Each mauza/village was divided into some segments of about 100 households in each, on an average by preparing sketch maps. Such segments were considered as the primary sampling units (PSU) in the sampling process. Each cluster consisted of a number of households, which called secondary sampling unit (SSU) or ultimate sampling unit (USU). At the second stage, 20 households and eligible respondents were selected from each PSU by systematic sampling method in Tahirpur. In this

[4] Households have pit to dispose of waste.
[5] Handwashing facilities will include water and soap.
[6] In includes: clean surface, clean hands of attendant, clean cord tie, clean blade and clean cord stump.

way 21 households and eligible respondents were from each PSU in Meherpur. Thus a total of 820 households (Meherpur: 420 HHs and Tahirpur: 400 HHs) were interviewed in the study.

In total 42 CCs, 7 FWCs, 3 USC and 1 UHC were covered to observe provision of drinking water and sanitation in the selected facilities. Altogether 79 healthcare providers and 109 birth attendants (both TBA and SBAs) were interviewed. Besides, 42 FGDs with members of CGs and 16 FGDs with members of CSGs in 42 CCs were conducted. Information about UDCC, annual union parishad plan and budget were also collected from 5 Union Parishads. Also, 10 key informant interviews (KIIs) were conducted with DPHE Engineer, upazila family planning officer (UFPO), residential medical officer (RMO), upazila social welfare officer and UP chairman to measure their views, comments, opinion etc. regarding status of community level and health facilities. All of the participantsin the qualitative study was chosen purposively.

Table-1.3.3: Overview of study population, data collection methods and sample sizes

Study population	Data collection method	Sample	Instrument
Households in the communities	Survey	820 households	Survey questionnaire
Healthcare facilities	Facility observation	1 UHC 7 FWCs 3 Union Sub-centre 42 CCs	Observation checklist
Health service providers	Survey	4 providers in UHC 2 providers in FWC & USC 65 providers in CC (2 in each CC)	Survey questionnaire
Traditional Birth Attendants	Survey	109 TBAs and SBAs (7-10TBAs in each union)	Survey questionnaire
Community Groups in CC	FGD	42 CGs (in 42 CCs)	FGD guideline
Community Support Groups in CC	FGD	16 CSGs (in 16 CCs)	FGD guideline
Member of UDCC	FGD	5	FGD guideline
UP representative	Document survey	5 annual plan 5 annual budget	Checklist
Community influential people and Government Officials	KII	5 UP Chairman 5 Govt. Official (DPHE Engineer, UFPO, RMO, MoSW)	KII checklists

1.3.4 Data collection timeline

Before data collection verbal informed consent was taken from the targeted respondent of household member, health service provider including TBA or SBA and members of CG or CSG for participation in the studies. Training of research assistants was conducted in 29-30thAugust for Tahirpur survey and 24-25th November 2016 for Meherpur survey. Data collection was conducted from01st to 28th September 2016 in Tahirpur and 26th November to 8th December 2016.

1.3.5 Data management and data analysis

Final editing and consistency checking of filled-in questionnaires and checklists were performed in Dhaka by some trained data processing personnel. Computerization of quantitative data was ensured using MS Access software by some experienced entry personnel. Quantitative data analysis was done using SPSS for Windows and different uni-variate and bi-variate tables were produced to address the indicators as per the study objectives. Qualitative data were analyzed manually using content analysis technique. Responses were analyzed by arranging them in the general categories. After the responses are arranged, the different positions or opinions were identified. The analysts summarized the various opinions and synthesized the themes.

CHAPTER TWO
HOUSEHOLD SOCIO-DEMOGRAPHIC CHARACTERISTICS

Chapter Two discusses findings of two upazilas related to characteristics of respondents and household heads as well as status of household composition. The chapter also discusses findings on access to household water sources, collection of water from outside of house, sharing status of tubewell with others, knowledge on risk of using unsafe water. It also elaborates household latrine facilities, sharing status of household latrines, accessibility to latrine round the year.

2.1 Household characteristics

2.1.1 Socio-demographic characteristics of respondents

Table 2.1.1 presents basic background information of household respondents in two upazilas in terms of their age, education and occupational status. Findings reveal that overall 35 percent of the respondents in two upazilas were of age between 26 to 35 years and about 25 percent of them age less than 25 years. Besides, overall 17-24 percent were of age 36-45 or more than 45 years.

Findings further reveal that overall 48 percent (Meherpur: 36 percent, Tahirpur: 60 percent) of the respondents were non-literate, while 24 percent of them completed primary level of education and 23 percent completed secondary level or above. Almost all (94 percent) of the respondents in two upazilas were housewives.

Table 2.1.1: Socio-demographic characteristics of respondents

Characteristics	Percent		
	Meherpur	Tahirpur	All
Age group (in year)			
<25	21.4	28.0	24.6
26-35	34.0	36.0	35.0
36-45	28.8	18.5	23.8
46 or above	15.7	17.5	16.6
Education			
Non-literate	36.2	60.0	47.8
Primary	22.9	25.8	24.3
Secondary	34.3	11.3	23.0
SSC or above	6.7	3.0	4.9
Occupation			
Housewife/household chore	95.7	92.5	94.1
Labour (skilled/ unskilled/driver)	2.9	4.3	3.5
Business	0.2	0.5	0.4
Service	0.2	0.3	0.2
Agriculture	0.0	0.3	0.1
Other occupation*	1.0	2.3	1.6
n (number of households)	420	400	820

* Other includes Professional/religious person/housemaid/oldman/retired/unemployed/village doctor

2.1.2 Socio-demographic characteristics of household heads and household composition

Table 2.1.2 presents information on age group and occupational status of household heads and household religion and size of households. As Table 2.1.2 reveals, overall 41 percent of the

household heads in two upazilas were more than 45 years old, followed by 26-35 years old and 36-45 years old (27 percent each). Table further reveals that over 40 percent of the household heads (Meherpur: 30 percent, Tahirpur: 54 percent) were mainly involved in skilled or unskilled labours, followed by agriculture (29 percent) and business (15 percent).

Table 2.1.2 also shows that Islam was the religion of almost all (97 percent) of the households in two upazilas. Overall 44 percent of the households consisted of 3-4 members, followed by 5-6 members (30 percent) and 7-8 members (14 percent). Average number of household members stood at 5 persons.

Table 2.1.2: Socio-demographic characteristics of household heads and household composition

Characteristics	Percent		
	Meherpur	Tahirpur	All
Age group (in year)			
<25	3.8	6.0	4.9
26-35	22.4	32.3	27.2
36-45	28.6	25.0	26.8
46 or above	45.2	36.8	41.1
Occupation			
Agriculture	40.2	18.0	29.4
Labour (skilled/unskilled/vehicle driver)	30.2	54.3	42.0
Service holder/professional	1.2	1.3	1.2
Business	16.7	13.0	14.9
Housewife/household chore	6.0	4.5	5.2
Other occupation*	5.7	9.0	7.3
Religion of household			
Islam	100.0	94.0	97.1
Hinduism	0.0	6.0	2.9
Household size			
1-2 members	8.8	5.8	7.3
3-4 members	59.0	27.5	43.7
5-6 members	26.7	33.5	30.0
7-8 members	4.0	23.8	13.7
9 or more members	1.4	9.5	5.4
Average (mean) household size	4.1	5.7	4.9
n (number of households)	420	400	820

*Other occupation includes professionals, housemaid, old man, religious person, retired, unemployed, village practitioner

2.1.3 Household wealth index

The wealth index used in these surveys is a measure that has been used in many country-level surveys to measure inequalities: in household characteristics, in the use of health and other services, and in health outcomes (Rutstein et al. 2000). The wealth index is created following three steps with the help of required data arrived through the survey instrument. In the first step, a subset of indicators was used to create wealth scores for households of the study area. Categorical variables were transformed into separate dichotomous indicators. These indicators and those that are continuous were then examined using a principal component analysis to produce a common factor score for each household. In the second step, separate factor scores were produced for households. The third step combined the separate factor scores to produce an overall combined wealth index by adjusting the scores through performing a regression on the common factor scores. The resulting combined wealth

index had a mean of zero and a standard deviation of one. Once the index was computed, overall wealth quintiles (from lowest to highest) were obtained by assigning the household scores, ranking households by scores, and then dividing the ranking into five equal categories, each comprising 20 percent of the households (Table 2.1.3).

Table 2.1.3: Household wealth index

Household wealth Index	Percent		
	Meherpur	Tahirpur	All
Lowest	2.6	38.3	20.0
Second	7.6	33.0	20.0
Middle	20.0	20.0	20.0
Fourth	32.9	6.5	20.0
Highest	36.9	2.3	20.0
n (number of households)	420	400	820

2.2 Access to water source

2.2.1 Household water source

Table 2.2.1 presents percentage of households in two upazilas according to main and alternative water sources in the household. Findings show that almost all households (94 percent) reported and were found to use shallow tubewell for drinking water purposes, while only 5 percent deep tubewell. However, only 2 percent households reportedly used alternative source of water. Majority (79 percent) of them used to fetch water from another shallow tubewell, followed by deep tubewell (16 percent).

Table 2.2.1: Household sources of water

Indicators	Percent		
	Meherpur	Tahirpur	All
Types of main source of water			
Deep tubewell	7.6	2.8	5.2
Shallow tubewell	90.7	96.8	93.7
SIDKO	1.0	0.0	0.5
Submersible pump	0.5	0.0	0.2
Public Tubewell	0.2	0.0	0.1
Unprotected well	0.0	0.3	0.1
Unprotected spring	0.0	0.3	0.1
Use of alternative source			
Yes	0.7	4.0	2.2
n (number of households)	420	400	820
Types of alternative source of water (multiple responses)			
Deep tubewell	66.7	6.2	15.8
Shallow tubewell	33.3	87.6	78.9
Pond/Haor	0.0	6.2	5.3
n (number of households)	3	16	19

2.2.2Condition of platform connected to tubewell in the household

Table 2.2.2presents information regarding condition of platform connected to tubewell and their drainage system only in Meherpur. Findings show that platforms of tubewell of over half of the households (55 percent) were found connected to the respective tubewell and mostly made of cement

(90%). Findings further reveal that 74 percent of them had no crack and 65 percent had drainage system with safe water removing system.

Table 2.2.2: Condition of platform of tubewell in the household

Indicators	Percent		
	Meherpur	Tahirpur*	All
Tubewell well connected to platform			
Yes	54.8	-	54.8
N	414	-	414
Type of platform or materials used to construct platform			
Pucca or cement	90.3	-	90.3
Only brick	9.7	-	9.7
N	227	-	227
Crack in platform			
Thin crack	8.4	-	8.4
Thick crack	17.6	-	17.6
No crack	74.0	-	74.0
Drainage system of the platform			
Safe water removal system	65.2	-	65.2
Water remains stagnant on the platform	0.4	-	0.4
Unsafe water removal system	32.6	-	32.6
Water cannot be removed	1.8	-	1.8
n	227	-	227

From field observation in Tahirpur, it is found that some households do not have tube well with platform due to their financial insolvency, want of land or tubewell installed in a narrow space. However, some households have tubewell with platform but they are not conscious about its maintenance.

2.2.3 Ownership of water sources

Table 2.2.3 reveals that about 48 percent (Meherpur: 65 percent, Tahirpur: 29 percent) of the household in two upazilas had their own source of drinking water. Besides, main sources of water in about one fourth (24 percent) of the households were 'joint/shared', followed by 'others'(20 percent); while only 3-6 percent households used to collect water from government owned sources(road side, market place) and institutions (school, mosque etc.).

Table 2.2.3: Households ownership of main source of drinking water

Ownership of main source of drinking water	Percent		
	Meherpur	Tahirpur	All
Self	65.2	29.2	47.7
Joint/shared	23.6	25.0	24.3
Others	10.0	30.2	19.9
Government	0.7	10.5	5.5
Institutional	0.5	5.0	2.7
n	420	400	820

2.2.4 Collection of water from outside of house

2.2.4.1 Distance of main water source and time needed to fetch water

Findings related to households needed to collect water from outside of house, distance of sources of drinking water from households and time needed to collect water are presented in Table 2.2.4.1.

Findings show that overall 30 percent (Meherpur: 12 percent, Tahirpur: 49 percent households in two upazilas were found which needed to fetch water for drinking purposes from outside.

Findings also reveal that water sources in 80 percent (Meherpur: 98 percent, Tahirpur: 75 percent) of the households, which needed to collect water from outside, were less than 50 meters away from households. Average distance of water sources from households was recorded to be 50.9 meters (Meherpur: 16.9 meters, Tahirpur: 59.5 meters) and median 6.1 meters (Table 2.2.4.1).

Moreover, overall 91 percent households in two upazilas reportedly fetch water from water sources within 15 minutes and on average they needed about 7 minutes to fetch water (Table 2.2.4.1).

Table 2.2.4.1: Distance of drinking water source and time needed to fetch water

Indicators	Percent		
	Meherpur	Tahirpur	All
Household needed to collect water			
Yes	11.7	48.8	29.8
n (number of households)	420	400	820
Distance of water sources (in meter)			
Upto 50 meters	98.0	75.4	79.9
51-100 meters	0.0	7.2	5.7
101-800 meters	2.0	17.4	14.3
Average distance (in meter) of main source	16.9	59.5	50.9
Median distance of main source	5.1	7.1	6.1
Time needed (in minutes) to fetch water			
Upto 15 minutes	95.9	89.7	91.0
16-30 minutes	4.1	7.7	7.0
More than 30 minutes	0.0	2.6	2.0
Average time (in minute) to fetch water	4.5	7.2	6.7
n (number of households)	49	195	244

2.2.4.2 Persons collect water from outside

Findings of Table 2.2.4.2 reveal that in two upazilas, almost all (overall 94 percent) households, respondents themselves used to collect water for household, followed by 'other female members' (22 percent) and 'girls less than 18 years of age' (21 percent).

Table 2.2.4.2: Person who collected water for household

Persons who collected drinking water (multiple responses)	Percent		
	Meherpur	Tahirpur	All
Respondent (household mother)	98.0	92.8	93.9
Other female members	12.2	24.1	21.7
Male members	8.2	9.2	9.0
Boys less than 18 years of age	4.1	8.2	7.4
Girls less than 18 years of age	8.2	23.6	20.5
n (number of households)	49	195	244

2.2.4.3 Households faced problems in fetching water

Table 2.2.4.3 presents information on percentage of households in two upazilas faced problems when they used to collect water for household from outside. Findings reveal that overall 43 percent households reported to have faced problems. Among them about 35 percent of them mentioned 'scuffles with others' as their main problem in fetching water. Besides, overall 34 percent of them

mentioned ‘too far from house’, followed by “owner’s restriction” (25 percent) and ‘takes much time’ (20 percent).

Table 2.2.4.3: Household faced problem in fetching water

Indicators	Percent		
	Meherpur	Tahirpur	All
Households faced problem in fetching water from outside of house			
Yes	30.0	46.7	43.3
n	50	195	245
Type of problems faced in collecting water (multiple responses)			
Scuffles with others	26.7	36.3	34.9
Too far from home	46.7	31.9	34.0
Owner restriction	33.3	30.8	24.5
Takes much time	20.0	19.8	19.8
Owner’s is annoyed	0.0	7.7	6.6
No transport facility	0.0	6.6	5.7
Need to stand in queue	20.0	5.5	7.5
Others	6.7	13.2	12.1

2.2.5 Sharing of water sources

Results on percentage of households in two upazilas according to sharing status of main water sources are presented in Table 2.2.4. Findings show that over 40 percent of the households reported that they shared their water sources with1-5 households, followed by 6-10 households (11 percent). On the other hand, overall 34 percent of the households (Meherpur: 55 percent, Tahirpur: 12 percent) reported that they didn’t share their water sources with others.

Table 2.2.5: Sharing of main water source with others

Sharing of main water source with others	Percent		
	Meherpur	Tahirpur	All
Used by self/not shared	54.8	12.3	34.0
Shared with 1-5 households	42.5	40.2	41.4
Shared with 6-10 households	1.4	20.6	10.8
Shared with 11-15 households	0.7	13.3	6.9
Shared with 16-20 households	0.5	5.0	2.7
Shared with 21-50 households	0.0	8.5	4.2
Average no. of households shares	3.4	10.4	7.9
n (number of households)	414	398	812

2.3 Arsenic andiron contamination in tubewell

Findings related to the test of household tubewell water and status of contamination with arsenic and iron are presented in Table 2.3. Findings reveal that the water of tubewells of over 60 percent of households in two upazilas (Meherpur: 85 percent, Tahirpur: 44 percent) was reported to have been tested. It shows that among the households that had done water test, almost all (97 percent) households in two upazilas were found to have tubewell with arsenic contamination, while only 5 percent of them had tubewell contaminated with iron. It also shows that among the households that had done water test, green mark was found in the tube wells of overall 78 percent households in the upazilas indicating water is free from arsenic contamination. On the other hand red mark was found in tubewells of 14 percent (Meherpur: 9 percent, Tahirpur: 27 percent) households showing arsenic contamination in water. However, no colour was found in the tube wells of 8 percent households.

Table 2.3: Test of household tubewell water and status of contamination with arsenic and iron

Indicators	Percent		
	Meherpur	Tahirpur	All
Tubewell water was tested			
Yes	84.8	43.7	64.7
No	14.0	43.5	28.4
Don't know	1.2	12.8	6.9
n (number of households)	420	400	820
Type of test done			
Arsenic	99.7	90.1	96.6
Iron	2.3	10.3	5.0
Don't know	0.3	0.6	0.4
n (number of households)	351	174	525
Tubewell with sign of arsenic			
Red	8.6	26.5	14.1
Green	86.0	58.7	77.6
Don't know	5.4	14.8	8.3
n (number of households)	350	155	505

DPHE engineer and some UP chairman in Meherpur upazila informed that level of arsenic in the waters of Meherpur district has increased. Being helpless people of some unions drink arsenic contaminated water. They also mentioned following barriers towards ensuring safe drinking water for the people of this area:

- People of this area drink arsenic contaminated water, as they have no alternative. Most of them have no financial ability to install new tubewell. Moreover, this is not the surest way to remain safe from arsenic.
- A few NGO's installed filter machines in this area. But after some days those machines became non-operational. As a results poor community people did not get any benefit out of it.
- In some places arsenic free water is being available by installing SIDKO plant. But it impossible for the common people to install such a costly plant.

So due to above impediments, people of this area are compelled to drink arsenic contaminated water.

2.4 Knowledge on risk of using unsafe water

Table 2.4 presents percent distribution of household respondents in two upazilas who understand the meaning of unsafe water, risk of using it and types of risk for drinking unsafe water. Findings show that about 61 percent (Meherpur: 52 percent, Tahirpur: 70 percent) of the respondents mentioned that they understand meaning of word of unsafe water and 59 percent (Meherpur: 52 percent, Tahirpur: 65 percent)understand the risk of using unsafe water. Findings also show that 63 percent (Meherpur: 53 percent, Tahirpur: 72 percent) of them mentioned that 'attack by diseases' is the main type of risk of using unsafe water. Besides, about half (Meherpur: 78 percent, Tahirpur: 25 percent) of them mentioned 'diarrhoea' followed by 'attack by germ' (19 percent).

Table 2.4: Knowledge on risk of using unsafe water

Indicators	Percent		
	Meherpur	Tahirpur	All
Understand the word unsafe			
Yes	52.4	69.5	60.7
n (number of households)	420	400	800

Indicators	Percent		
	Meherpur	Tahirpur	All
Understand the risk of using unsafe water			
Yes	52.4	65.0	58.5
No	47.6	35.0	41.5
n (number of households)	420	400	820
Types of risk for drinking unsafe water reported (multiple responses)			
Diarrhoea	77.7	25.4	49.4
Attacked by germ	20.0	17.3	18.5
Attacked by diseases	52.7	71.9	63.1
Attacked by water-borne disease	20.9	1.9	10.6
Skin disease/arsenic problem	0.0	6.2	3.3
Cancer	0.0	0.4	0.2
Could not tell	0.0	0.8	0.4
n (number of households)	220	260	480

2.5 Latrine facilities in household

2.5.1 Types of household latrine

Findings related to types of household latrine in two upazilas are presented in Table 2.5.1. Findings show that only 29 percent of households had access to improved latrines, while 71 percent of the households had access to unimproved latrines (as per JMP definition[7]). Findings also show that overall 38 percent (Meherpur: 60 percent, Tahirpur: 15 percent) households had 'pit latrine with slab and broken water seal'. Besides, about 17 percent (Meherpur: 26 percent, Tahirpur: 8 percent) households had 'water seal with slab latrine connected to septic tank'. While, on the other hand, only7 percent households had 'pit latrine with slab and cover' and 5 percent of them had 'water seal pit latrine with slab'.

Table 2.5.1: Types of household latrine

Indicators	Percent		
	Meherpur	Tahirpur	All
Improved latrine	31.2	27.5	29.4
Unimproved latrine	68.8	72.5	70.6
Water seal with slab latrine connected to septic tank	26.0	8.0	17.2
Water seal with slab latrine connected to unsafe tank	1.7	0.8	1.2
Slab latrine with broken water seal connected to safe tank	1.0	2.0	1.5
Slab latrine with broken water seal connected to unsafe tank	0.5	2.0	1.2
Water seal pit latrine with slab	4.5	5.5	5.0
Pit latrine with slab and broken water seal	60.0	15.2	38.2
Pit latrine with slab and cover	0.5	13.5	6.8
Pit latrine without slab	5.2	1.8	3.5
Water seal pit latrine connected to haor/river/pond	0.0	5.0	2.4
Pit latrine with slab and broken water seal connected to	0.0	12.8	6.2

[7]'As per Joint Monitoring Programme for Water and Sanitation, or JMP (WHO and UNICEF, 2003-2010), improved latrines are flush to septic tank/ sewer line/ pit, ventilated improved pit latrine, pit latrine with slab, and composting toilet, whereas unimproved latrines are flush to elsewhere, pit latrine without slab, bucket or hanging latrine, shared facilities of any type, and no facilities;' while hygienic latrines are improved latrines with flush and water sealsystems.

Indicators	Percent		
	Meherpur	Tahirpur	All
haor/river/pond			
Hanging latrine	0.5	12.5	6.3
No latrine/used bush or field	0.0	3.8	1.8
Hanging latrine over the haor	0.0	16.8	8.2
Sato pan pit latrine	0.2	0.5	0.4
n (number of households)	420	400	820

According to UP Chairman of Badaghat union, Tahirpur upazila “now a day’s more people are using latrine compared to previous time. But use of hygienic latrine is much less among them due to poverty and lack of awareness”. UP chairman and government officers opined that the situation can be improved if public toilets are installed with government grant or NGOs’ fund and by raising public awareness to use latrine.

2.5.2 Sharing of household latrines and number of persons use a latrine

Household respondents in two upazilas were asked whether or not they shared their latrines with others, if they shared then with how many households they shared it. Respondents were further asked about number of members used household latrines. Findings are presented in Table 2.5.2. Table shows that about 46 percent (Meherpur: 38 percent, Tahirpur: 55 percent) households in two upazilas reportedly shared their latrines with other households. Among the households which shared latrines, almost all (99 percent) of them shared with upto 5 households. On the other hand, latrines in 72 percent (Meherpur: 88 percent, Tahirpur: 55 percent) households were used by less than 10 members, followed by ‘10-19 members’ (20 percent). Besides, overall 8 percent households shared with 20 households or more, where most (17 percent) of them in Tahirpur.

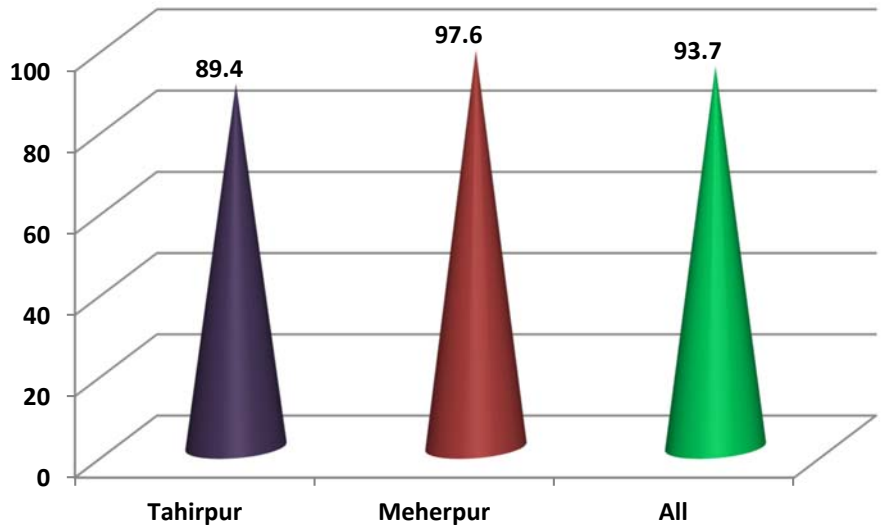
Table 2.5.2: Sharing status of household latrines and number of persons use a latrine

Indicators	Percent		
	Meherpur	Tahirpur	All
Shared household latrine			
Yes	37.9	54.8	46.0
Number of households shared with the latrine			
1-5 households	100.0	98.1	98.9
6-10 households	0.0	1.4	0.8
11-15 households	0.0	0.5	0.3
Number of members use latrine			
Less than 10 members	87.9	54.8	72.0
10-19 members	11.9	28.3	19.8
20 or more members	0.2	16.9	8.2
n (number of households)	420	385	805

2.5.4 Accessibility to household latrines round the year

Figure 2.5.4 presents percentage of households in two upazilas according to accessibility or use the to latrines round the year. Figure shows that overall 94 percent households reportedly had such accessibility to their latrines.

Figure 2.5.4: Households with accessibility to latrines round the year



2.5.5 Reasons for dysfunctional condition of household latrine

Percentage of households, latrines of which were reportedly not functional round the year, according to reasons for dysfunctional condition of latrines round the year is presented in Table 2.5.5. Findings show that almost all (94 percent) of them reported to 'come up of water to the latrine (i.e. inundation of latrine) as the main reason for non-functionality.

Table 2.5.5: Reasons for dysfunctional condition of household latrines round the year

Reasons for dysfunctional condition of household latrines (multiple responses)	Percent		
	Meherpur	Tahirpur	All
Water comes up in the latrine	100.0	92.7	94.1
Filth comes up in the latrine	10.0	9.8	9.8
Latrine becomes damaged	0.0	4.9	3.9
Position of latrine shifted during dry season	0.0	2.4	2.0
n (number of households)	10	41	51

2.5.6 Place of defecation during non-functioning of latrines

Table 2.5.6 shows among the households having non-functional latrine, sometimes in a year, each of about 38 percent households in two upazilas still used their own non-functional latrines and other's latrine. Some of them reported to have used temporary latrines set up in high places or used no fixed place (10-15 percent).

Table 2.5.6: Place of defecation during non-functionality of household latrines

Place of defecation during non-functionality of latrines	Percent		
	Meherpur	Tahirpur	All
Own damaged latrine	0.0	43.9	37.5
Other's latrine	66.7	29.3	37.5
Here and there/bushes	33.3	9.8	14.6
Temporary latrine in higher place	0.0	12.2	10.4
n (number of households)	10	41	51

CHAPTER THREE
HAND WASHING, CLEANLINESS AND HYGIENE PRACTICES

Chapter Three discusses findings related to hand washing places and availability of water and soaps in hand washing places in latrines and kitchens, knowledge on using soaps in hand washing at critical times. In addition, the chapter elaborates findings on respondents' practices and knowledge regarding hand washing after cleaning child faeces, way of disposal of child faeces. Further, the chapter ends with a discussion on cleanliness of household courtyard and disposal places for household waste.

3.1 Hand washing facility

3.1.1 Hand washing facility inside or near latrines

Data related to hand washing facility inside or near the latrine of households and types of facilities are presented in Table 3.1.1. It shows that in two upazila (Meherpur and Tahirpur) overall 53 percent households had hand washing facilities near latrines. Among the households, which reported to have hand washing facilities, 66 percent reported 'tubewell' as their hand washing places after defecation, followed by 'haor/river' (26 percent) and 'bucket or pitcher' (9 percent). Data also reveal that maximum households of Meherpur (89 percent) reported 'tubewell' as their hand washing places after defecation, while about 60 percent households of Tahirpur reported 'haor/river'.

Table 3.1.1: Hand washing facilities in latrine (within 5 yards)

Indicators	Percent		
	Meherpur	Tahirpur	All
Hand washing facilities near latrine			
Yes	59.3	45.7	52.8
n (number of households)	420	385	805
Types of hand washing facility			
Tubewell	89.1	35.2	65.8
Tap with running water	4.8	0.6	2.9
Tap with basin with running water	0.9	0.0	0.5
Bucket/pitcher	7.8	10.8	9.1
Haor/river	0.4	59.7	26.0
n (number of households)	230	177	407

3.1.2 Availability of water and soaps in hand washing places

Table 3.1.2 shows that only 31.8 percent households had water and soap, while 36.6 percent households had water and ashes available in their hand washing places inside or near latrines in two upazila's. Findings of Table 3.1.2 also shows that percentage of households where water and soap were available was about 47 percent in Meherpur, while in Tahirpur, percentage of households where water and ashes were available was about78 percent.

Table3.1.2: Water and soap available in hand washing places inside or near latrine

Water and soap available in handwashing places	Percent		
	Meherpur	Tahirpur	All
Water and soap available	46.8	10.8	31.8
Water and soap not available	1.2	10.2	5.0
Only soap available	0.0	0.6	0.2
Water and ash available	6.9	78.4	36.6
n (number of households)	248	176	424

3.1.3 Hand washing facilities in kitchen

Table 3.1.3 presents information on household hand washing facility in kitchen. Findings reveal that in two upazila overall 48 percent of the households had hand washing facilities in kitchen and those who had hand washing facilities in kitchen about 26 to 37 percent had water, soap and ashes available in hand washing places. However, in Tahirpur about 76 percent household had water and ashes available and in Meherpur 49 percent had only water and 47 percent had water and soap available in hand washing places.

Table 3.1.3: Hand washing facilities in kitchen

Indicators	Percent		
	Meherpur	Tahirpur	All
Hand washing facility in kitchen			
Yes	62.9	32.8	48.2
n (number of households)	420	400	820
Water and soap available in hand washing places in kitchen			
Yes, water and soap available	47.3	16.8	37.2
No, water and soap not available	0.8	7.6	3.0
Only water available	49.2	0.0	32.9
Water and ash available	2.7	75.6	26.8
n (number of households)	264	131	395

3.2 Handwashing with soap at critical times by respondents

To understand the situation of handwashing practice with soap, respondents were asked about purposes for which soap was used in last 24 hours. But findings related to use of soap only in critical times are presented in Table 3.2. Findings show that only 38 percent respondents in two upazila's mentioned they washed hands with soap 'after defecation', followed by 'before eating' (8 percent) and 'washing child's bottom' (7 percent). But percentage of respondents who mentioned about washing hand after defecation was higher in Meherpur (60 percent).

Table 3.2: Handwashing with soap by respondents

Handwashing with soap at critical times	Percent		
	Meherpur	Tahirpur	All
Washing child's bottom	9.7	4.7	7.3
Washing hands after defecation	59.6	16.4	38.3
Washing hands before feeding child	2.0	0.0	1.0
Washing hands before preparing food	3.3	6.1	4.7
Washing hands before eating	5.6	11.9	8.7
n (number of households)	391	379	770

3.3 Knowledge about critical times for hand washing with water and soap

Table 3.3 presents percent distribution of household respondents according to their knowledge on critical times when one should use soaps for hand washing purpose. In both upazila, majority of them (91 percent) mentioned that everyone should wash hands after defecation, followed by 'before/after other domestic works' (59 percent) and 'before eating' (52 percent).Findings interpret that over half of them who mentioned one should wash hand with soap before or after other domestic works are not well aware about critical times of handwashing. Their concept is that one should wash hand after any dirty work including defecation.

Table 3.3: Knowledge on critical times for using soaps in hand washing

Knowledge on critical times for using soaps in hand washing	Percent		
	Meherpur	Tahirpur	All
After defecation	93.0	89.2	91.1
Before eating	60.8	43.2	51.9
Before cooking	12.3	10.0	11.3
After cleaning child's faeces	7.5	4.8	6.1
Before feeding child	5.5	1.2	3.4
Before/after other domestic works	67.6	50.0	59.1
Don't know/could not tell	0.0	0.5	0.3
n (number of households)	398	401	799

3.4 Sources of knowledge on hand washing practices

Table 3.4 presents information on sources of knowledge on hand washing practices. Overall 76 percent household respondents in both upazila's mentioned that they came to know about hand washing practices from their relatives/neighbours, followed by 'NGO staff' (23 percent), 'Television' (13 percent) and 'School' (11 percent). However, about 8 percent respondent didn't hear anything about hand washing.

Table 3.4: Sources of knowledge on hand washing practices

Sources of knowledge on hand washing practices(multiple responses)	Percent		
	Meherpur	Tahirpur	All
Relatives/neighbours	92.2	59.4	75.7
NGO staff	24.9	21.2	23.0
School	14.6	8.0	11.3
Books	8.5	7.0	7.8
Television	20.6	6.0	13.3
Govt. health staff/centre	5.5	1.7	3.6
Religious leader	0.0	1.0	0.5
Lifebuoy campaign	0.0	1.0	0.5
Village practitioner	0.5	0.2	0.4
Mobile phone SMS	0.5	0.2	0.4
Own experience	0.0	0.7	0.4
Ansar/VDP training	0.3	0.0	0.1
Mother's meeting	0.5	0.0	0.3
Not heard about hand washing	0.3	15.5	7.9
n (number of households)	398	400	799

Qualitative findings reveal that being hoar area there is lack of pure and safe water in Tahirpur. People in this area wash hands after defecation with haor water mainly, and this is not at all hygienic. At the same time people are quite unaware about importance of handwashing with soap. Many families have no financial ability to purchase soap for handwashing. UP chairman and government officers suggested that extensive awareness activity should be undertaken to raise public awareness about hand washing.

3.5 Places of child defecation in households and disposal of child faeces

Household respondents who had children aged under-five years were asked about the places of child defecation in their households and how they dispose of child faeces. Findings in this regard are presented in Table 3.5. Findings show that 52 percent of the respondents mentioned that there was

no specific place in their households for child defecation in both upazila, while 25 percent mentioned household latrine and 16 to 17 percent mentioned 'defecation of children in pot or bed/cloths.

Findings also show that among the households where child defecated in other places except latrine, about32 percent of the respondent mentioned that they used to wash away the child faeces in river/haor water, followed by 'put/rinsed into household latrine' (31 percent) and 'put/rinsed into a specific hole/pit' (23 percent).

Table 3.5: Practices about child defecation

Indicators	Percent		
	Meherpur	Tahirpur	All
Place of child defecation (multiple responses)			
Use household latrine	45.4	13.5	25.2
In a specific hole/pit	1.5	3.1	2.5
No specific places	26.9	67.3	52.4
In bed/cloth	10.8	18.4	15.6
Pot	26.9	8.5	15.3
n	130	223	353
Means of disposal of child faeces who do not use adult latrine (multiple responses)			
Put/rinsed into household latrine	63.5	17.7	30.8
Put/rinsed into a specific hole/pit	33.8	18.8	23.1
Washed off with tubewell water	14.9	5.9	8.5
Washed away in river/haor water	8.1	41.9	32.3
Thrown away in bushes near-about	0.0	21.0	15.0
n (number of households)	74	186	260

3.6 Practice of hand washing after disposal of child faeces

Respondent mothers in both upazila, who clean their child faeces, were asked about hand washing practices after cleaning child filth. Data related to this are presented in Table 3.6. Findings reveal that 49 percent of the respondents mentioned that they wash their hands with only water, followed by with 'water and soap' (41 percent) and 'mud/ash' (29 percent). However in Meherpur, over 90 percent of them mentioned that they used soap for handwashing after disposed of child faeces.

Table 3.6: Hand washing practices after cleaning child faeces/filth

Indicators	Percent		
	Meherpur	Tahirpur	All
Person who clean child faeces			
Mother/caregivers	95.1	100.0	98.5
Grandmother	4.9	0.0	1.5
n (number of households)	82	186	268
Way of hand washing after cleaning child filth(multiple responses)			
Do nothing	2.7	1.1	1.5
Cleanse hands with cloths	2.7	7.6	6.2
With only water	25.7	57.8	48.6
With water and soap	91.9	20.0	40.5
With mud/ash and water	40.5	28.6	32.0
No need to wash hands as filth is removed with spade	10.8	1.1	3.9
n (number of households)	74	185	259

3.7 Knowledge on way of disposal of child faeces

Table 3.7 presents percent distribution of household respondents according to their knowledge on way of disposal of child faeces. Findings show that overall 66 percent of the respondents in both upazila mentioned that it should be put into household latrines, while 30 percent of them mentioned that it should be put into a specific hole/pit. On the other hand, 25 percent of them mentioned 'washing in haor/river/pond' in this regard.

Table 3.7: Knowledge on disposal of child faeces

Sources of knowledge on hand washing practices(multiple responses)	Percent		
	Meherpur	Tahirpur	All
No need to do anything	0.3	0.2	0.3
Need to put into HH latrine	92.5	38.9	65.6
Need to put into a specific hole/pit	27.9	31.4	29.7
Need to wash tubewell water	29.9	11.7	20.8
Need to wash in haor/river/pond	11.6	25.2	18.4
Through into bushes	0.0	5.7	2.9
Don't know	0.0	3.7	1.9
n (number of households)	398	401	799

3.8 Knowledge on hand washing methods after disposal of child faeces

Table 3.8 presents percent distribution of household respondents according to their knowledge on hand washing methods after disposal of child faeces. Findings show that in both upazila overall 88 percent of the respondents had knowledge that hands should be washed with water and soap, while 24 percent of them thought that hands should be washed with mud/ash and water.

Table 3.8: Knowledge on hand washing methods after disposal of child

Ways of hand washing (multiple responses)	Percent		
	Meherpur	Tahirpur	All
No need to do anything	1.0	0.2	0.6
Should wash hands with water and soap	96.0	80.5	88.2
Should wash hands with mud/ash and water	22.4	25.5	23.9
Should cleanse hands with own cloths	0.3	0.5	0.4
Should wash hands with only water	5.8	2.8	4.3
Should wash hands with detol/savlon	0.5	0.0	0.3
Don't know	0.0	1.2	0.6
n (number of household respondents)	398	401	799

3.9 Cleanliness of household courtyards and places of waste disposal

Findings related to the cleanliness of household courtyards, places of waste disposal and type of waste they disposed of are presented in Table 3.9. Table shows that courtyards of 54 percent households were found clean in both upazilas. Place of waste disposal in 34 percent households was specific hole or pit, followed by 'courtyard or here-and-there' (26 percent) and 'specific place' (24 percent). Beast's/animal's stool was the main type of waste (63 percent) disposed of, followed by 'other filth/garbage' (47 percent) and 'kitchen garbage' (25 percent). But, in Meherpur about half of the households place of disposal was 'specific hole or pit', while in Tahirpur about 46 percent households place of disposal was courtyard or here-and-there.

Table 3.9: Place of disposal of household garbage or filth in household

Indicators	Percent		
	Meherpur	Tahirpur	All
Courtyard is clean			
Yes	54.3	53.5	53.9
No	45.7	46.5	46.1
n (number of households)	420	400	820
Places of waste disposal (multiple responses)			
Specific hole/pit	52.0	15.5	33.7
Specific place	42.2	5.8	24.0
Low/slopping place	5.8	10.8	8.3
By road-side	0.3	1.2	0.8
Drain	0.0	4.8	2.4
Courtyard/here & there	6.0	45.8	25.9
Bushes	0.3	10.8	5.5
Haor/river	0.0	20.0	10.0
n (number of households)	398	401	799
Type of waste disposed of (multiple responses)			
Beast/animal's stool	78.6	46.8	62.7
Child's stool	1.6	4.8	3.2
Other filth/garbage	10.7	65.1	37.8
Kitchen garbage	48.7	0.5	24.7
Solid waste	0.0	4.3	2.1
Muds and clay	0.0	1.1	0.5
n (number of households)	187	186	373

CHAPTER FOUR
WASH STATUS IN HEALTH CENTRES

Chapter Four discusses findings arrived through a health centre survey in upazila health complex (UHC), community clinics (CCs) and family welfare centres (FWCs) across study area. Findings include: water and sanitation system, hand washing arrangement for patients and service providers, and management of cleanliness and garbage disposal in health centres.

4.1 Water supply system in health centres

4.1.1 Main source of drinking water

Table 4.1.1 presents percent distribution of health centres according to the main source of drinking water and its functionality. Findings show that 77 percent of the health centres in two upazilas had shallow tubewell as the main source, while only 6 percent had deep tubewell. However, 10 percent of the health centres had no source for drinking water. However all of the health centres in Meherpur had water source of drinking water, while about a quarter of health centres in Tahirpur had no water source. Among the health centres that had some sources of drinking water only in 62 percent cases sources were found functional, which was higher in Meherpur.

Table 4.1.1: Main source of drinking water in health centres by types of centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Type of main source of drinking water			
No source	0.0	25.0	9.6
Deep tubewell	6.3	5.0	5.8
Shallow tubewell	81.3	70.0	76.9
Tap	12.5	0.0	5.8
n	32	20	52
Main source of drinking water functional			
Yes	71.9	40.0	61.7
No	28.1	60.0	38.3
n	32	15	47

4.1.2 Condition of platform connected to tubewell

Table 4.1.2 presents information regarding condition of platform connected to tubewell and their drainage system in the health centres. Findings reveal that platforms of tubewell of all health centresin both upazilas were found connected to the respective tubewell and made of cement. Findings further reveal that overall 91 percent of them had no crack and 79 percent had drainage system with safe water removing system. Platforms of only 2-7 percent of the centres had crack and those of 14 percent centres had platforms with water removing system but not in a safe way.

Table 4.1.2: Condition of platform of tubewell in health centres by types of centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Tubewell well connected to platform			
Yes	100.0	100.0	100.0

Indicators	Percent		
	Meherpur	Tahirpur	All
Materials used to construct platform			
Cement	100.0	100.0	100.0
Crack in platform			
Thin crack	0.0	6.7	2.3
Thick crack	3.6	13.3	7.0
No crack	96.4	80.0	90.7
Drainage system of the platform			
Safe water removal system	89.3	60.0	79.1
Unsafe water removal system	3.6	33.3	14.0
Water cannot be removed	0.0	6.7	2.3
n	28	15	43

Health officers of Tahirpur upazila (UFPO and RMO) stated that to ensure supply of water for drinking and other purposes tube-well has been installed in Upazila hospital. But number of tube-wells is not sufficient compared to requirement. Most of the tube-wells in FWCs and CCs are not operational. Immediate arrangement should be taken to keep the sources of water in the health centers operational. At the same time awareness activity should be undertaken to make people aware about hand washing at critical times.

4.2 Sanitation system in health centres

4.2.1 Types, condition and location of latrines in the centres

Table 4.2.1 presents 83 percent of all types of healthcare facilities had access to improved latrines, while 17 percent of those had access to unimproved latrines (as per JMP definition).It shows that 75 percent of the health centres had latrines with ‘flush to safe tank’ and ‘water seal slab latrine and dirt/filth discharge to unsafe tank’ (10 percent). All of the centres had latrines inside the centres. In 56 percent of the centres (Meherpur: 78 percent, Tahirpur: 20 percent) all latrines were found functional, while in 27 percent centres few latrines were found functional and in the remaining 17 percent centres latrines were found non-functional.

Table 4.2.1: Latrine facilities in health centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Location of latrine			
Inside	100.0	100.0	100.0
Outside	0.0	0.0	0.0
Type of latrine			
Flush to safe tank	93.8	45.0	75.0
Flush to unsafe hole/tank	6.3	5.0	5.8
Water seal slab latrine and dirt/filth discharge to safe	0.0	5.0	1.9
Water seal slab latrine and dirt/filth discharge to unsafe tank	0.0	25.0	9.6
Water seal broken slab latrine and dirt/filth discharge to unsafe tank	0.0	5.0	1.9
Water seal pit latrine with slab	0.0	15.0	5.8
Improved latrine	93.8	65.0	82.7
Unimproved latrine	6.2	35.0	17.3

Indicators	Percent		
	Meherpur	Tahirpur	All
Functional status of latrines			
All are functional	78.1	20.0	55.8
Few are functional	18.8	40.0	26.9
All are non-functional	3.1	40.0	17.3
n	32	20	52

4.2.2 Number of latrines and patients' accessibility

Information on number of sex segregated latrines and patients' accessibility to latrines in the health centres is presented in Table 4.4. Findings reveal that 79 percent of the health centres in both upazilas had 1 or 2 latrines. About 19 percent centres had no latrine, which percentage was maximum in Tahirpur (40 percent). Among the health centres with latrines, about 75 percent had no separate latrine for males or females. About 40 to 47 percent of the centres in Meherpur had 1-4 latrines for females. Latrines in 95 percent centres which have latrines remain open for patients.

Table 4.2.2: Number of latrine in health centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Total number of latrine			
No latrine	6.3	40.0	19.2
1-2	55.0	55.0	78.8
3 or more	5.0	5.0	1.9
Number of latrines for male			
No latrine	96.9	95.0	96.2
1	3.1	0.0	1.9
2-4	0.0	5.0	1.9
Number of latrines for female			
No latrine	93.8	95.0	94.2
1	6.3	0.0	3.8
2-4	0.0	5.0	1.9
Number of latrines for both male and female			
No latrine	9.4	40.0	21.2
1	43.8	50.0	46.2
2-4	46.9	10.0	32.7
N	32	20	52
Latrine always open for patients			
All remain open	100.0	83.3	95.2
Few remain open	0.0	8.3	2.4
All remain locked	0.0	8.3	2.4
N	30	12	42

4.2.3 Cleanliness status of latrines

Table 4.2.3 presents information on cleanliness status of latrines of the health centres. Findings show that over half of the centres latrines in both upazilas (Meherpur: 78 percent, Tahirpur: 8 percent) were found clean. Among the centres where all or some latrines were found clean, about 83 percent of them used Harpic/soap/vim for cleaning purpose. Further, almost all of the health centres where latrines were found, had no arrangement of sandals inside or near latrines.

Table 4.2.3: Cleanliness of latrine

Indicators	Percent		
	Meherpur	Tahirpur	All
Cleanliness of latrine			
All latrines are cleaned	76.7	8.3	57.1
Few latrines are cleaned	6.7	33.3	14.3
None of the latrines are cleaned	16.7	58.3	28.6
Material used for cleaning latrines			
Harpic/soap/vim	90.0	66.7	83.3
Bleaching powder/finile	3.3	8.3	2.4
Water only	6.7	33.3	14.3

4.2.4 Female patients' comfort in using latrines

Table 4.2.4 presents information on female patients' status in terms of feeling comfort in using latrines of the health centres and availability of any adequate or separate place inside latrines for menstrual hygiene. Findings show that only 9 percent in the UHC female patients in both upazilas felt comfort in using latrines, but there was no adequate/separate place for menstrual hygiene inside latrines.

Table 4.2.4: Comfort of female patients in using latrines

Indicators	Percent		
	Meherpur	Tahirpur	All
Female patients comfort ability in using latrine			
Yes	9.4	8.3	9.1
No arrangement for female latrine	90.6	91.7	90.9
n	32	20	52
Adequate and separate place for menstrual hygiene			
No	100.0	100.0	100.0
n	3	1	4

Qualitative findings reveal that sufficient number of latrines is available in hospitals and health centers in Tahirpur upazila, but all of these are not hygienic. Many of them are lying non-functional for a long time. Main problems in ensuring use of hygienic latrine in this area are:

1. Damage or non- operational of tubewell or any source of water.
2. Lack of manpower to clean latrine.
3. Lack of sufficient allocation (fund) for purchasing clearing materials.
4. No system/arrangement for proper supervision of water and sanitation facilities.
5. Carelessness of hospital or health Center authority/administration in this regard.

Concerned government officers and local public representative (UP chairman) in Tahirpur upazila opined that enhanced importance should be given on the use of hygienic latrine and concerned office should increase allocation for installation and proper maintenance of these sanitation facilities. At the same time awareness activities should be under taken at community level to make community people aware about the use of hygienic latrine.

4.3 Hand washing facilities at health centres

4.3.1 Hand washing facilities for service providers

Table 4.3.1 presents information on hand washing facilities for service providers in the health centres. Findings show that overall 31 percent of health centres in both upazila (Meherpur: 13 percent,

Tahirpur: 60 percent) had no hand-washing facility for service providers. Among health centre with such arrangement 67 percent had tubewell and 27 percent had bucket/pitcher/jug/jerrican water for hand washing. Overall 47percent health centres had only water; while 39 percent had both water and soap available at hand washing places.

Table 4.3.1: Hand washing facility for service providers

Indicators	Percent		
	Meherpur	Tahirpur	All
Place of hand washing facility for service provider			
No arrangement for HW	12.5	60.0	30.8
Inside latrine	31.3	10.0	23.1
Adjacent to latrine	18.8	10.0	17.3
In any other place other than latrine	37.5	20.0	30.8
Outside health centre (fixed place)	15.6	5.0	11.5
n	32	20	52
Types of HW facility for service provider			
Tube well	71.4	50.0	66.7
Tap with running water	3.6	0.0	2.8
Basin with tap with running water	10.7	25.0	16.7
Bucket/pitcher/jug/jerrican	32.1	25.0	27.8
n	28	8	36
Availability of water and soap in HW place			
Only water	46.4	50.0	47.2
Both water and soap	39.3	37.5	38.9
Nothing	14.3	12.5	13.9
n	28	8	36

4.3.2 Hand washing facilities for patients

Table 4.3.2 presents information on hand washing facilities for patients in the health centres in both upazilas. Findings show that overall 75 percent of health centres had no place for hand washing for patients. Among health centres with hand washing facilities 62 percent had tubewell and 23 percent had bucket/pitcher/jug/jerrican water for hand washing. Slightly over half of such health centres (54 percent) had both water and soap, while 39 percent had only water available at hand washing place.

Table 4.3.2: Hand washing facility for patients

Indicators	Percent		
	Meherpur	Tahirpur	All
Places of hand washing facility for patients			
No arrangement for hand washing	84.4	60.0	75.0
Inside latrine	3.1	10.0	5.8
Adjacent to latrine	0.0	15.0	3.8
In any other place other than latrine	12.5	20.0	13.5
Outside health centre (fixed place)	0.0	5.0	1.9
n	32	20	52
Types of hand washing facility for patients			
Tube well	80.0	50.0	61.5
Basin with tap	0.0	37.5	15.4
Bucket/pitcher/jug/jerican	20.0	12.5	23.1

Indicators	Percent		
	Meherpur	Tahirpur	All
Availability of water and soap in hand washing place			
Only water available	20.0	50.0	38.5
Both water and soap available	80.0	37.5	53.8
Nothing available	0.0	12.5	7.7
n	5	8	13

4.4 Cleanliness and waste management of health centres

4.4.1 Cleanliness status of health centres

Findings related to cleanliness status of health centres are presented in Table 4.4.1. Findings show that about 62 percent of health centres' in both upazilas (Meherpur: 80 percent, Tahirpur: 30 percent) surroundings and 83 percent of health centres' corridor and rooms were found clean. However, in Meherpur almost all of the health centres (91percent) had manpower for cleaning, while in Tahirpur almost all of the health centres (90 percent) had no manpower for cleaning.

Findings also show that slightly over half (75 percent) of health centres had arrangement for waste disposal. Among health centre with such arrangement about 48 percent had 'basket/cartoon', followed by 'specific dustbin/container' (25 percent) and 'no specific place' (21 percent). After a certain period of time 46 percent of health centres removed to other place at certain period, while 23 percent burned out that waste21 percent did nothing to dispose that. Again, 44 percent of the health centres removed disposed waste after a week up to 30 days.

Table 4.4.1: Cleanliness of health centre by types of health centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Cleanliness of surroundings of health centre			
Yes	81.3	30.0	61.5
No	18.8	70.0	38.5
Cleanliness of corridor and rooms of health centre			
Yes	96.9	60.0	82.7
No	3.1	40.0	17.3
Manpower for cleaning			
Yes	90.6	10.0	59.6
No	9.4	90.0	40.4
Waste disposal arrangement			
Yes	87.5	55.0	75.0
No	12.5	45.0	25.0
Type of waste disposal arrangement			
Specific dustbin/container	12.5	45.0	25.0
Basket/cartoon	71.9	10.0	48.1
Specific hole	6.3	5.0	3.8
No specific place	9.4	40.0	21.2
Haor	0.0	5.0	1.9
Management of disposed waste			
Burned out after certain period	18.8	30.0	23.1
Covered/buried under ground for certain period	6.3	15.0	9.6
Removed to other place at certain period	68.8	15.0	46.2
Nothing	6.3	45.0	21.2
n	32	20	52

Indicators	Percent		
	Meherpur	Tahirpur	All
Frequency of waste disposal			
Daily	23.3	9.1	19.5
2-7 days	40.0	27.3	36.6
8-30 days	36.7	63.6	43.9
n	30	11	41

4.4.2 Fund for WASH activities in the health centres

Table 4.4.2 presents information on fund for WASH activities by type of health centre. Findings show that only 44percent of the centres (Meherpur: 63 percent, Tahirpur: 15 percent) had fund for WASH related activities. Further, 100 percent of the centres' fund was arranged by health centre management committee (CG) in Tahirpur. On the other hand, 60 percent of the centres' fund was collected from patients followed by centre management committee (20 percent). Almost all health centres in two upazila which had fund for WASH, maintained income-expenditure accounts.

Table 4.4.2: Fund for WASH by types of health centre

Indicators	Percent		
	Meherpur	Tahirpur	All
Fund for WASH			
Yes	62.5	15.0	44.2
No	37.5	85.0	55.8
N	32	20	52
Source of fund			
Government	5.0	0.0	4.3
Health centre Management Committee	20.0	100.0	30.4
Local people	15.0	0.0	13.0
From patients	60.0	0.0	52.2
N	20	20	23
Maintenance of income-expenditure account for WASH fund			
Yes	95.0	100.0	95.7
N	20	3	23

4.5 Knowledge and practices of health service providers on hygiene and cleanliness

4.5.1 Knowledge on critical times for hand washing

Data related to knowledge of health service providers on hand washing at critical times are presented in Table 4.5.1. Findings reveal that 99 percent service providers in both upazilas mentioned about washing hands 'after defecation' and 'before eating' and 14 percent mentioned 'after visiting patients'. Findings further show that 50 to 52 percent service providers mentioned 'to be free from germ' and 'to remain free from disease' as the main reasons for hand washing. Other reasons were 'to remain free from waterborne diseases or diarrhoea' (24 percent) and 'remain free from worms' (5 percent).

Table 4.5.1: Knowledge of health service providers on hand washing at critical times

Indicators	Percent		
	Meherpur	Tahirpur	All
Knowledge of service providers on critical times for hand washing			
After defecation	100.0	96.8	98.7
Before eating	87.5	96.8	91.1

Indicators	Percent		
	Meherpur	Tahirpur	All
Before cooking	4.2	12.9	7.6
After cleaning child's faeces	8.3	12.9	10.1
Before feeding child	6.3	12.9	8.9
After visiting patients	12.5	16.1	13.9
Reasons for need to wash hands in critical times			
To be free from germs	43.8	64.5	51.9
Remain free from disease	62.5	32.3	50.6
Remain free from waterborne disease/diarrhoea	22.9	25.8	24.1
Remain free from worms	2.1	9.7	5.1
To increase disease prevention capacity	0.0	3.2	1.3
To keep neat and clean	0.0	6.5	2.5
N	48	31	79

4.5.2 Hand washing practices by the service providers

Table 4.5.2 presents information on hand washing practices by the service providers. Findings show that almost all of the service providers never washed hands before (95 percent) and after examining patients (98 percent). Only few of them washed hands before (5 percent) and after (3 percent) examining patients. In Tahirpur all of them washed hands with Hexasol- a cleansing agent used to remain free from germ, while in Meherpur half of them washed hands with only water and another half of them washed hands with water and soap.

Table 4.5.2: Practice of hand washing of health service provider

Indicators	Percent		
	Meherpur	Tahirpur	All
Service provider washed hands before examining patients			
Washed hands some times	4.2	6.5	5.1
Never washed hands	95.8	93.5	94.9
Service provider washed hands after examining patients			
Washed hands some times	2.1	3.2	2.5
Never washed hands	97.9	96.8	97.5
n	48	31	79
Materials used in washing hands before and after examining patients			
Only water	50.0	0.0	20.0
With soap and water	50.0	0.0	20.0
With Hexasol	0.0	100.0	60.0
n	2	3	5

4.5.3 Service providers' advice to patients for cleanliness practices

Table 4.5.3 presents data on whether service providers gave any advice to patients on hygiene and cleanliness, if advised then what types of advice were given by them. Findings reveal that 29 percent of the service providers reportedly advised some patients about hygiene and cleanliness. About 52 percent of them, who gave advice, advised to 'always remain neat and clean', 22 percent 'to wash hands before taking food' and 13 percent 'to bath at proper time'.

Table 4.5.3: Service provider advised on hygiene and cleanliness

Indicators	Percent		
	Meherpur	Tahirpur	All
Advice given to patient about hygiene and cleanliness			
Advised some patients	22.9	38.7	29.1
Never Advised	77.1	61.3	70.9
N	48	31	79
Type of advice given (multiple responses)			
Always to remain neat & clean	27.3	75.0	52.2
Possible to be free from disease if remained neat & clean	0.0	8.3	4.3
Possible to have skin disease if not remain neat & clean	0.0	8.3	4.3
To bath at proper time	0.0	25.0	13.0
To wash hands before taking food	45.5	0.0	21.7
To keep clothes neat & clean	9.1	8.3	8.7
Not to defecate/urinate here & there	0.0	8.3	4.3
To wash hands with soap after defecation	18.2	8.3	13.0
To drink safe water & use hygienic latrine	0.0	8.3	4.3
To wear sandal to use latrine	9.1	0.0	4.3
N	11	12	23

4.5.4 Service providers' advice to patients for hand washing, diarrhoea and food preservation hygienically

Table 4.5.4 presents information on whether service providers gave any advice to patients on hand washing practices and 'diarrhoea/food preservation hygienically', if advised then what types of advice were given by them. Findings reveal that 22 and 9 percent of the service providers, respectively, advised some of the patients on 'hand washing practices' and 'diarrhoea/food preservation hygienically'. The main advice on hand washing practices given was 'advice for HW after defecation'. Main advice on diarrhoea/food preservation hygienically was 'not to take stale food' (50 percent), followed by 'always to cover food' (33 percent each).

Table 4.5.4: Service providers' advice on hand washing practices and diarrhoea/food preservation hygienically

Indicators	Percent		
	Meherpur	Tahirpur	All
Advice given to patient about hand washing practice			
Advised each patients	2.1	0.0	1.3
Advised some patients	25.0	16.1	21.5
Never advised	72.9	83.9	77.2
n	48	31	79
Type of advice given			
Advice for HW before and after eating	15.4	0.0	11.1
Advice for HW after defecation	53.9	20.0	44.4
Advice for cutting nails timely	23.1	40.0	27.8
To wash hands with soap	0.0	40.0	11.1
After domestic work (cleaning dust, cooking)	46.2	0.0	33.3
n	13	5	18
Advice given to patient about diarrhoea/food preservation hygienically			
Advised some patients	8.3	9.7	8.9
Never Advised	91.7	90.3	91.1
n	48	31	79

Indicators	Percent		
	Meherpur	Tahirpur	All
Type of advice given			
Always to cover food	33.3	33.3	33.3
Not to take stale food	33.3	66.7	50.0
To drink safe water	33.3	0.0	16.7
Advised for ORS	0.0	33.3	16.7
n	3	3	6

4.5.5 Service providers' advice to patients about effect of using arsenic contaminated water

Table 4.5.5 presents information on whether service providers gave any advice to patients on effect of using arsenic contaminated water, if advised then what types of advice were given by them. Findings reveal that in Meherpur about 6 percent of the service providers advised some of the patients on effect of using arsenic contaminated water and all of them advised to use or drink arsenic free water.

Table 4.5.5: Service providers' advice on effect of using arsenic contaminated water by types of study area

Indicators	Percent		
	Meherpur	Tahirpur	All
Advice given to patient about effect of using arsenic contaminated water			
Advised some patients	6.3	-	6.3
Never advised	93.8	-	93.8
n	48	-	48
Type of advice given			
Advice for using/drinking arsenic free water	100.0	-	100.0
n	3	-	3

CHAPTER FIVE
HYGIENE (CLEANLINESS) PRACTICE OF TBA

Chapter five discusses findings related to training on conducting safe delivery received by TBAs (Trained Birth Attendants) and their experience of delivery conduction. The chapter also elaborates findings related to hand washing practices and cleanliness of places of delivery before conducting deliveries, cleanliness practices in cutting and tying umbilical cords and material used in the naval after cutting cords.

5.1 Experience of TBA

Table 5.1.1 presents information on experience of TBA of delivery conduction and types of training they received. Findings presented in Table 5.1 show that 34 percent of the TBAs have experience of at most 20 years, followed by 'upto 10 years' (31 percent) and '21-30 years' (22 percent). Among TBAs 52percent received training on safe delivery conduction while 45 percent didn't receive any training.

Table 5.1.1: Experience of delivery conduction and types of training received

Indicators	Percent		
	Meherpur	Tahirpur	All
Experience (in year) on delivery conduction			
Up to 10	18.5	43.6	31.2
11 – 20	46.3	21.8	33.9
21 – 30	24.1	20.0	22.0
31 – 48	11.1	14.5	12.8
Types of training received (multiple responses)			
No training received	38.9	50.9	45.0
Conducting safe delivery	55.6	49.1	52.3
Newborn care	13.0	14.5	13.8
Six steps of hand washing with soap	0.0	14.5	7.3
Health awareness	13.0	12.7	12.8
Cleanliness during conducting deliveries	0.0	7.3	3.7
ANC/PNC	1.9	7.3	4.6
Food & nutrition of pregnant or lactating women	11.1	1.8	6.4
n	54	55	109

5.2 Cleanliness practices of TBAs

5.2.1 Hand washing practices before conducting deliveries

Percent distribution of TBAs according to their hand washing practices before conducting deliveries is presented in Table 5.2.1. Findings reveal that almost all (99 percent) of the TBAs reportedly wash their hands before conducting deliveries and they (93 percent) wash both hands in this occasion.

Findings also show that majority (89 percent) of them wash hands with soap and water, and 72 percent of them dry up their hands with cleaned cloth, followed by 'in air' (15 percent).

Table 5.2.1: Hand washing practices before conducting deliveries

Indicators	Percent		
	Meherpur	Tahirpur	All
Wash hands (multiple questions and answers)			
Yes, wash hand	100.0	98.2	99.1
Yes, wash both hands	90.7	94.4	92.6
n	54	55	109
Materials used in hand washing			
Only water	9.3	11.1	10.2
Soap and water	88.9	88.9	88.9
n	1.9	54	0.9
Ways of drying hands			
With self-worn clothes	5.6	16.7	11.1
With cleaned cloth	70.4	74.1	72.2
In air	20.4	9.3	14.8
Do not dry hand	3.7	0.0	1.9
n			

5.2.2 Practice of cleaning delivery places before conducting deliveries

Table 5.2.2 presents percentage of TBAs according to their practice of cleaning delivery places before conducting deliveries. Findings show that 5 TBAs, who reported to conduct deliveries on floor, mentioned that they clean floor before conducting deliveries there. Almost all (95 percent) of the TBAs, who conduct deliveries on plastic sheets, kantha or bed sheets, clean sheets or kantha before delivery. However, 44 percent of TBAs, who reported to conduct deliveries on plastic/bed sheets or kantha, wash the sheets or kantha with a piece of cloth and 28 percent of them wash these with soap and water, while 24 percent wipe only with water.

Table 5.2.2: Cleanliness of place of delivery before conducting a delivery

Indicators	Percent		
	Meherpur	Tahirpur	All
Cleanliness of floor and plastic sheets/kantha/bed sheets			
Clean floor	100.0	100.0	100.0
n	3	2	5
Clean plastic sheets/kantha/bed sheets	100.0	90.6	95.2
n	52	53	105
Ways of cleaning plastic sheet/kantha/bed sheet			
Wash/wipe with water only	11.5	37.5	24.0
Wash/wipe with soap and water	21.2	35.4	28.0
Wash/wipe with Savlon/Detol	11.5	2.1	7.0
Wipe with cloth only	63.5	22.9	44.0
Wipe with oil only	0.0	2.1	1.0
n	52	48	100

5.2.3 Cleanliness practice in cutting and tying umbilical cords

Table 5.2.3 presents percentage of TBAs according to their cleanliness practices in cutting and tying umbilical cords. Findings reveal that almost all (93 percent) of the TBAs in both upazilas reportedly use new blades in cutting cords. Further, above one third of the TBAs reported that they boil cutting materials for 1-9 minutes, while 28 percent of them for '10-19 minutes'. Findings also show that about

55 and 44 percent of TBAs, respectively, use any kind of thread and boiled thread in tying cords and almost all (92 percent) of them tie cord directly with hands (Table 5.2.3).

Table 5.2.3: Cleanliness practices in cutting and tying umbilical cords

Indicators	Percent		
	Meherpur	Tahirpur	All
Materials used in cutting cords			
New blade	94.4	90.9	92.7
Old blade	0.0	3.6	1.8
Knife	1.9	1.8	1.8
Scissor	1.9	7.3	4.6
Bamboo slip	1.9	3.6	2.8
Forceps	0.0	3.6	1.8
n	54	55	109
Boil cutting materials before cutting cords			
Think no need to boil irrespective of new or old material used	0.0	3.6	1.8
No need as new blade is used	3.7	7.3	5.5
Wash with hot water	18.5	5.5	11.9
Boil for 1-9 minutes	53.7	21.8	37.6
Boil for 10-19 minutes	22.2	32.7	27.5
Boil for 20 minutes or more	0.0	20.0	10.1
Burn with fire	1.9	9.1	5.5
Materials used in tying cords			
Any thread	50.0	60.0	55.0
Boiled thread	50.0	38.2	44.0
Umbilical cord itself	0.0	1.8	0.9
Ways of tying cords			
With cramp	14.8	1.8	8.3
Directly with hands	85.2	98.2	91.7
n	54	55	109

5.2.4 Materials used in naval after cutting umbilical cords

Figure 5.2.4 presents information on material used in naval after cutting cords of newborn. Findings show that about 51 percent of the TBAs use 'Detol or Savlon or Chlorhexidine solution', while 28 percent of them nothing after cutting cords. Few of them, however, reported other items, like mastered oil, and Hexasol (7-11 percent) in this regard.

Table 5.2.4: Materials used in naval after cutting umbilical cords

Materials used in naval after cutting umbilical cords	Percent		
	Meherpur	Tahirpur	All
Nothing used	1.9	54.4	28.4
Detol/Savlon/Chlorhexidine	81.5	20.0	50.5
Hexasol	16.7	5.5	11.0
Mastered oil	7.4	7.3	7.3
Burned hearth mud	0.0	7.3	3.7
Coconut oit	0.0	1.8	0.9
Nevanol powder	1.9	7.3	4.6
n	54	55	109

5.2.5 Source of knowledge on cleanliness and hygiene practice

TBAs, who had knowledge on cleanliness and hygiene practices during conducting deliveries, were asked about from where they got such knowledge. Data in this regard are presented in Table 5.2.5. Data show that 48 percent of them got such knowledge from 'NGO staff', followed by 'Imam' (39 percent) and 'government health workers/health centres' (14 percent). About 17 percent of them in two upazilas mentioned that they didn't know anything about cleanliness and hygiene practice.

Table 5.2.5: Source of knowledge on cleanliness to be maintained during delivery conduction

Source of knowledge on cleanliness	Percent		
	Meherpur	Tahirpur	All
Government health worker or government health centre	9.3	18.2	13.8
NGO staff	61.1	34.5	47.7
Television	1.9	0.0	0.9
Poster	1.9	0.0	0.9
Imam	18.5	58.2	38.5
Mobile	1.9	0.0	0.9
Nurse	1.9	1.8	1.8
Senior TBAs	0.0	1.8	0.9
Union Parishad	1.9	5.5	3.7
Own experience	0.0	1.8	0.9
Don't Know anything about cleanliness	18.5	16.4	17.4
n	54	55	109

CHAPTER SIX
DISCUSSION, CONCLUSION AND RECOMMENDATION

WaterAid Bangladesh has been implementing two projects aiming to integrate WASH with health and nutrition to enhance overall health status of the communities in Tahirpur and Meherpur since May 2016. A baseline survey was conducted to provide necessary benchmark information to WaterAid and its partner NGOs in setting intervention priorities towards implementation of the project and assessing outcomes at the end of the project.

From this survey it was found that irrespective of economic status, households in both areas depend on shallow tubewell for drinking water. Since many of the households do not possess own tube well in Tahirpur, fetching water is still difficult to them. Scuffles with others and owner's restriction are considered two major constraints for households to fetch water. The women and girls especially in poor families are predominantly involved in fetching waters from other households which may hampers their household works. This study found that around sixty percent of the respondents had knowledge on the meaning of unsafe water (61%) and the risk of using unsafe water (59%) in both areas.

This study reveals that seventy one of the households are lacking improved latrine. The arrangement in hand washing facilities at households is not satisfactory. Like many other studies, this study found that though household members possess satisfactory knowledge on handwashing and cleanliness, the practice is quite low.

Different studies show that safe water and sanitation facilities at health centers are very crucial to ensure healthy environment among the community. This survey reveals that still some of the health facilities are lacking source of safe water. Likewise, some of the health centers did not have improved sanitation facilities. During survey many latrines were found non-functional which need urgent attention of the concern authority. Moreover, arrangement for separate latrine for male and female; menstrual hygiene and hand washing is poor. In spite of having almost universal knowledge on hand washing among health care providers, in most cases they never wash hands before and after examination of patients.

Community groups are considered to mobilize resources for operating water and sanitation facilities at community clinics. The study found that community groups assist in generating fund for the community clinics in Tahirpur, while this fund generates in Meherpur from deposition money of patients. However, WASH is not considered as priority to the groups rather they tend to assist poor women for pregnancy and child birth related complications.

Strengthen awareness activities in the community to educate community people on safe water and sanitation is strongly recommended. Financial and technical support should be provided to poor families in installing safe water sources and sanitary latrines. Government and other development organizations should come up with policy and guideline to establish both water and sanitation facilities at the health centers.