

Baseline Survey: Bangladesh LIC WASH Programme



Prepared for

WSUP
Water & Sanitation
for the Urban Poor

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The study greatly contributes to conducting the baseline survey of Bangladesh Low Income Communities (LIC) WASH Project under Water and Sanitation for the Urban Poor (WSUP) Programme. The programme entitled WSUP is one of the major and most intensive hygiene/sanitation and water quality improvement programmes in Bangladesh. Its main focus is hygiene promotion and improvement of basic hygiene and sanitation practices. The baseline survey is held in 14 slums of Dhaka cosmopolitan city and 15 schools around Dhaka.

First of all, let me give thanks to the participants of the FGD and KIIs, without whose profound support, the implementation of the study would have never been possible.

What needs to be pronounced emphatically in connection with the successful administration of this study is that such a gigantic task would have never been completed if all those involved with this study-had not worked sincerely. So, the HDRC Family bestows a profusion of thanks upon Mr. Abdus Shaheen, Country Programme Manager, and Mr. Firoz Akther, Monitoring and Evaluation Officer, WSUP Bangladesh for extending support in the event of doing the work. WSUP Bangladesh deserves heartfelt thanks and compliments, since HDRC is entrusted with the task of doing it, So, I would like to express gratefulness to WSUP.

Since the embryonic stage of the study, HDRC worked in collaboration with WSUP Bangladesh. The staff of WSUP and its partner NGO obtained quantitative data as per the agreement between HDRC and WSUP Bangladesh. By the same token, the HDRC Field staff collected qualitative information. The cooperation existing between HDRC and WSUP has been facilitative of the completion of the study. Therefore, I gratefully remember the contributory part of all those belonging to both WSUP, partner NGO and HDRC.

Last of all, let me extend thanks to all the stakeholders.

Prof. Abul Barkat
Team Leader

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CBO	Community Based Organization
DCI	Data Collection Instrument
DFID	Department for International Development
DSK	Dusta Shayastha Kendra
DWASA	Dhaka Water Supply and Sewerage Authority
FGD	Focus Group Discussion
FSM	Fecal Sludge Management
HDRC	Human Development Research Centre
HH	Household
HIV	Human Immunodeficiency Virus
JMP	Joint Monitoring Programme
KII	Key Informant Interview
LIC	Low Income Communities
NGO	Non-Government Organization
PPS	Probability Proportionate to Size
PSU	Primary Sampling Unit
SME	Small and Medium Enterprise
SRS	Systematic Random Sampling
WASH	Water, Sanitation and Hygiene
WSUP	Water and Sanitation for the Urban Poor

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Executive Summary

A. Background and Methodology

HDRC is assigned the task to conduct the baseline survey of Bangladesh Low Income Communities (LIC) WASH Project under Water and Sanitation for the Urban Poor (WSUP) Programme.

The major objectives of this study involve exploring the current status of WASH conditions of the urban poor, identifying the level of knowledge and practice of hygiene behavior among the disadvantaged slum-dwellers, school children, and assessing the knowledge and practice levels of communities, in terms of hygiene practice and the role of the government and non-government service providers in the promotion of WASH.. The research design is split into two broad segments namely, Quantitative Survey and Qualitative Methods. As per the agreement between HDRC and WSUP Bangladesh, quantitative data has been obtained by the staff of WSUP and its partner NGO. On the other hand, qualitative information has been collected by the HDRC Field staff.

The baseline study has been conducted from January 28 to February 10, 2014 in 14 slums of Dhaka city. It provides data on community access to water and latrines, and related practices on water, sanitation, fecal sludge management, and hygiene. A total of 420 households (female 402, male 18) have been interviewed. They were randomly selected from 14 slums. A total of 98 participants were present in 13 Focus Group Discussions (FGDs). FGDs were arranged with females, males, and adolescent girls. The size of FGD was 6-7 persons per group. The major issues discussed in FGDs included water, sanitation services, hygiene knowledge and behavior, and menstrual hygiene. A total of 20 Key Informant Interviews (KIIs) were held with school teachers, CBO leaders, NGO officials, WSUP management personnel and other stakeholders.

For obtaining a representative sample size, a probabilistic sampling approach was adopted. In this regard, a two-stage random sampling strategy was taken. At the first stage, Primary Sampling Units (PSUs) were chosen randomly, HHs being the PSU. At the 2nd stage, survey respondents were selected from each of the households. In 14 slums, the estimated number of households was 54,430.

The survey questionnaire was developed by WSUP management covering specific concern on access to water, sanitation and hygiene facilities. A template for FGD and questionnaire for KII was developed by HDRC covering the qualitative aspect of the survey.

B. Key Findings

The key results of the indicators, based upon which the survey was conducted, are presented in a tabular form, hereinafter following namely:

Indicator		Percentage
1.	Percentage of population with access to improved water sources (The facilities include piped water supply, standpipe, kiosk, household network connection).	98 (N=420)
2	Percentage of population with access to improved latrines	52 (N=420)
3	Households have access to improved types of sanitation facility. (These facilities include flush or pour latrines to piped sewer system, latrine with slab and pit, latrine connected with pit/ septic tank, ventilated improved pit latrines, composting latrines).	50 (N=420)
4	Percentage of population observed to wash hands with soap after latrine use	21 (N=420)
5	Percentage of population reporting washing hands with soap before feeding children	1 (N=183)
6	Percentage of population reporting washing hands with soap after cleaning up following children's defecation.	11 (N=183)
7	Percentage of population reporting washing hands with soap before preparing food.	2 (N=420)
8	Percentage of population reporting washing hands with soap before eating.	7 (N=420)
9	Percentage of population reporting washing hands with soap after defecation.	21 (N=420)
10	A number of diarrheal cases (previous last 3 months).	78 (not percentage)
10.a	Percentage of population affected with diarrhea (in last 3 months preceding survey)	4.1 (N=420)
11	Responsible for household water collection:	
11.a	Female	97 (N=420)
11.b	Male	16 (N=420)
11.c	Girls	8 (N=420)
12	Most of the families fetch water within 81.1 meter radius spending from 15 minutes	
13	Purification of drinking water:	
13a.	Does not treat their drinking water	79 (N=420)
13b.	Boiling and filtering	19 (N=420)
14	Household know when to wash their hands	81 (N=420)
15	Percentage of population reporting use old rags during menstruation	83 (N=106)
16	Latrine not connected with Pit/ septic tank	55 (N=181)
17	Pit/ tank never emptied (household connected with pit/tank)	62 (N=181)
18	Knowledge on usefulness of latrine	61 (N=420)
19	Emanating foul smell from latrine	61 (N=420)
20	Faeces found on the pan	79 (N=420)

C. Key Recommendations

Based on the inferences drawn from this baseline survey involving quantitative and qualitative approaches, the following recommendations are forwarded for the consideration of the relevant stakeholders:

1. Access to safe water is still a huge everyday challenge for slum residents. In addition, the slum population is increasing and informal sector is expanding ending up with inhuman quality of life for the slum dwellers day by day. To meet the challenge this project, as part of a broader national developmental endeavor for slum dwellers, should assist the slum communities by constructing water sources and providing technical support for water source maintenance.
2. It is absolutely necessary to ensure uninterrupted availability of safe and clean water and access to water for slum residents especially for poor and very poor by installing enough number of facilities.
3. Specific motivational programmes should get started especially for women and children, in order to enhance their capability to maintain water sources for their empowerment.
4. The data suggest that a need for sanitation intervention should be high in the development agenda of slum people. The number of people who are at risk of sanitation-related disease outbreak is still high in the urban slum. Improved latrines should be built for the slum dwellers.
5. Community is located at the centre of the project interventions. Community participation should be ensured at the different phases of the project from designing to implementation, from drawing community action plan to monitoring and evaluation by the community people, in which all excluded categories of people should be effectively included. Their voices should be listened and respected accordingly.
6. Specific motivational programme and communication for development programme (training, social mobilization, hygiene promotional sessions, using video, audio, poster, sticker) need to be introduced for the project participants.
7. Institutional capacity building is an ongoing process through which organization can enhance their ability to identify and meet the development challenges. Building robust partnership with the stakeholders, and facilitate learning process are the main two key elements of institutional capacity building process. There is scope to improve their coordination among the stakeholders and field level staff. WSUP can improve their operational modalities for smooth implementation of software and hardware activities by designing specific responsibilities of partners and stakeholders.
8. The WSUP type of project, often, produces many intended and unintended, tangible and intangible positive outcomes. It is suggested to conduct a mid-line survey (after 2 years of the project) and an end-line impact survey (after 5 years of the implementation of the project). It is our experiential suggestion that, in those surveys, while it is a must to use the same data collection instruments (DCIs) as in the baseline. However, it is necessary that some relevant new questions should be incorporated in those surveys, especially in the mid-line survey to uncover the unintended, tangible and intangible positive impacts of the project.

CHAPTER 1

PROJECT BACKGROUND AND METHODOLOGY

1.1 Project Background

A baseline study is a necessary step in planning, implementation, and evaluation of any development project. The findings of the baseline study help develop a better comprehension of the target issues and planning for specific interventions of the project.

The present assignment is viewed to be efficacious in conducting baseline survey of Bangladesh Low Income Communities (LIC) WASH project under Water and Sanitation for the Urban Poor (WSUP) Programme. Its main focus is hygiene promotion and improvement of basic hygiene and sanitation practices. The baseline survey is conducted in 14 slums of Dhaka cosmopolitan city and 15 schools around Dhaka. Funded by Department for International Development (DFID) UK, WSUP Bangladesh programme aims to improve water services for 250,000 people between Dhaka and Chittagong; communal sanitation services for 100,000 people in Dhaka; school sanitation facilities for 37,500 school children; and access to fecal sludge and management (FSM) services for 250,000 people.

1.2 Objectives of the Assignment

The prime objectives of this assignment in order for conducting a Baseline Survey for Bangladesh LIC WASH Programme involve

- (i) Exploring the current status of WASH conditions of the urban poor;
- (ii) Identifying the level of knowledge and practice of hygiene behavior among the disadvantaged living in slums, school children; and
- (iii) Assessing the knowledge and practice levels of communities in respect of hygiene practice, and the role of the government and non-government service providers in the promotion of WASH.

1.3 Methodology

1.3.1 Key Issues

The research design is split into two broad segments namely, Quantitative Survey and Qualitative Methods. As per the agreement between HDRC and WSUP Bangladesh, quantitative data has been collected by the staff of WSUP and its partner NGO. On the other hand, qualitative information has been collected by HDRC Field staff. The target groups of this study are:

- Urban poor
- Socially, economically and politically marginalized slum dwellers.
- Slums disadvantaged living
- School Children
- Community leaders, School Teachers, Government and non government stakeholders, NGO personnel, DWASA personnel.

The baseline study has been conducted from 26 January to 10 February, 2014 in 14 slums of Dhaka city. It provides data on community access to water and latrines, and related practices on water, sanitation, fecal sludge management, and hygiene. A total of 420 households (female 402, male 18) have been interviewed. They were randomly selected from 14 slums. A total of 112 participants were present in 13 Focus Group Discussions (FGDs). FGDs were conducted with females, males and adolescent girls. A total of 20 KIIs were conducted with school teachers, CBO leaders, NGO officials, WSUP management personnel and other stakeholders.

1.3.2 Sampling Size

For obtaining a representative sample size, a probabilistic sampling approach was adopted. In this regard, a **two-stage** random sampling strategy has been adopted. At the first stage, Primary Sampling Units (PSUs) are chosen, HHs being the PSU. At the 2nd stage, survey respondents were selected from each of the household. Now, for a representative sample of HHs, the research team considers 95% confidence level and 5% precision level. PSUs were selected using Probability Proportionate to Size (PPS) by number of households after proportionate allocation among sample slums. In 14 slums, the estimated number of households was 54,430. For this population the research group has determined a sample size for households using the formula given below.

$$n = \frac{Z^2 PQ/c}{1 + \frac{(Z^2 PQ/c - 1)}{N}}$$

Where,

- n = Sample size
- P = A dichotomous probability
- Q = 1-P
- Z = Standard normal variate
- c = Precision level
- N = Population size

It is noteworthy that an approximate value of P= 50% which satisfies normality assumption and maximizes the possible sample size for credible estimates has been used with a confidence level of 95% and an allowable precision level of 5%. Thus, a workable sample size of households has been determined to be n = 381. Assuming 5% non-response, the sample size becomes 400. However, proportional allocation of samples to each of the slums increased the sample size to 420.

Table 1.1: Sample size of the households

Sl.	Description of population	Population size	Sample size	Anticipated standard error
01	Household (WSUP areas)	54,430	420	5%

From each selected sample HH, respondents were chosen using systematic random sampling procedure (SRS). Household listing in all sample slums was procured and used as sampling frame. The WSUP conducted a census in the project area at the very beginning of the project. Households consisting of the poor men, and women along with children were the main focus. In all the above cases, appropriate samples were collected from relevant areas/ slums.

1.3.3 Survey Instruments

The survey questionnaire was developed by WSUP management covering specific concern on access to water, sanitation and hygiene facilities. A template for FGD and questionnaire/guideline for KII were developed by HDRC covering the qualitative aspect of the survey. The qualitative tools were submitted to WSUP for review and approval.

Qualitative method has given clear insights about people's perceptions, deeper understanding of local context, complex coping strategies, priorities of and solutions used by people. The qualitative information has been collected from residents (male, female, adolescent girls) of different slums, NGO personnel (WSUP and partner NGO), community leaders, primary schools' teachers and children. A total of 13 FGDs are held with the poorest and vulnerable people covering males, females and adolescent girls involved with the project. In total 5 FGDs were conducted with school children. The size of FGD was 6-7 persons per group. The major issues discussed in FGDs were about water, sanitation services, hygiene knowledge and behavior, menstrual hygiene. In order to better understand, who are doing what, it is necessary to properly address the issues faced by the poorest slum dwellers. Selective interviews with the NGO officials concerned, School teachers, WSUP personnel, and CBOs have been carried out.

1.4. Scope and Limitation of the Study

Both quantitative and qualitative approaches are used to obtain data and information. The quantitative data are collected by the community organizers of NGO Forum in 14 slums in Dhaka city. NGO Forum is the only implementing agency of WSUP Program. The limitation of the study is attributable to the fact that the data collection by the staff of the implementing agency may give birth to scope for biasness or deviation. The slums surveyed, are characterized by predominantly very poor housing, high population density, crowded rooms and very poor environmental services, especially water and sanitation, and socio-economic status. The residents largely belong to poor and very poor ranks of economic status. Qualitative approach has been used for collection of information through FGDs, KIIs, and observation. The qualitative information was collected by Field staff of HDRC.

CHAPTER 2

DEMOGRAPHIC AND SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS AND PARTICIPANTS

2.1 Introduction

This chapter makes an attempt to analyze some major issues on the status of living house including its number, size, and ownership; educational attainment; income; and the status of poverty in the household survey.

2.2 Demographic Characteristics

Demographic scenario has been depicted in terms of some crucial indicators like size of the household, gender distribution of the household, age structure of the household member, mean age for household member, adult, children, male, female, people with disability and HIV/AIDS.

2.2.1 Demographics of households under survey

Table 2.1 shows the main demographics of households surveyed. Total population of the 420 surveyed household is 1903. Among the population, surveyed, 68% is adult and 38% children. Total number of males is 979, and that of females, accounts for 924. The descriptive details of demographics of the households surveyed, are presented below in sub-sections (2.2.2-2.2.4).

Table 2.1: Number of people surveyed

Group of people	Number	Percentage
Men age 18 or older	591	31
Women age 18 or older	562	29
Boys aged less than 18	388	20
Girls aged less than 18	362	18
Women aged 60 or older	29	1.5
Men aged 60 or older	26	1
Males	979	51
Females	924	49
Adult	1208	63
Children	750	39
People with disabilities	9	.48
People with HIV/AIDS	1	.06

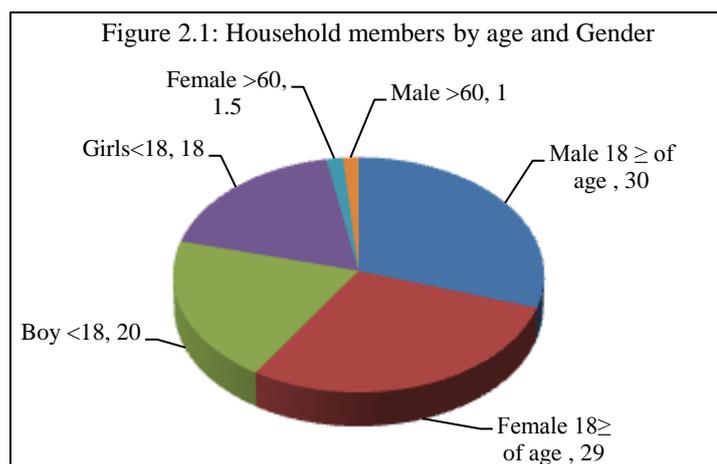
(Annex table-1.1)

2.2.2 Household size

Average size in the surveyed household (4.5) is almost similar to the national average household size of Bangladesh (4.8)

2.2.3 Age composition

Age structure analysis shows that the population is comparatively young, a particular fact which is consistent with that of the overall population structure of Bangladesh. Figure 4.1 shows the percentages of gender distribution of household members by age. Among the household members, 31% is adult male, followed by 29% adult female; boys and girls of age 18 or less are 20% and 18% respectively, while female and male members of above 60 years are 1.5% and 1% only. The elderly population aged 60 years and above in the survey constitutes a small section of only 2.5% of the household population which is much less than the comparable national figure of about 7%. This implies household surveyed are poorest of the poor where longevity is less than the national average. The minimum age of the household respondent is 18 and the oldest is 70. The mean age of the respondent is 34 years in the households surveyed.



2.3.3 Disability and HIV status

The study has assessed the disability status of household members. It has been found that in about 1% household, there is at least one person with disability. Among 420 households a total of nine persons are reported as disabled. The highest disability incidence has been observed in Bouniabad slum (5 persons) against two disable persons one each in Bihari camp and Duaripara slum. The most plausible reason for the low disability status in the survey area could be that the data obtained is under-reported due to cultural factors. Reportedly, only one person in 420 HHs is infected with HIV/AIDS, holding a vulnerable bodily status. (Annex table-1.2)

2.3 Economic and Social Characteristics of the Respondents

2.3.1 Ownership status of living house

The survey respondents were asked to report the ownership status of their residence, i.e., whether they live in own or rented houses. Reportedly, about 57% of the households were found to live in rented houses, followed by about 43% households living in their own houses. It is notable that the findings emerge from the subjective assessment of the enumerator.

Table 2.2: Percentage of types of dwelling: households

Types of dwelling	Percentage
Rented House	57
Own house	43
Total	100
Valid sample size for calculation	420

(Annex table-1.1)

2.3.2 Household income

In the Baseline survey, the respondents were asked about their income. An inquiry regarding the earnings they have per month, is made. In response, respondents have reported different levels of income ranging from Tk.1000 to Tk.30000 per month per household. The estimated average monthly net income per household is Tk. 9,036.43 per month. The median income is Tk.8000.00 per month as well as the range of reported income is between Tk.1000 (min) and Tk.30000 (max). The percentage of monthly income of household is highest in Rahmat camp at Tk.11,550 and lowest in Tk. 5687.00 at *Dha* Block Kurmitola slum (Table 2.3).

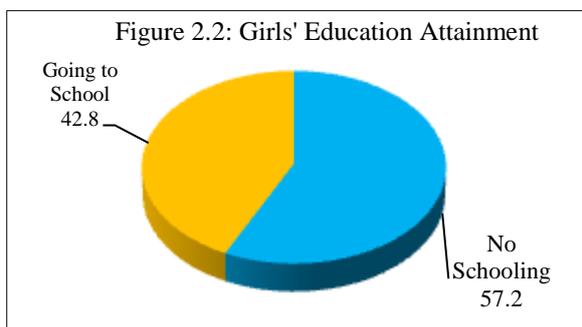
Table 2.3: Reported Monthly Household Income

Mean, reported monthly household income	9036.43
Median reported monthly household income	8000.00
Range of reported monthly income (min to max)	1000.00 – 30000.00 (min) (max)
Valid sample size for calculation	420

(Annex table-1.2)

2.3.3 Educational attainment

The education level of girls aged 18 years or below is low in the households under survey. It has been reported that 57.2% of the girls in households had no schooling. Only 42.8% of girls of age 18 or below are going to school. The percentage of school-going girls is highest at Baunibad and (32%) and lowest at Kalabagan and Paris road slum (1%) (Figure 2.2). (Annex table-1.2)



2.3.4 Poverty status

In the Baseline survey, the respondents have been asked about their perceived poverty status at three levels, namely, very poor, poor, and non-poor. The estimated poverty incidence reflects that nearly 30% of the households, surveyed, are very poor, 62% poor, and 8% non-poor. The percentage of very poor households is highest in Duaripara slum (21%) and lowest is at Kalabagan slum (1%); similarly the highest percentage of poor is also at Duaripara (31%) slum and lowest at Paris road slum (1%) (Table 2.4 and Figure 2.3).

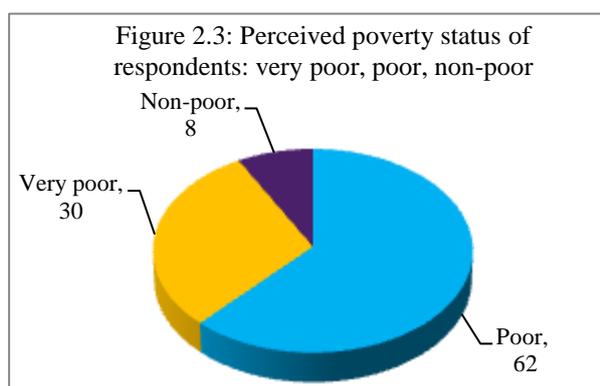


Table 2.4: Proportion of households either poor, very poor or non-poor.

Poverty categories	Percentage
Very poor	30
Poor	62
Non-poor	8
Valid sample size for calculation	420

(Annex table-1.2)

2.4 Profile of Participants of Qualitative Study

2.4.1 Adolescent girls' participation in Focus Group Discussions

Issues on menstrual hygiene were discussed with the adolescent girls in Focus Group Discussions (4 FGDs in surveyed HHs). On average, 8.5 girls participated in the FGDs. It has been found that the average age of the participants is 15 years (ranging between 11 and 19); however, it has been observed that 19% of the participants are married.

2.4.2 Female participants in Focus Group Discussions

Water, sanitation and hygiene-related issues were discussed with women during Focus Group Discussions (6 FGDs in project household). On average, 8.5 women participated in the FGDs. The reported average age of the participants is 35 years (ranging between 18 and 65).

2.4.3 Focus Group Discussions with children

Hygiene issues were discussed in a number of focus group discussions with the active participation of children. In the households under survey, a total of 5 FGDs were administered. The average age of the children, participating in the discussion, is 11 years. All the participants are students at present.

2.4.4 Male participants at Focus Group Discussions

Water, sanitation and hygiene-related issues were also discussed with men during Focus Group Discussions (3 FGDs in project household). On average, 9 men participated in the FGDs. The reported average age of the participants is 39 years.

2.4.5 Community leaders

Community leaders were interviewed in the accompanying baseline study. A total of 4 interviews were administered. Local CBO leaders and Opinion leaders including male and female were interviewed.

2.4.6 Concerned NGO executives

Senior NGO program personnel concerned were also interviewed in this baseline study. Project Manager, Monitoring and Evaluation specialist and Program Officers of the NGOs were interviewed in this process.

CHAPTER 3

HOUSEHOLD WATER SUPPLY AND PRACTICE

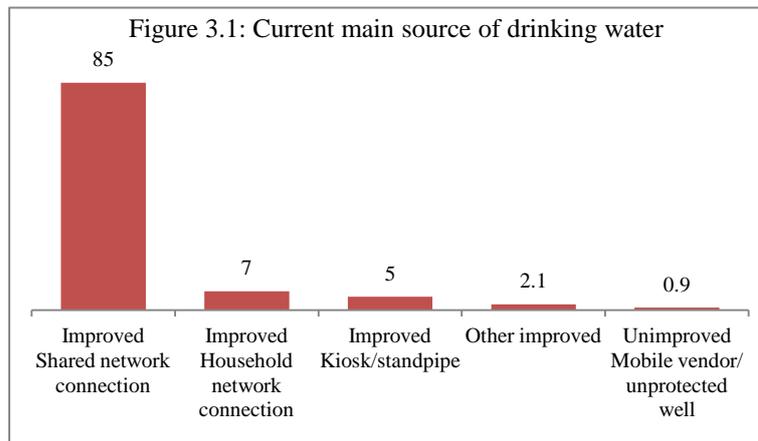
3.1 Introduction

This section covers water availability, accessibility, water sources, household water treatment, water point maintenance, water quality, ownership of water source, and problem faced in access to and collection of water in the project areas and also different practices (collection of water, water use for different purposes, expenditure for water etc.) by the households. People’s hygiene mostly depends on necessary supply of water for drinking, cooking, domestic work and personal hygiene.

3.2 Water Availability

3.2.1 Current main source of drinking water

In the sample HHs, the main source of drinking water for 85% of households is shared network connection. About 7% household collects improved drinking water from households’ network connection; 5% from improved kiosk, standpipe or borehole, and 2% from other improved sources. A very small portion of households (1%) collects water from unprotected sources such as unprotected wells, bottled water, or mobile vendors (Figure 3.1).



Box no:1- Improved water sources as per JMP: Piped household water connection located inside the user’s dwelling, plot or yard; public taps, standpipes, tube wells, or boreholes, protected dug wells, protected springs, rain water collection.

3.2.2 Water service levels: Length of time per day that water is available

In the sample HHs, water is not available in the project area throughout the whole course of day. Table 3.1 shows the mean length of time at which water becomes available is only 5.86 hours per day. The median time-period is only 5 hours. The range of time is between 1 hour and 1-24 hours (min –max). Among the 14 slums, the highest percentage of water availability is at Kallyanpur 1-8 blocks (17.73hrs) and the lowest percentage at Mirpur ceramic slum (1hr). Average length of time for water availability demonstrates the fact that the project has correctly chosen its initial target communities, while considering its potential impact in tune with one of the main objectives., given the fact that this chapter focuses light on water issue.

Table 3.1 Mean and median length of time and range of time for water availability

Mean length of time for water availability (hrs. per day)	5.86
Median length of time for water availability (hrs. per day)	5.00
Range of length of time for water availability (hrs. per day)	1 — 24 (min) (max)
Valid sample size for this calculation	420

3.2.3 Water service levels: Length of time for a single trip to collect water

Table 3.2 shows the mean length of time is 14.94 minutes and the median length of time is 10 minutes for a single trip to collect water before introducing WSUP program. The highest mean length of time is 28.13 minutes at Kurmitola DA block slum and the lowest is 10.62 minutes at Bounibadh to collect water for a single trip.

Table 3.2: Mean and median length of time for a single trip to collect water (minutes per trip)

Mean length of time for a single trip	14.94
Median length of time for a single trip	10.00
Range of length of time for a single trip (hrs. per day)	2 — 120 (min) (max)
Valid sample size for this calculation	420

3.2.4 Water service levels: Length of time spent in collecting water

The average length of total time spent for collection of water for a household per day in survey area is 93 minutes. The median length of time is 80 minutes. And the range of length of time is 1 to 400 minutes (min-max) for a household per day. The maximum time, spent in Kallyanpur slum, is (142 minutes) and minimum time spent in Rup Nagar Abashik slum, is (69.78 minutes) (Table 3.3).

Table 3.3: Mean and median length of time for a household per day to collect water (minutes per day)

Mean length of time for a household to collect water (minutes per day)	93.22
Median length of time for a household to collect water (minutes per day)	80.00
Range of length of time for a household to collect water (minutes per day)	1 — 400 (min) (max)
Valid sample size for this calculation	420

3.2.5 Water service levels: Current water use per day

The data, emerging from the survey, reveal that on an average 137.05 liters of water are used by a household per day. The median water use is 130 liters and the range of water use is 10 - 550 liters (min to max). Among 420 Households, in Kallyanpur slum 22 HHs has the highest access to water (179.73 liters) per day and the lowest access to water (82.50) liters per day per household is in Kurmitola Da Block (Table 3.4)

Table 3.4: Mean and median and range of water use (liters per household per day)

Mean amount of water use (liters per household per day)	137.05
Median amount of water use (liters per household per day)	130
Range of water use (min to max liters per day)	10 liters -550 liters (min) (max)
Valid sample size for this calculation	420

3.2.6 Water service levels: Amount of money currently spent on water per week

Table 3.5 shows the mean amount of money currently spent on water is Tk.32.02 for a week per household which is less than half a dollar and the median is Tk.20. The highest mean amount of money spent by Mirpur Ceramic Slum is (Tk.67.56) and the lowest by Rupnagar Abashik accounts for (Tk.2.39) for a household per week.

Table 3.5 Amount of money currently spent on water per week

Mean amount of money currently spent per week (in Tk.)	32.00
Median amount of money currently spent per week (in Tk.)	20.00
Range of money spent (min to max (in Tk.) per week)	0-20
Valid sample size for this calculation	365
Missing or not paying	55

Among the population, 13% of the population has access to water free of cost; while the rest pays. Among 87% paying, a majority household (69%) pays on an average Tk.18.00 per week, and the rest (31%) pays Tk.52.00 (Table 3.5)

3.2.7 Current level of dissatisfaction and satisfaction with water supply arrangement

In the baseline survey the respondents were asked about their current level of dissatisfaction and satisfaction over water supply arrangement. In response, most of the respondents (61%) have reported being unhappy (dissatisfied), 20% very unhappy (very dissatisfied), 18% happy (satisfied) and only 1% very happy (very satisfied) about the current water supply arrangement (Table 3.6). This implies that combining the two unhappiness categories, 81% are actually dissatisfied with the current water supply arrangement.

Table 3.6 Level of dissatisfaction and satisfaction with water supply arrangement

	Very unhappy	Unhappy	Happy	Very happy
% of responses from entire sample	20	61	18	1
Number of responses from entire sample	84	258	74	4
Valid sample size for this calculation	420			

3.2.8 Reasons for dissatisfaction with current water supply arrangement

As to the reasons for dissatisfied, 342 households, dissatisfied respondents were asked to point only the key reasons for dissatisfaction. Among the dissatisfied households (342 i.e., 81% of total HH), as to the key reasons 73% indicated that reason for dissatisfaction is irregular supply of water in their slums, 13% spoke about bad taste and dirtiness, 6% pointed out the length of distance and 5% indicated high price (table 3.7). Total number of households reporting dissatisfaction is 337.

Table 3.7: Key reasons for dissatisfaction with current water supply arrangement

Number of households reporting to be very unhappy and/ or unhappy	342	
Total number of households reporting on dissatisfaction	337	
Percentage of household reporting to be very unhappy and unhappy	81	
Reasons for dissatisfaction (key reasons only)	No. of HH	Percentage of HH
Expensive	18	5
Too far	21	6
Irregular supply	249	73
Bad taste or /and dirty	44	13
No reason given	5	1.5
Other	5	1.5

3.2.9 Reasons for satisfaction with current water supply arrangement

As to the reasons for satisfied, 78 households, satisfied respondents were asked to point only the key reasons for satisfaction. Out of the 78 satisfied HHs, about 44% of them expressed their satisfaction over the closeness of water point to the households, about one third of households indicated the reliability and availability of water, and about 7% of the HHs mentioned the cleanliness of water and good taste. Very few people do not specify their reasons (13%)(Table 3.8).

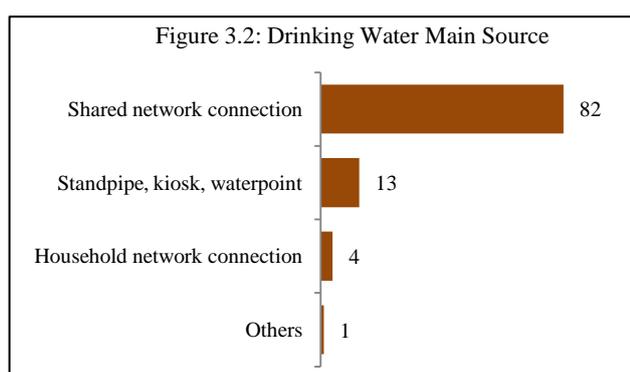
Table 3.8: Reasons for satisfaction over current water supply arrangement

Number of households reporting to be very happy and/ or happy	78	
Total number of household reporting on satisfaction	68	
Percentage of households reporting to be very happy and/ or happy	19	
Reasons for satisfaction (key reasons only)	Number of HHs	Percentage of HHS
Good Price	0	0
Near by / in close proximity	34	44
Reliable/ always available	29	37
Clean water and or good taste	5	6.4
Other	0	0
No reason given	10	13

3.3 Access to Water and Practice

3.3.1 Main sources of water for drinking, cooking, domestic work and personal hygiene

In the household samples, the most frequently cited source of drinking water is shared network connection with 82% of HHs. About 13% of households get drinking water from the improved sources like kiosk, standpipe or tube well; only 4% household receives drinking water from household network connection; and 1% household collects drinking water from other sources (Figure 3.2). Water for cooking, domestic and personal hygiene purposes is collected from the same sources, indicated in the table 3.9.



Most of the households indicate that shared network connection is the leading source of water for cooking, domestic work, personal hygiene followed by kiosk, stand pipe and water point and household network connection (Table 3.9).

Table 3.9: Percentage of households reported using water sources for different purposes

	Shared network connection (Improved)	Kiosk, standpipe, water point (Improved)	Household network connection (Improved)	Others (Improved)
Drinking	82	13	4	1
Cooking	83	12	4	1
Domestic work	82	13	4	1
Personal hygiene	82	13	4	1

In the rainy season, in the project area, shared network connection is the prime source for cooking (85%), drinking, domestic work and personal hygiene (82% each) followed by kiosk, stand pipe and water point stand (13%) for drinking, cooking, domestic work and personal hygiene, and 6% and 4% for drinking and cooking and domestic work and personal hygiene respectively.

3.3.2 Use of alternative sources of water: Drinking, cooking, domestic work and personal hygiene

Alternative sources of water for drinking, cooking, personal hygiene purposes in the households, surveyed, are the slight distinct sources that are used when water in the main source is not available. The survey does not show any remarkable variances between the main and alternative sources of water during different seasons in investigated households. The survey reveals that only 2.4% of the households use alternative source for drinking water, 2% of the HHs use alternate option for cooking, 3% of the HHs use alternative option for personal hygiene and domestic purposes. Among the few HHs, using alternative sources of water for drinking purpose, 90% of the households receive water most of the time of the year from other improved sources, 10% HHs from unprotected wells, springs, 86% of the HHs improved water for cooking and 99% of HHs improved water for domestic and personal hygiene purposes for most of the time of the year.

In rainy season, only 3% of the HHs receive alternative source of water for drinking and cooking purposes and 4% of the HHs get water from substitute sources for domestic and personal hygiene purposes. Amongst a small number of HHs, using alternative sources of water for drinking purpose, about 10% of the households receive water in rainy season from other improved sources, 9% of HHs from unprotected wells, springs, stand pipe outside the slum areas and mobile vendors. For cooking purpose, 84% of the HHs are using water from improved sources of water and 16% of the HHs from unimproved sources of water (Table 3.10).

Table 3.10: Percentage of households reported using water sources for drinking purpose

	Most of the time of the year		Rainy season	
	Main source (n=420)	Alternate source (n=10)	Main source (n=420)	Alternate source (n=13)
Mobile Vendors, unprotected wells and springs (unimproved)	–	10	1	15
Standpipe./Kiosk/water point (Improved)	13	10	12	15
Shared network Connection (Improved)	82	30	82	23
Other improved sources (Improved)	5	50	5	46
	100	100	100	100
Valid sample size for this calculation	420			

3.3.3 Availability of water by season

The survey reveals that out of the fourteen low income settlements, water is not adequately available round the year in 92% household. Only 7% of the households reported that drinking water is available all the year round and 1% of the HHs told that water is adequately available in the dry season. The maximum percentage of the un-availability of adequate drinking water round the year has been reported at Duaripara (31%), Buaniabadh (28%), Kalsi (7.3%) and Rupnagar Abashik (6%) slums.

Ninety-four percent of the households told that an adequate amount of water is not available for cooking, 92% and 89% of the households told that adequate water is not available for domestic and personal hygiene purposes respectively for most of the time of the year. Across the surveyed HHs 86% said that water is not adequately available for drinking, cooking, domestic and personal hygiene purposes in the rainy season.

3.3.4 Problems faced in collection of water (*In context of timing*)

A 48% household does not think that the time of water collection is a problem while majority households (52%), consider that water collection is a problem in a timing context. Among those, getting exposed to problems in collecting water, (235 HHs), 56% of them undergo such difficulties during morning; 25% at night; 17% at noon; 15% at evening time. A few households (2.3%) have pinpointed all the time (day, night, evening) to be problematic hour for water collection from community water sources.

During the time of water collection, the HHs get confronted with various types of problem. These problems include the overcrowded situation (83%), non-sharing of money for water source maintenance (21%), personal and local conflict (6%), the unwillingness of the influential, especially those who hold authority over others at the water point (18%), insecurity of women and adolescent girls (19%), the availability of water source, going beyond the control of households (13%), and many others (13%). (Table 3.11)

Table 3.11: Problem faced in collection of water

Problem faced in collection of water	(Multiple responses)	
	Percentage	
Overcrowded situation	83	
Non-sharing of money for water source maintenance	21	
Personal and local conflict	6	
Insecurity of women and girls	19	
No control over the water source	13	
Others	13	

3.3.5 Maintenance committee

Respondents were asked about the existence of water source maintenance committee. In reply, 66% of the respondents told that there is no committee for water point maintenance while 32% respondents spoke about the existence of maintenance committee, and 2% have no idea it.

3.3.6 Bill payment for water point

Most of the households (39%) pay their bill to the owner of their house, followed by 16% paying to local CBO or local committee, 15% to DWASA, 7% to local distributors, 5% to their neighbors. Among 420 households, 14% of the households do not pay bill (table 3.12).

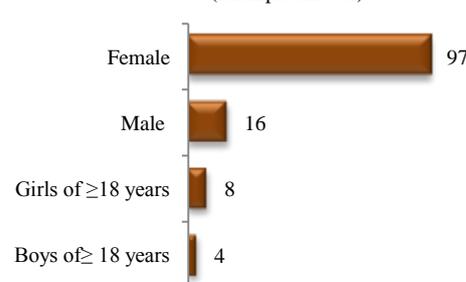
Table 3.12. Where do they pay water supply bill

To whom the household pay bill	Percentage
Owner of house	39
Local CBO	16
DWASA	15
Local distributor	7
Neighbors	5
No response	4
Valid sample for calculation	420

3.3.7 Collection of household water

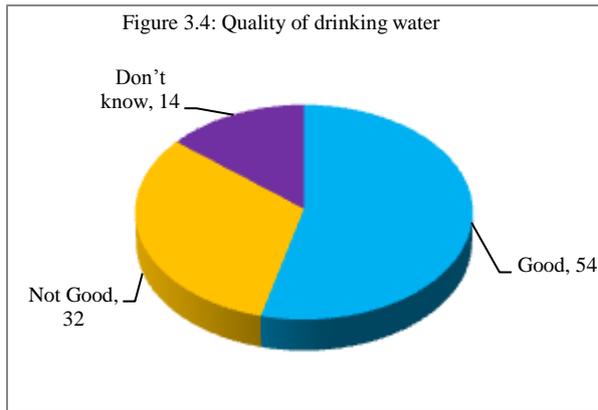
In fact, water collection, intended for drinking, cooking, domestic work and personal hygiene purpose, is not marked by any noticeable difference. In the households surveyed, adult females, in most cases, collect water, serving the purpose of household needs. They are assigned for the drudgery of water collection, cooking and domestic work. Water collection, in order for the maintenance of personal hygiene, in most of the instances, gets done by the adult household females (97%), followed by males (16%). Boys and girls of 18 years old or less who assist in collecting water stand at 4% and 8% respectively (Figure 3.3).

Figure 3.3: Collection of household water- drinking. Cooking, domestic work and personal hygiene (Multiple answer)



3.3.8 Quality of drinking water

About 54% of the households have indicated that the quality of drinking water from their existing sources is “good”. On the other hand, a considerable proportion of the households (32%) mentioned that their drinking water is not good and 14% of the HHs do not have idea about quality of water. At the household level, members do not clean and cover water containers during the time of water collection. Only 22% of the households under survey have clean containers, while 30% cover their containers (Figure 3.4).

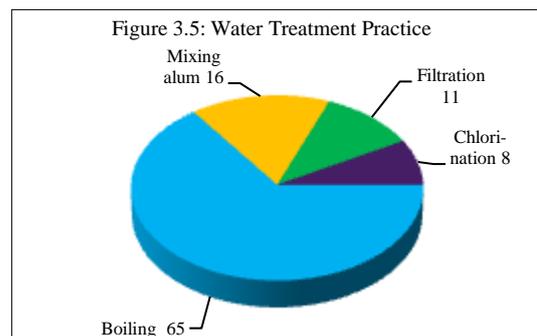


3.3.9 Water treatment

In general, purification of drinking water prior to consumption is not a common practice in households under survey. More than 79% households reported that they drink water directly after collection of water from water sources. On the other hand, 19% household gets used to drinking water after filtering and boiling, 6% household adds alum to water, 16% household drinks water by adding chlorine disinfection tablet, 2% follows sedimentation process and 6% households were apart from giving any reply .

According to the respondents, only 7% household always treats water from unsafe to safe, while 67% household does not, 22% frequently does it and 4% did not reply.

Boiling is the commonly adopted method among those (65%) who treat (122) their water. The rest of the households act on the different treatment methods such as adding alum to water (16%), filtration (11%), and chlorination (8%), (Figure 3.5). It is important to mention here that percentage of water treatment does not represent the whole population in the project area.



3.3.10 Distance of water source from household

By and large, an average surveyed household have to carry water from a distance of 56.8 meters for household consumption of different purpose. The distance between household and water source should not be far away. It is generally recommended that water source should be located within a distance of 50 meters from the household. The average distance of drinking water from household is 18.4 meter. However, in case of cooking, distance of household from water source is relatively higher 13.7 meters and for domestic purpose and personal hygiene it is 12.8 and 11.9 meters respectively (Table 3.13). (According to water aid for urban slum area, 50 meters is a standard distance from household to water point)

Table 3.13: Average distance of water source from households (in meter)

Purpose of use	Distance
Drinking water	18.4
Cooking water	13.7
Domestic work	12.8
Personal Hygiene	11.9
All	56.8

3.3.11 Time spent for collection of household water

Regardless of purpose of use, the average total time spent per day for collection of water per household in survey area is 15 minutes. As revealed from the analysis by purpose of use, the average of total daily time spent is 14 minutes for drinking water, 14 minutes for cooking water and 14.5 minutes for household work and 18 minutes for personal hygiene purposes. A household needs 3 trips per day for water collection and she/ he collects only 19 liters per trip.

3.3.12 Functional status of water point

The respondents have been asked whether the water sources are fully functional. In reply, 80% household mentioned that water sources are functional, while 20% has given negative answer. The reasons of non-functionality of water sources are: broken/ out of order (66%), 19% indicated about not having necessary spare parts, water is not hauled up due to mechanical problem (14%), lack of trained mechanics (7%). Another question has been asked to the respondents as to how many times the water sources became disordered or non-functional for last one year. Most of the respondents (256 out of 420 i.e., 61%) indicated that more than three times the water sources became disordered during last one year. Landlord/ house owner have taken initiative for repairing the water sources (27%), 15% jointly by landlord and neighbors, personal initiative (8%).

3.4 Water Supply in Primary School

A total of 15 schools were visited during baseline fieldwork. A spot observation tool was administered to assess the water point condition. During spot checks on water points in primary schools having platform in good condition was observed only in 13% schools. The platforms at water points were broken in 87% of schools. Only 21% water point was functioning and majority of the water points are nonfunctioning. Unclean, dirty spots around the water points have been seen in 87% of the schools surveyed (Table 3.14).

Table 3.14: Sources of water in primary school

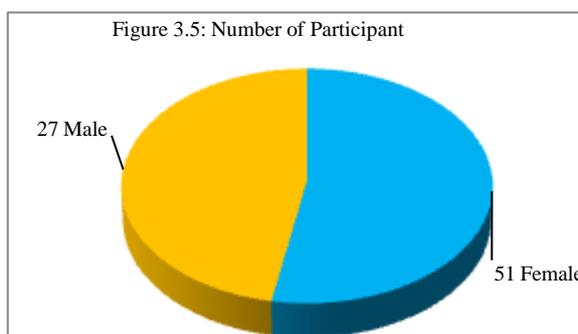
Selected Information	Surveyed school	(%)
Drinking water exists	16 (15)	106.7
Number of installed new water sources	0 (15)	0.0
Number of functioning water sources	3(15)	20.0
Number of repairable water sources	13(15)	86.7

3.5 FGD with Children

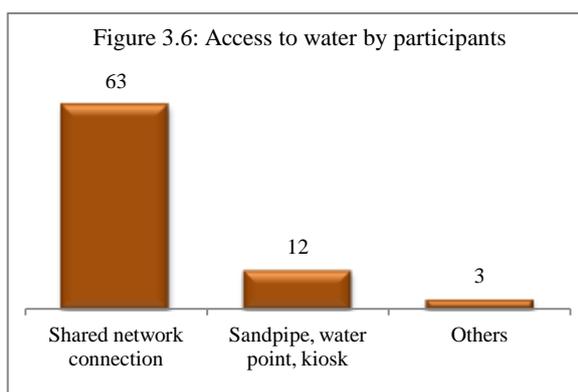
A total of 42 pupils have participated in 5 FGD sessions. Most of the learners at the primary schools reported washing their hands at least 3 times a day. The duration of the pre-meal and post-defecation hand washing practice by the majority of children is ten seconds, although the learners (Children) have no clear knowledge about the impact of hand washing from medical perspective and as such, they do not enjoy it. A very few pupils wash their hand with water and soap, while the majority of learners do it only with water. Most of the pupils wash their both hands after defecation with water only, but they use mud with water. Most of the children are not habituated to hand-washing practice during key five times, and do not have knowledge about the importance of hand-hygiene. The practice of hand washing is effective, in letting hands get rid of dirt and have a clean surface. Only 20% of pupil suffered from diarrhea and dysentery for last 3 months. Most of the children use sandal before entering the toilets. Most of the school children brush their teeth and have their nails cut on a regular basis.

3.6 Focus Group Discussion with Women and Men

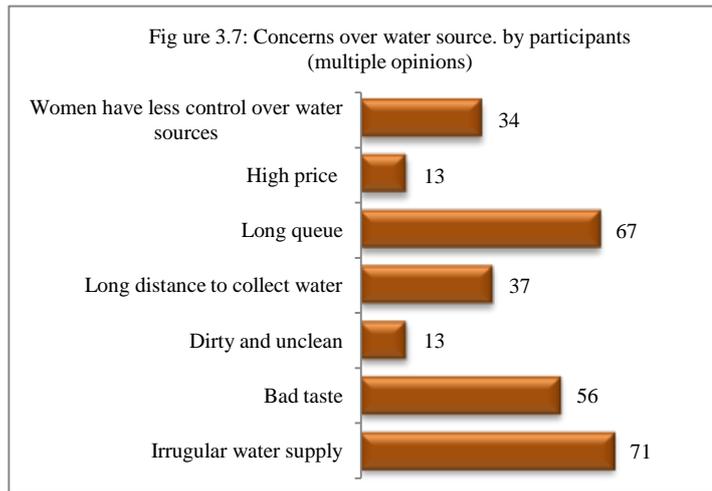
The FGD have been conducted in 9 communities with 9 FGD groups- 6 women groups and 3 men groups. A 78 individuals composed of 27 men and 51 women. Based on the FGDs this section deals with common drinking water sources, problems raised during water collection, control over water sources, water quality and satisfaction level, and maintenance.



The main source of drinking water is shared network connection and some residents also collect water from stand pipe, kiosk, and tube well. Six out of nine groups stated that NGOs have constructed their drinking water sources mostly and very few are constructed by DWASA. They also stated that they could not collect water in time and water is not available all the time for them. Most of the participants provide information regarding the water sources, especially shared network connection such as tube well, reservoir, underground tank etc (63) and standpipe, kiosk (12) and others (3). The main concerns are short timing of water supply and collection with long queue, water having bad taste and foul smell, inadequacy of water.



In the event of collecting water, they feel concerned about the distance and payment. The main security issues that are raised, are attributable to the fact that female and children are fighting at the water source and get exposed to risks during the period of water collection. Some of the water sources are located at homestead ground of influential persons (Khalsi slum) which has fixed time for the public to collect water. Most of the participants expressed that water sources are not controlled by the influential persons but few are controlled by local influential persons. Some of the participants raised their concerns about water availability during summer. During dry season, water is not adequately available for the slum residents. They suggested that timing of water supply should be increased. In some of the slum areas, women are responsible to maintain the water sources. In most areas, men are responsible for maintaining the water sources. Most of the participants are very dissatisfied on water supply and its quality. They mentioned that the causes of dissatisfaction are irregular supply (61 out of total 78 participants), bad taste (56), dirty and unclean (23), distance to collect water (37), long queue (47), high price (13), women have less control over the water sources (34). However, very few have expressed their satisfaction (Figure 3.7).



CHAPTER 4 SANITATION PRACTICES

4.1 Introduction

The section discusses sanitation practices which include latrine use, types of latrine, distance to latrines, reasons for not having latrines, disposal of child faeces and solid waste management. For data collection on this vital issue several methods were adopted. These were household-based interview, spot checks (observation), Focus Group Discussion (FGD), and KII.

4.2 Sanitation and Defecation Practices of Household

4.2.1 Main toilet facility currently used

Various types of latrine are currently used by the household members. Figure 4.1 and table 4.1 present status of respondents' access to basic sanitation facility. A major portion of households' members (84%) have access to communal/shared latrines facilities free of cost, with a small portion having access to household latrines and public toilets which account for only 9% and 5% respectively, while 2% do not have any latrines facilities or they defecate in open place (Figure 4.1).

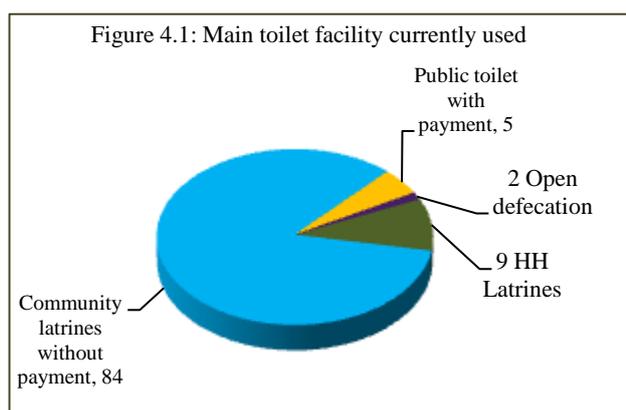


Table 4.1: Main toilet facility currently used

Toilet facility	Percentage
Communal/ shared latrine	84 (351)*
Household toilet	9.4 (44)
Public toilet	5 (19)
Other including open defecation	1.6 (6)
Total	100 (420)

* Figures in the parenthesis show the number of respondents

Box no 4.1.: Improved sanitation facilities include: Flush / pour flush to, Piped sewer system, septic tank, pit- latrines, ventilation improved pit (VIP) latrine, pit latrine with slab, composting

4.2.2 Number of people sharing use of a communal/ shared toilet facility

The respondents have been questioned about how many people are habituated to the share-use of a communal/shared latrine. In reply most of the respondents indicate communal/shared latrines. According to them on an average 100 people use a shared latrine, whereas the ideal use of a shared latrine, as the UNICEF claims, should involve only 2-3 households. Table 4.2 shows the mean and median number of people sharing a communal and shared latrine. According to the respondents, a number of people keep sharing a communal and shared latrine beyond the usual household members. It indicates that plenty of latrines are needed for slum residents and thus the project has correctly targeted the slums.

Table 4.2: Number of people sharing use of a communal toilet facility

Mean of people sharing use of a communal toilet facility	100
Median of people sharing use of a communal toilet facility	50
Valid sample size for this calculation	351

4.2.3 Main toilet facility type currently used

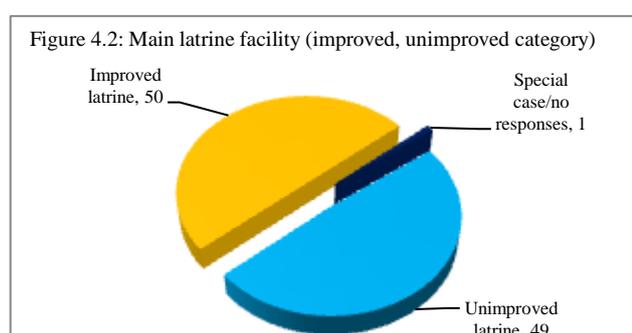
Table 4.3 shows the main toilet facility types and explains proportion of household in each category. Across the household, majority of the households (46.4%) currently uses unimproved latrines with flush system connected to open cesspit/ drain. This is followed by 20.4% improved flash latrine with cleanable slab; 20% improved flush latrine to septic tank or pit; 10% improved flush with sewer; 1.4% unimproved pit latrine with no slab or wooden slab; and 1.4% defecated in open place. Very few people, less than 1% use portable toilets and did not reply.

Table 4.3: Percentage of households by sanitation quality of latrines they use

Types of toilets	Surveyed household N=420
<i>Improved and Unimproved y latrine</i>	
Latrine with flush system that is connected to open cesspit/drain (Unimproved)	46.4 (195)*
Flush latrine with cleanable slab (Improved)	20.4 (86)
Flush latrine to septic tank or pit (Improved)	20 (84)
Pit latrine with slab without slab (Unimproved)	1.4 (6)
Flush latrine to sewer (Improved)	10 (40)
Portable toilets with emptying service (special case)	0.2 (1)
Open defecation or plastic bag (Unimproved)	1.2 (6)
No response	0.7 (2)
Total	100 (420)

* Figures in the parenthesis show the number of respondents

Figure 4.2 shows that half of the population uses improved latrine, while roughly the other half uses unimproved latrines. So it is indicative of the fact that the project has correctly identified the slums to work. One percent respondent, remains apart from giving reply, or uses mobile latrine.



4.2.4 Sanitation service levels: Length of time per day that toilet is easily accessible

Table 4.4 shows that the mean length of time at which latrines become easily accessible is 13.24 hours per day. The median time is 16 hours per day, and the time that toilet is easily accessible is between 0 and 24 (min to max) hours per day. In the sample HHs, latrine facility is not always available for the slum residents in the project area. Among the 14 slums, the highest percentage of toilet facilities available at TT colony slum is (20.86 hours/day) and the lowest percentage at Kalabagan slum is (5 hours).

Table 4.4: Mean and median and range length of time that the toilet is easily accessible (hours per day)

Mean of length of time that the toilet is easily accessible	13.24
Median of length of time that the toilet is easily accessible	15
Range of time that toilet is easily accessible	0 – 24 (min) (max)
Valid sample size for calculation	420

4.2.5 Sanitation service levels: Distance to toilet facility

Table 4.5 explains the mean and median distance, as well as range to the toilet facility. The mean length of distance is 11.76 meters. The median length of distance is 7 meters as well as the range of distance is between 0 (min) and 300 (maximum) meters to the latrines facility. The distance between household and toilets should not be far away. But most of the residents of the surveyed slums who have access to latrines facilities use the latrines within 12 meters radius. The highest length of distance at Millat Camp is (46.88 meters) and lowest distance at Duaripara slum is (6.96 meters).

Table 4.5: Mean and median distance and as well as range (min-max) to the toilet facility (in meter)

Mean distance (in meter) to the toilet facility	11.76
Median distance (in meter) to the toilet facility	7
Range of distance (min-max) to the toilet facility (in meter)	0 – 300 (min) (max)
Valid sample size for calculation	420

4.2.6 Sanitation service levels: Length of time spent on one trip to use the latrine

Table 4.6 shows the mean length of time spent is 15 minutes for one trip to use the latrine. The median is 15 minutes as well as the range of time for a single trip is between 1 and 45 minutes to use latrine. The highest mean length of time spent for a single trip is 40 minutes at Beguntilla and the lowest is 1 minute at Kallyanpur slum.

Table 4.6: Mean and median length of time for a single trip to use latrine (minutes per trip)

Mean length of time for a single trip	14.92
Median length of time for a single trip	15
Range of length of time for a single trip (min-to max minutes per day)	1 – 45 (min) (max)
Valid sample size for this calculation	403
Missing/ Not cleaning data	17

4.2.7 Sanitation service levels: Total length of time currently spent to use the latrine

The mean length of total time spent to use the latrine is 70.50 minutes per day in survey area. The median time of currently spent is 60 minutes and the range is between 1 and 200 minutes to use the latrine. The maximum time spent at Bihari camp and Khalsi are (200 minutes) and minimum at Buonibadh slum (1 minute) Table 4.7.

Table 4.7: Mean and median length of time currently spent to use the latrine (minutes per day)

Mean length of time currently spent to use the latrine per day	70.50
Median length of time currently spent to use the latrine per day	60.00
Range of length of time currently spent to use the latrine per day	1 — 200 (min) (max)
Valid sample size for this calculation	402
Missing/ not cleaning	18

4.2.8 Sanitation service levels: Amount of money currently spent to use the latrine per month

The data emerging from the survey reveal that the mean amount of money currently spent on latrine facility is Tk. 26.99 per month which was one third of a dollar during the time of survey. The median amount is Tk. 9.00 only. Among the slums, the highest mean amount spent stands for Tk.6384 at Beguntilla per month and lowest at TT colony for only Tk.2.00 per month (Table 4.8).

Table 4.8: Amount of money currently spent per month to use latrine (in Tk.)

Mean amount of money spent per month	2699
Median amount of money spent per month	9.00
Range of money spent per month	0 — 402 (min) (max)
Valid sample size for this calculation	420

4.2.9 Current level of satisfaction with latrine facility

In the baseline survey the respondents have been inquired about their satisfaction and dissatisfaction level in the event of using latrine. In response, most of the respondents (60%) have reported being not satisfied while 21% are very dissatisfied, 18 % satisfied and 2% very satisfied over toilet use (Table 4.9). In other words, combining the two markers of dissatisfaction the overall dissatisfaction level with the use of latrine would be 91%, a relatively high level of dissatisfaction.

Table 4.9: Level of dissatisfaction and satisfaction with latrine facility

	Very unhappy	Unhappy	Happy	Very happy
% of responses from entire sample	21	60	18	2
Number of responses from entire sample	88	250	75	7
Valid sample size for this calculation	420			

4.2.10 Reasons for satisfaction with currently used latrine facilities

Table 4.10 shows that respondents, out of the 82 households, have been asked to express the key reason lying behind their satisfaction over the latrine use. The reasons include location of the latrine at a nearby position 40%, followed by the formation of no queues or short queues 24%, improved personal safety 16% , cleanliness 17.5% and others 2.5%.

Table 4.10: Reasons for satisfaction with current latrine facility

Number of household reporting to be very happy and/ or happy		82
Total number of household reporting on satisfaction		82
Percentage of household reporting to be very happy and/ or happy		20
Reasons for satisfaction (most important reason only)	Number of HHs	Percentage of HHS
Near by	33	40
Personal safety	13	16
No queues or short queues	20	24
Cleanliness	14	17.5
Other	2	2.5

4.2.11 Reasons for dissatisfaction with currently used latrine facilities

Table 4.11 shows that as to the key reason, underlying their dissatisfaction over latrine use, 338 HHs have been asked to express their opinion. They spoke about long queue(57%) or often closed; uncleanness of toilets (27%); insecurity (8%), and far away (4%).

Table 4.11: Reasons for dissatisfaction with latrine facility

Number of household reporting to be very unhappy and/or unhappy		338
Total number of household reporting dissatisfaction		338
Percentage of household reporting to be very unhappy and unhappy		81
Reasons for dissatisfaction (the key reasons only)	No of HH	Percentage of HH
Expensive	7	2
Too far	14	4
Unsafe	28	8
Long queue/ often closed	191	57
Dirty	91	27
Other	7	2

4.3 Fecal Sludge Management

Sludge management is an acute problem in urban slums of Dhaka city. Normally, the faecal sludge (FS) is collected from pit or tank latrines and discharged untreated into the urban and peri-urban environment, creating great risks to water resources and to public health. To achieve a specific objective of the program, WSUP has planned to work on sludge management solution in three big slums of Dhaka city. The purpose of this intervention is to collect, treat and proper disposal of sludge and to create an employment opportunity for the poor residents by initiating small and medium enterprises (SME).

4.3.1 Pit/Tank emptying

An interview process was carried out in order to study the emptied status of the pits and tank of latrines. The respondents have been questioned about whether their latrines are connected with pit or tank. In reply, most of the respondents (54.5%) mentioned that their latrine is not connected with pit or septic tank followed by 43% latrine connected with pit/ tank and 2.3% did not give response. The respondents (181HHs) have been questioned whether there is the need to empty the pit or tank. In reply, 26% of the respondents show their positive attitude and 22% replied negatively and 52% did not give response.

4.3.2 Time when pit/tank was last emptied (*households with pit latrine/tank*)

Table 4.12 and Figure 4.2 show the household's latrines with a pit or tank categorized by the period since their container was last emptied. Sixty two percent of the respondents mentioned that pit/ tank was never emptied, while 48% replied positively. Among the respondents giving positive reply, 30.4% of them claimed that their pit latrines/septic tanks were emptied between 0-2 years ago; 6.3% between 2-5 years ago, and 1.3% between 5-10 years ago.

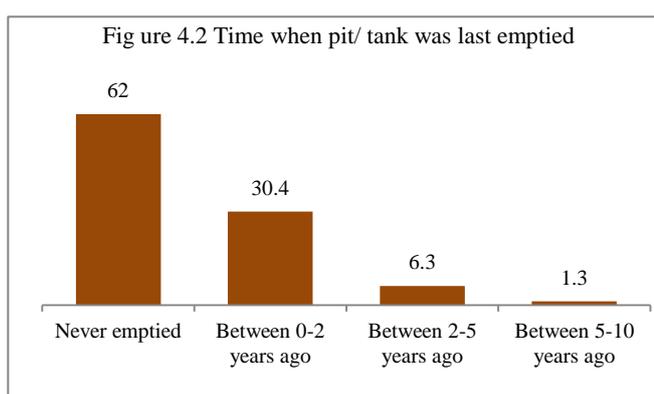


Table 4.12: Time when pit/tank was last emptied

Time when pit/tank was last emptied	Percentage	Number
Never emptied/ no need yet	62	112
Between 0-2 years ago	30.4	55
Between 2-5 years ago	6.3	11
Between 5-10 years ago	1.3	3
Total	100	181
Valid sample for calculation		181

4.3.3 Variation in type of pit emptier used (*households with a pit latrine/ tank*)

Table 4.13 shows the households with pit/ tank categorized by the type of emptier used to exhaust the container the last time it was emptied. In survey households, most respondents (51%) mentioned that the members of households or informal manual emptier have emptied the container, followed by using manual or small pump (25%), and using vacuum pump (24%) for emptying the container.

Table 4.13: Proportion of households using different categories of pit emptier

Who emptied pit/latrines/tank	Percentage	Number
No response/ DK/ others/	61.2	111
Members of households or informal manual emptier	20	36
Formal small business or manual or small pump	9.4	17
Formal business/ vacuum pump	9.4	17
Total	100	181
Valid sample for calculation		181

4.3.4 Variation in ways to pay for last pit emptying (*households with pit latrine/ tank*)

Table 4.14 shows the households with pit latrines or tank categorized by who paid emptying service the last time it was emptied. In the project area, 62% households did not spent money or DK (don't know) for emptying the pit or tank, followed by 23% by landlord 10% by households that share out toilets, 5% by household.

Table 4.14: Proportion of households using different categories of pit emptier

Variation in ways to pay for last pit emptying	Percentage	Number
No response/ DK/no spent money	62	112
Only my household	5	8
Household that share out toilet	10	18
Landlord	23	42
Total	100	181
Valid sample for calculation	181	

4.3.5 Mean amount paid by the households for last pit emptying (*households with pit latrine/ tank*)

Table 4.15 shows that the mean amount paid by the households is Tk.162.70. The median amount of taka is 0 as well as range amounts between Tk. 'Zero' and Tk.4,000 (min-max) for last pit emptying. The maximum amount for Tk.4,000 paid by the household of Duaripara slum and minimum amount paid by Millat Camp for Tk. 'Zero'.

Table 4.15: mean and median amount paid for last emptying (in Tk.)

Mean amount paid for last emptying	162.70
Median amount paid for last emptying	0
Range of amount for last emptying (min to max)	0 — 4000 (min) (max)
Valid sample for calculation	181

4.3.6 Proportion of appropriate/ inappropriate sludge disposal method during last pit emptying (*households with pit latrine/ tank*)

Table 4.16 shows the households with pit/tank categorized by whether or not the collected sludge was disposed of appropriately (to authorized local or remote point) or inappropriately (buried locally), or dumped waste ground to sewer/ drain the last time it was emptied. Among the 181 households, 20% of the households mentioned disposing of it inappropriately in the waste dumping ground; while 16% disposed appropriately in the remote point/ authorized local point and 64% did not give response.

Table 4.16: Proportion of household using different methods for disposal of sludge from last pit emptying (*households with pit latrine/ tank*).

Proportion of household using different methods for disposal of sludge	Percentage	Number
No response	64	116
Disposal of appropriately	16	28
Disposal of inappropriately	20	37
Total	100	181
Valid sample for calculation	181	

4.3.7 Estimate of when penultimate pit emptying was done (*households with pit latrines*)

Table 4.17 shows the households with pit latrines/ tank categorized by the period since their container was emptied the penultimate time (i.e., not the last time but the one before last). 71% of the respondents did not give response or had no idea, followed by 22% was emptied between 0-2 years ago, 5% between 2-5 years ago, 2% between 5-10 years ago.

Table 4.17: Time when pit/tank was last emptied (*penultimate time*)

When pit/tank was last emptied(last but one)	Percentage	Number
Penultimate never emptied/ no need yet/ DK	71	129
Between 0-2 years ago	22	40
Between 2-5 years ago	5	9
Between 5-10 years ago	2	3
Total	100	181
Valid sample for calculation	181	

Occurrence of penultimate emptying and last emptying events by households

1. Both the penultimate and last emptying events occurred in the case of 121 respondents in total.
2. Penultimate pit emptying in 43% of the households, and last pit emptying in 57% happened.

4.3.8 Variation in type of pit empties used for the penultimate emptying events (*households with pit latrine/ tank*)

Table 4.18 shows the households with pit/ tank categorized by the type of emptier used for the penultimate emptying events. In survey households, most respondents (72%) did not give response or do not know; this is distantly followed by 18% who mentioned informal manual emptier or members of households, 6% formal business or using vacuum pump.

Table 4.18 Proportion of households using different categories of pit emptier

Who emptied pit/latrines/tank	Percentage	Number
No response/ DK	72	130
Members of households/ informal manual emptier	18	33
Manual or small pump	4	8
Formal business/ vacuum pump	6	10
Total	100	181
Valid sample for calculation	181	

4.3.9 Variation in ways to pay for penultimate pit emptying (*households with pit latrine/ tank*)

The data emerging from the survey reveal that the mean amount paid by the households' penultimate for pit emptying event is Tk.122.00. The median amount is 'Zero' Taka as well as the range of amount for penultimate emptying from Tk.0 to Tk.6,000. Among the slums, the highest mean amount paid by Duaripara slum accounts for Tk.6,000 and the lowest paid by Beguntilla for only Tk.0 (Table 4.19).

Table 4.19: Mean and median amount paid for penultimate emptying

Mean amount paid for last emptying	122
Median amount paid for last emptying	0
Range of amount for last emptying (min to max)	0 — 6000 (min) (max)
Valid sample for calculation	181

4.3.10 Proportion of appropriate/ inappropriate sludge disposal method during last pit emptying (*households with pit latrine/ tank*)

Table 4.20 shows the households with pit/ tank categorized by whether or not the exhausted sludge was disposed of appropriately (to authorized local or remote point) or inappropriately (buried locally), or dumped waste ground to sewer/ drain the last time it was emptied. Among the 181 households, 71.2% did not give response or responded as "don't know" (DK); 18.2% waste dumping ground or buried locally; and 10.2% do it appropriately such that disposal of waste materials takes place at remote point or authorized dumping station.

Table 4.20 Proportion of household using different methods for disposal of sludge from last pit emptying (*household with pit latrine/ tank*)

Proportion of household using different methods for disposal of sludge	Percentage	Number
No response/ DK/ not emptied	71.2	129
Disposal of appropriately	10.4	19
Disposal of inappropriately	18.4	33
Total	100	181
Valid sample for calculation	181	

4.3.11 Variation in service providers (*households with a plan for how to empty their pit in future*)

As regards households with a plan for emptying latrine, most of the respondents (72%) did not respond. Only 6% of the households have planning for emptying their pit in the future, while 22% go bare of any plan in connection with it. Table 4.21 shows the households with a plan for how they empty their pit in the future, 45% respondents anticipate to use small pump or formal business; 36% expect the members of households or informal manual emptier, 18% expect to use vacuum pump (Table 4.21).

Table 4.21: Proportion of households stated their future plan for emptying pit

Who emptied Pit/latrines/tank	Percentage	Number
Members of households or informal manual emptier	36	4
Formal small business/ manual or small pump	45	5
Formal business/ vacuum pump	18	2
No response		
Valid sample for calculation		11

4.3.12 Variation in who will make payment for the service (*households with a plan for how to empty their pit in the future*)

Table 4.22 shows the households with pit latrines or tank categorized by who will make payment for the latrine emptying services. In the project area, 68% households did not respond followed by 14% by landlord, 13% by households that share out toilets, 5% by household.

Table 4.22: Who will make payment for the service (*household with a plan for how to empty their pit in the future*)

Variation in ways to pay for last pit emptying	Percentage	Number
No response/ DK/no spent money	68	123
Only my household	5	9
Household that share out toilet	13	23
Landlord	14	26
Total	100	181
Valid sample for calculation		181

4.3.13 Proportion of appropriate/ inappropriate sludge disposal method during last pit emptying (*households with pit latrine/ tank*)

Table 4.23 shows the households with pit/ tank categorized by whether or not the exhausted sludge was disposed of appropriately (to authorized local or remote point) or inappropriately (buried locally), or dumped waste ground to sewer/ drain the last time it was emptied. Among the 68 households, 59% mentioned that they dispose of the exhausted sludge inappropriately and 41% disposed appropriately.

Table 4.23: Proportion of household using different methods for disposal of sludge from last pit emptying (*household with pit latrine/ tank*)

Proportion of household using different methods for disposal of sludge	Percentage
Disposal of appropriately	37
Disposal of inappropriately	63
Valid sample for calculation	52

4.3.14 Mean anticipated cost of pit emptying (among households have a plan for how they will empty their pit in the future)

Table 4.24 shows the mean anticipated amount of pit emptying is Tk.103.73. The median amount is 0 as well as the amount of ranging between Tk.'0' and Tk. 6,000 (min to max) that households expect that they will pay for pit emptying. The maximum anticipated cost will be paid for TK.6,000 by Duaripara slum and minimum cost will be paid of Tk. 0 by all slums except Kalabagan.

Table 4.24: Mean and median as well the range of amount of money that households expect that they will pay for pit emptying

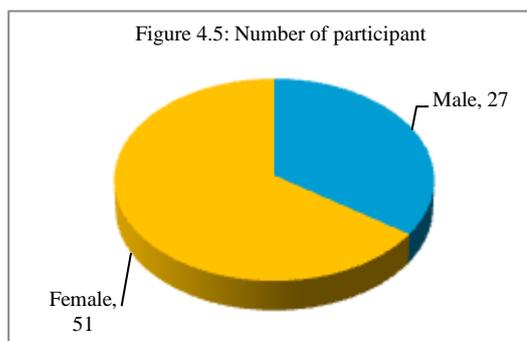
Mean amount paid for last emptying	103.73
Median amount paid for last emptying	0
Range of amount for last emptying (min to max)	0 — 6000 (min) (max)
Valid sample for calculation	181

4.4 Sanitation Practice in Primary School

A total of 15 schools were visited during baseline fieldwork. A spot observation tool was administered to assess the water point condition. During spot checks on latrine in primary schools, it was observed that most of the latrines are unhygienic. Soap was not available inside the latrines in majority of the schools but water is available there.

4.5 Focus Group Discussion with Women and Men

The FGDs are conducted in 9 communities, comprising 9 groups, entailing 6 women groups and 3 men groups with 78 individuals involving 27 males and 51 females.



Most of the FGD groups (8/9) stated that they have very limited access to shared and common latrines. Time-limitation on the latrine use reveals one of the striking features of the findings. In a true sense, time falls short of the users in the case of shared latrine. Women and adolescent girls get exposed to many a problematic situation in the use of shared-latrine. It is mentionable that the fragile condition of the latrine, the ineffectiveness of the device by which the door can be bolted from inside, the risk-bearing factors, associated with latrine use during night hour and son on throw women and girls into a fearful and embarrassing situation. Women participants, as they claim, get confronted with insecurity while using it. According to them, on an average, 200-225 people use a shared-latrine every day. Most of the groups are dissatisfied over the matter. The reason is attributable to the fact that they fall under a compulsion to struggle through certain odds, such as long queue, broken door, the existing unclean and unhygienic atmosphere, unavailability of water inside the latrine and so on. Very few people have access to family latrine. They prefer to use family latrine because it is more hygienic and comfortable. According to the participants, *Dusta Shayastha Kendra* (DSK) and other NGOs have built their latrines. Their inability to construct family latrine originates from, as they claim, (1) limited space, and (2) land ownership.

CHAPTER 5

**HYGIENE AND MENSTRUAL ISSUES:
KNOWLEDGE, SOURCE, AND PRACTICE**

5.1 Introduction

This section contains respondents’ current hygiene knowledge, access to hygiene and menstrual hygiene messages, sources of the messages, and its practice-level. A total of 15 indicators have been used in the household survey to assess the baseline status of respondents’ knowledge and practice as regards the hygiene issues. Variations have been found on respondents’ practice on hygiene issues on different indicators.

5.2 Current Hygiene Knowledge

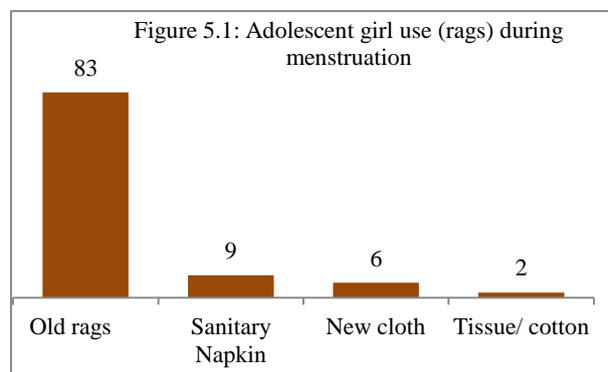
Table 5.1 shows that 81% population is aware of the time for hand washing (before eating and after defecation), while 61% show their understanding of hand-to-mouth microbial disease transmission; and only 20% can show an interviewer a hand washing station with clean soap and water.

Table 5.1: Hygiene related select knowledge

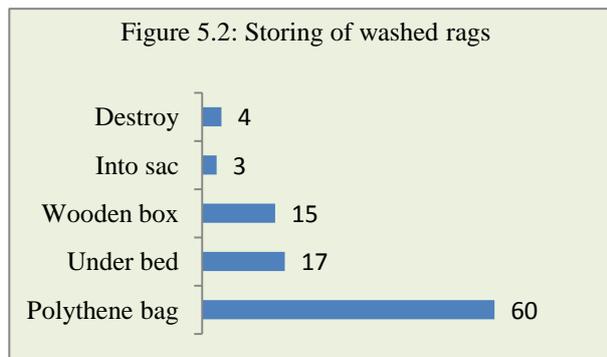
Hygiene Knowledge	Percentage	Number of population
Population to know when to wash their hands	81	1545
Population who show an understanding of hand to mouth microbial diseases	61	1169
Population who can show an interviewer a hand washing station with clean soap and water	20	380

5.3 Menstrual Hygiene

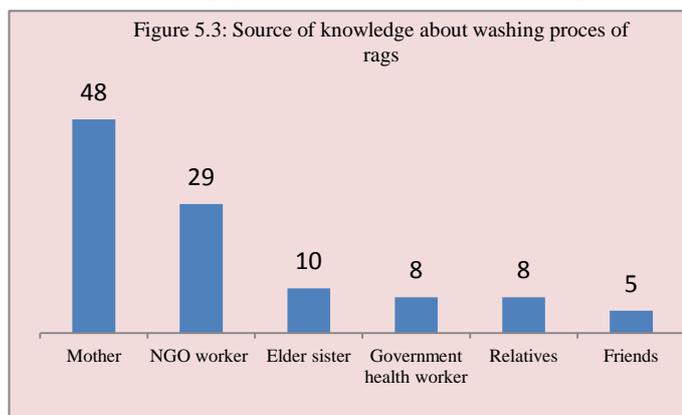
This section aims at assessing the knowledge and practices associated with care and cleanliness during menstrual period of the adolescent girls in the project area. In this survey, the respondents have been asked different questions about the knowledge and practices during menstruation. They were asked about what they used during their periods. The research suggests the fact that most of the adolescent girls (83%) in the project area reported the use of old rags during menstruation; while 9% of adolescent girls use sanitary napkin; 6% new clothes and 2% tissue paper among 106 households (Figure 5.1).



The respondents who used old rags, new rags or readymade pads during the menstrual periods were also asked about the reusability and storing process of things they use habitually. About 60% of the respondents mentioned that they stored it in the polythene bag, while 17% of them kept it under bed, 15% stored in wooden box and or in the trunk; 3% put them into the sac and while only 4 % of them destroyed it (Figure 5.2).

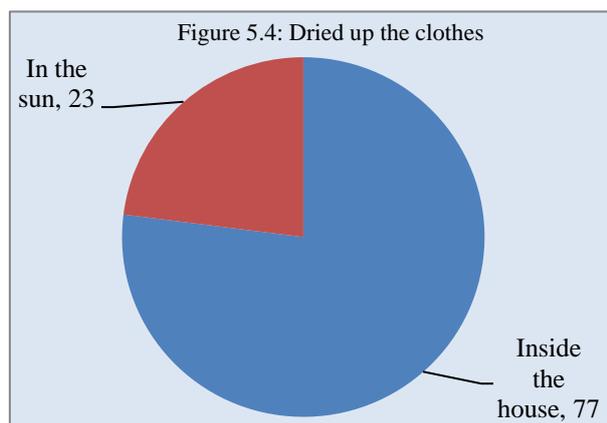


The adolescent girls reusing the cloth have been inquired whether the cloth is properly washed or not and how they washed it. In reply, 55% of the adolescent girls have knowledge about the washing-process and 36% of them used it and 14% disseminated it among others. As was reported, adolescent girls learnt the techniques of washing rags with soap mostly from their mother (48% project HHs). The next being from the NGO worker (29%), 10% from elder sister, 8% from government health worker, relatives and grandmother, and 5% from friend (Figure 5.3).



For the respondents of the project-oriented households, who reported using old rags, new rags or readymade pads, an inquiry was made as regards how often they change things they use. The survey reveals that most of the respondents were accustomed to altering the same clothes more than twice a day.

The adolescent girls were further probed about the location where they dried up the clothes. The survey indicates that, prior to reuse 77% of the respondents lay the rags inside the house, whereas the remaining of them get habituated to drying them in the sun. More than one-third of the adolescent girls (37%) received information from their mothers regarding the means of drying the rags, while 34% picked up information from NGO workers, 30% from relatives, friends, and 11% from elder sister. More than half of the respondents (51%), as they claim, change the clothes once a day, while 29% reported changing twice a day. Nearly one-fifth of the respondents got accustomed to changing the same clothes more than thrice a day.



Most of the respondents told that they throw or dispose of used materials (napkin/rags) in drain/or ditch (41%) followed by dustbin (28%); open space (25%); and at the dug hole (5%).

In the baseline survey, the respondents (106) during menses were asked questions about the types of adversity they encountered regarding menstrual hygiene management. Most of the adolescent girls (54%) in the project area were apart from giving responses. Among those,

giving response in relation to the issue, 13% reported getting exposed to no difficulties during the menstrual cycle, while 7% reported irregularity of menstruation, 12% abdominal pain and itching, and 8% adolescent girls headache and white discharge.

In the focus group discussion, most of the adolescent girls reported that they were accustomed to the use of old and new rag in their menstrual cycle. A very few adolescent girls use napkin/pad and they have knowledge about the ways of using sanitary napkins/pad. In the project area, most of the household are too poor to buy sanitary napkins/pads and consequently use rags, torn from old sarees, petticoat and other clothes. During menstrual cycle, the majority of the girls received information from their mothers and NGO worker about menstrual hygiene. A very few girls received information from their teacher. Most of the adolescent girls were scared and anxious at the time of their first menstrual flow. Some girls got irritated and disgusted at the arrival of their first menstruation. Most of the girls restrict their movements, staying apart from religious occasions during the menstrual cycle. Certain girls do not attend the schools. In the FGD, most of the adolescent girls reported certain restrictions, imposed on certain practices of their day-to-day life, encompassing free, spontaneous movement, entrance into holy places, the habit of letting hair grow unkempt, standing beneath a big tree, keeping a wire-nail while going outside, and going to sleep with others at night hour. From time to time, a prohibition was imposed on sleeping on a mattress. Apart from these, taboos of dietary restriction like curd, milk, spicy, sour food, and hot beverage during menstrual period were also highly pronounced among the adolescent girls.

Adolescent girls participated in the FGDs, expressing willingness to use sanitary napkins/pads if these are made available at cheaper price. However, use of sanitary napkins may not increase mainly due to financial hardship and recurring cost of these napkins. In such circumstances, the second best alternative for the girls involves using a clean piece of clothing. Hence, more awareness building campaign and grassroots advocacy among the girls are needed on an urgent basis in order to motivate them towards the use of clean clothes.

The adolescent girls are the future mothers. Steps, such as, encouraging safe and hygienic practices among the adolescent girls, educating them about menstruation-related issues and shaking them out of all traditional beliefs, misconceptions and restrictions regarding menstruation, need to be initiated so that they can protect themselves against various infections and diseases. The WSUP programme also involved the adolescent girls in the age group of 13-18 years in their program to ensure the improvement of menstrual health (MH) management issues in the long run. As part of hygiene promotion initiative under WSUP programme, the trained Community Hygiene Promoters seriously addressed the menstrual management issue among adolescent girls. Hygiene promoters met adolescent girls in the project area on a regular basis with a view exchanging words with them about the hygiene, especially the menstrual hygiene.

5.4 Hygiene: Knowledge and Practice and their Sources among Households

It has been reported that in more than 41% cases, respondents have grown aware of the usefulness of hygienic latrines from NGO workers; while 16% from relatives and neighbors; 15% from TV; 9% from newspaper and booklets; 6% from government health workers; 3.33% from teachers or respectable persons and 3% from members of the household (Table 5.2).

Table 5.2: Knowledge and source of knowledge of hygiene messages by percentage

Indicator	NGO worker	Relatives and Neighbors	TV	Newspaper	Health worker	Teachers	HH member
Usefulness of hygienic latrines	41	16	15	9	6	3.33	3

It has been reported that more than 53% households do not remove excreta after overflow of latrines; 19% remove excreta into the nearby ditch or water body; and 14% into the nearby drain or adjacent outer space, 4% in isolated open place, 3% buried them into hole and 7% respondents did not give response. Table 5.3 shows that 21% children defecate in latrines; 12% in the pot or potty; 11% in open place. A 56% household do not have children. Out of 183 children, especially those who defecate in open place, most of the mothers or caregivers (41%) throw excreta here and there; 34% throw into the latrines, 4% do not remove, and 21% did not respond.

Table 5.3: Where children defecate

Indicators	Have no children	In latrine	Pot or potty	Open place
Children defecate	56	21	12	11
Valid sample for calculation	420			

An observation is made in order to study the cleanliness status of the latrines. The foul-smell, emanating from most of the latrines (61%) polluted the air, while flies keep on buzzing around 27% of latrines; faeces have been seen to be lying around platforms in 22% and faeces have found on the pan in 79% latrines.

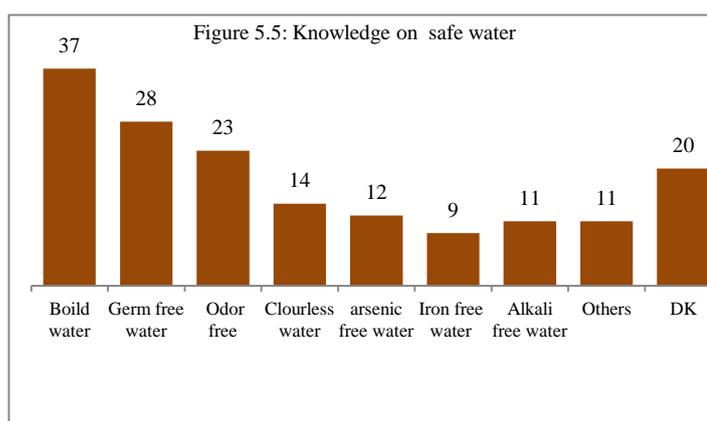
The presence or absence of faeces both within and around the courtyards of the survey houses was also observed. There were no faeces within the courtyards in 40% households; faeces were found around the house or open place in 49%; and within the courtyard in 10% and 1% found in the room of surveyed HHs (Table 5.4).

Table 5.4: Percentage distribution of households by presence or absence of faeces in or around courtyard of house

Presence of urine/faeces in or around HHs	Percentage (N=420)
Faeces present within courtyard	10 (43)*
Faeces not found within courtyard	40 (166)
Faeces found around house	49 (206)
Faeces in the room	1(5)

*Parenthesis shows the number of households

Of the households under survey, 54% have reported (they are all members) wearing sandal before entering latrines while 31% of households (some members) wear sandals and 15% do not use sandals during the latrine use. It has been observed that in most households (46%), all food items were not covered but some of them; all food items were covered in 27% of households; 13% of households did



not cover the food items by any means, and food items were not seen in 11% of households. It has been observed that more than four-fifths of the households drinking water was preserved in a *jar/ pitcher*, followed by bucket (31%), jug (30%), 19% in bottle and 9% in a barrel or earthen cask. In majority of the households (56%), main water pot was not clean and 44% of water pots apparently clean. It has been also observed that in half of the households (50%) drinking water pot lie uncovered. A 50% of platforms of tube-well in HHs under survey were in good condition; 28% of platforms were broken, and platforms were not found in 12% tube-wells.

The respondents have been questioned about their knowledge of safe water or, in other words, the meaning of safe water to them. A large part of the respondents (37%) replied that boiled water is safe; followed by 28% germ free water; 23% odor free water; 14% colorless water, 11%, alkali free and others 11%, iron free mentioned in 9% respondents, and 20% did not give response (Figure 5.5).

Seventy-two percent of the respondents thought that water is a source or carrier for disease. The respondents were asked about what types of disease can be transmitted through water. In reply, most of the respondents (73%) indicated diarrhea; followed by dysentery 30%, jaundice 17%, skin disease 16%, arsenicosis 7%, typhoid 5%, worm infection 4%, 3% others, and 5% did not give response.

The respondents have been questioned about how the diseases can be spread through water. In reply, a majority of the respondents (64%) said that the spread of disease is caused by unsafe drinking water, while others reported using unsafe water for personal hygiene purpose (41%), unsafe water for domestic work (19%), water from arsenic-marked tube well (25%), and 5% did not give response .

5.5 Hand Washing Practice

The section presents and discusses hand washing practice at the critical times. In the surveyed households, the respondents have been questioned about their hand washing practice. Hand washing was noticed by means of an observational instrument/ sheet. In fact, there is no significant difference in both surveys. It has been found that at various crucial times, a significant portion of household members wash their hands only with water.

Regarding practice-level, respondents reported hand washing after defecation. Nearly half of the respondents wash hands only with water. This is followed by washing both hands with water and soap (27%); washing one hand with water and soap (21%), letting hands unwashed (3%) and 5% did not give response. On the other hand, the findings, emerging from an observation reveal that 48% of the household members wash their hands only with water, followed by washing one hand with water and soap (24%), washing both hands with water and soap (21%), letting hands unwashed (3%) and 4% did not get any findings. (Table 5.5)

Table 5.5: Hand washing practice after defecation

Practice of hand washing after defecation	Reported (%)	Observed (%)
Do not wash hands	3	3
Wash hands only with water	48	48
Wash one hand with water and soap	21	24
Wash both hand with water and soap	27	21
No response/not observed	5	4
Total number of valid sample for calculation	420	

In the pre-meal hand washing practice, the majority of respondents (80%) wash their hands only with water; while only 7% wash both hands with water and soap; 7% wash one hand with water and soap; 2% do not wash hand; and 4% did not give response. During observation, it was seen that 83% of households wash their hands using only water; 7% wash both hand with water and soap, 5% wash single hand with water and soap; 2% do not wash hands and it went impossible to make an observation of 3% of HHs (Table 5.6).

Table 5.6: Hand washing practice before taking food

Practice of hand washing after defecation	Reported (%)	Observed (%)
Do not wash hands	2	2
Wash hands only with water	80	83
Wash one hand with water and soap	7	5
Wash both hand with water and soap	7	7
No response/not observed	4	3
Total number of valid sample for calculation	420	

In the event of cleaning baby's bottom, according to respondents, 38% of mothers or caregivers wash their one hand with water only; while 21% do not wash hands, 11% wash their both hand with water and soap; 12% wash one hand with water and soap; and 18% did not give response.

The findings, emerging from an observation are exhibitivie of the fact that more than half of the households in the area under survey, wash their hand/ hands only with water after cleaning baby's bottom; 28% do not wash their hands; 14% wash one hand and 14% both hands with water and soap after cleaning baby's bottom.(Table 5.7).

Table 5.7: Hand washing practice after cleaning baby's bottom

Practice of hand washing after cleaning baby's bottom	Reported (%)	Observed (%)
Do not wash hands	21	28
Wash hands only with water	38	51
Wash one hand with water and soap	12	14
Wash both hand with water and soap	11	14
No response	18	25
Total number of valid sample for calculation	183	

Before feeding children, more than half of the respondents especially mothers or care givers wash their hands only with water; 21% do not wash hands; 5% wash one hand with water and soap; only 1% washes both hands with water and soap. It has been also observed that among 183 household members, 99% of mothers or caregivers do not wash their both hands with water and soap before feeding children. In this critical event, only 54% wash their single hand only with water; 21% do not wash their hands; and only 5% wash single hand with soap and water. In this case, the valid sample for calculation is 183 households (Table 5.8).

Table 5.8: Hand washing practice before feeding children

Practice of hand washing before feeding children	Reported (%)	Observed (%)
Do not wash hands	21	21
Wash hands only with water	55	54
Wash one hand with water and soap	5	5
Wash both hand with water and soap	1	1
No response	18	26
Total number of valid sample for calculation	183	

About half of the respondents wash their hands only with water before preparing and serving food; 26% do not wash hands; 2% wash both hands with water and soap and one hand with water and soap (2%); 25% did not give response.

It has been observed that among the hand washers major portion of household (97%) members do not wash both of their hands with water and soap before preparing and serving food (Table 5.9). In this critical event, only 45% wash their single hand using only water; 25% do not wash their hands; only 3% wash both hands with soap and water and single hand (2%). In this case the valid sample for calculation is 420 households (Table 5.9).

Table 5.9: Hand washing practice before preparing and serving food

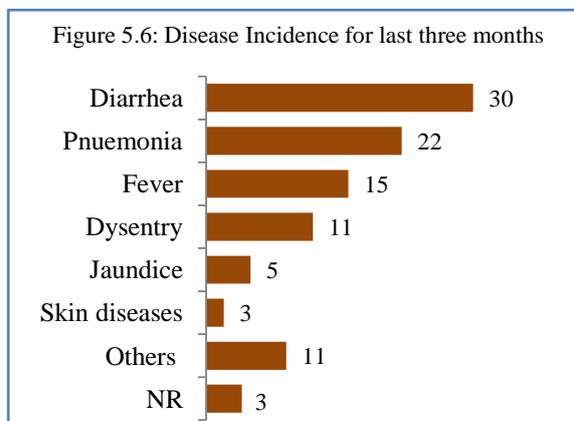
Practice of hand washing before feeding children	Reported (%)	Observed (%)
Do not wash hands	26	25
Wash hands only with water	48	45
Wash one hand with water and soap	2	2
Wash both hand with water and soap	2	2
No response	22	25
Total number of valid sample for calculation	420	

A major portion of the respondents (55%) are not aware of the importance of disposing of wastage in a safety places; while 25% of households dispose of their wastage in the ditch or hole. Respondents were asked about whether the removal of wastages takes place properly and what sorts of problem arise in the event of doing so. In reply, about fifty percent of the households mentioned that disease can be transmitted; while 41% mentioned environmental degradation; 5% said affecting microbe to human body; and 4% mentioned water contamination.

5.6 Incidence of Water-Sanitation-Hygiene Related Diseases

Respondents had been asked to report whether any member(s) of the respective household got exposed to diseases during 3 months prior to the survey. Also, they had been asked to report the incidence of diseases befalling members of the household, name of disease, number of days of illness, the loss of workdays owing to the individual incidence, and the cost of treatment. Out of 420 respondents in surveyed HHs, about 38% reported that they suffered any diseases in last three months and in this case women have suffered more (89 incidences) than men (72 incidences).

According to the respondents, a total of 262 incidence of different type of diseases, and 78 cases of diarrhea have been found in the slum area in last three months. The incidences of specific types of water-sanitation-hygiene related diseases as percentage of all disease-incidences show that the highest proportion of incidences is diarrhea (30%). This is followed by 22% cough, cold and/or pneumonia; 15% fever; 11% dysentery; 5% jaundice; 3% skin disease, 11% others and 3% did not give response (Figure 5.6). It is worth mentioning



that there were 78 cases of diarrhea in the three months preceding the survey affecting 4.1% of the total population. The population most highly affected was female including girl child of age 18 and/or below (57%) followed by boys (43%).

CHAPTER 6 RECOMMENDATIONS

This is based on the inferences drawn from this baseline survey involving quantitative and qualitative approaches, the following recommendations are being forwarded for the consideration of the relevant stakeholders:

1. Access to safe water is still a huge everyday challenge for slum residents. In addition, the slum population is increasing and informal sector is expanding ending up with inhuman quality of life for the slum dwellers day by day. To meet the challenge this project, as part of a broader national developmental endeavor for slum dwellers, should assist the slum communities by constructing water sources and providing technical support for water source maintenance.
2. It is absolutely necessary to ensure uninterrupted water availability and access to water for slum residents especially for poor and very poor by installing enough number of facilities.
3. Specific motivational programme should get started especially for women, in order to enhance their capability to maintain water sources.
4. A need for sanitation intervention should be high in the development agenda of slum people area. The number of people who are at risk of sanitation-related disease outbreak is still far high in the urban slum. Improved latrines should be built for the slum dwellers.
5. Community is located at the centre of the project interventions. Community participation should be ensured at the different phases of the project from designing to implementation, from drawing community action plan to monitoring and evaluation by the community people, in which all excluded categories of people should be effectively included. Their voices should be listened and respected accordingly.
6. Specific motivational programme and communication for development programme need to be introduced for the project participants.
7. Institutional capacity building is an ongoing process through which organization can enhance their ability to identify and meet the development challenges. Building robust partnership with the stakeholders, and facilitate learning process are the main two key elements of institutional capacity building process. There is scope to improve their coordination among the stakeholders and field level staff. WSUP can improve their operational modalities for smooth implementation of software and hardware activities by designing specific responsibilities of partners and stakeholders.
8. The WSUP type of project, often, produces many intended and unintended, tangible and intangible positive outcomes. It is suggested to conduct a mid-line survey (after 2 years of the project) and an end-line impact survey (after 5 years of the implementation of the project). It is our experiential suggestion that, in those surveys, while it is a must to use the same DCIs as in the baseline. However, it is necessary that some relevant new questions should be incorporated in those surveys, especially in the mid-line survey to uncover the unintended, tangible and intangible positive impacts of the project.