

**Baseline Report:
Country Programme for Establishing
Benchmark for Measuring Successes**

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WaterAid Bangladesh

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Final Report

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Submitted by

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ACRONYMS

ADP	Annual Development Plan
BDHS	Bangladesh Demographic and Health Survey
CP	Country Programme
CPS	Country Programme Strategy
CR	Climate Resilience
DPHE	Department of Public Health Engineering
HH	Household
I&E	Influencing & Enabling
KII	Key Informant Interview
MHM	Menstrual Hygiene Management
PPS	probability proportional to size sampling
PSF	Pond Sand Filter
PSU	primary sampling units
RWH	Rain Water Harvesting
SSU	secondary sampling unit
SURCH	A House of Survey Research
UP	Union Parishad
USU	ultimate sampling unit
WAB	WaterAid Bangladesh
WASH	Water, Sanitation and Hygiene

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EXECUTIVE SUMMARY

Though Bangladesh has made progress in attaining access to water and sanitation facilities in recent past, it has not reached its' desired level. WaterAid Bangladesh has been working in water, sanitation and hygiene (WASH) sector in urban slums, hard to reach areas and eco-hazardous zones such as hill-tracts and hillocks; dry and arid barind tracts; salinity prone coastal belt, haor and flood prone chars. WAB has developed its Country Program Strategy (CPS) envisaging certain changes in its strategic objectives. To attain desired changes, a programmatic structure was developed that contains four programs, i.e., Urban WASH, Rural WASH, Climate Resilience and Influencing & Enabling (I&E). These strategic objectives will be measured with the help of some key outcome and impact level indicators.

Methodology

Methodology applied for the baseline survey was a combination of both quantitative and qualitative components. It was a cross sectional study to get an understanding of current water-sanitation-hygiene (WASH) situation at households and schools (primary and secondary levels) as well as healthcare facilities in the intervention areas. A total of 1220 households were selected from the communities under interventions following a two-stage cluster sampling design. The study included 73 secondary schools and dakhil madrasas from three programme areas. A total of 438 girl students were interviewed to assess their practices and knowledge about MHM (Menstrual Hygiene Management). The study included 61 health facilities in two programme areas (urban WASH and rural WASH) to observe their drinking water and sanitation provisions. About ninety-three healthcare providers were interviewed in survey. Data were also collected through observation and water quality tests from sample households, educational and health facilities. Secondary data were collected from 65 Union Parishads. For the purpose of triangulation 27 key informant interviews (KII) were also conducted.

Findings

Households' access to safe water

Overall forty percent households had access to safe water and it was found higher in urban WASH areas (65 percent). Sources of drinking water varied widely among the areas. 'Shallow or Deep tube wells' were the most common source of drinking water in rural WASH areas (82+16 percent), which served 38 percent in climate resilience areas and 30 percent in urban WASH areas. In addition, in climate resilience areas, 'PSF (Pond Sand Filter)' (all in climate resilience area: 33 percent) was an important source of water to avoid salinity. In urban WASH areas, 'piped water in the yard/plot' was an important source in this regard (25 percent).

Over 50 percent households had access to protected water sources (i.e. tubewell well connected to platform, no crack in platform and had improved drainage system), however, the pattern varied among areas (urban WASH: 72 percent, rural WASH: 33

percent, climate resilience: 79 percent). Use of own water source was 67 percent in rural WASH areas, which was only 12-18 percent in urban WASH and climate resilience areas. “Others and Institutional” were major sources (51% and 25%) in climate resilience areas. In urban WASH areas, ‘Others, the government and owner of the household’ were the major owner of the sources. Average (mean) distances (in meter) of water sources out of households were found 69.2, 41.4 and 273.3 meters in urban WASH, rural WASH and climate resilience areas, respectively.

Households’ access to sanitation and hygiene practice

Data show that overall 57 percent households had access to improved sanitation facilities (higher in urban WASH area: 71 percent). Again, about 59-61 percent of them across the areas had latrines that emit bad smell and whose faeces were found visible over floor. In addition, overall only 10 percent households had water and soap inside latrines, while 4-5 percent households, respectively, had water and soap within 2 and 5 meters of latrines.

Overall 59 percent households’ faeces were disposed in a proper way (i.e. safely), where it is about 65-70 percent in urban WASH and climate resilience areas and 42 percent in rural WASH areas. In addition, almost all cases (96 percent) children faeces were cleaned by their mother and the proportion of mothers washing hands with soap and water after cleaning child’s bottom was 67 percent. While, almost all of the respondents (92 percent) had knowledge that hands should be washed with water and soap after cleaning child faeces.

About 21 percent households in rural WASH areas and 2 percent in climate resilience areas were inundated by water during flood, cyclone or high tide. Among the households, whose latrines became inundated by cyclone or high tide, 9 and 33 percent in rural WASH and climate resilience areas, respectively, remained functional and usable during flood. Latrines constructed in low land was reported to be the main reason for unusable latrine during flood/cyclone/high tide in both the areas.

Only 13 percent of households were found practice hand washing. In addition, overall 64 percent of them had hand-washing facilities near their latrine. About 65 percent of the households had both water and ash, while 32 percent had water and soap in hand washing places. Again, majority of the households (68 percent) had such facilities in their kitchen. Among households with such facilities 60 percent had bucket/pitcher and 75 percent of them had both water and ash while 20 percent had water and soap at hand washing places in their kitchen.

Water, sanitation and hygiene in school

Most common water sources in schools were ‘tap (submersible pump)’ in urban WASH areas, (33 percent, 8 out of 24), while shallow tubewell (72 percent, 18 out of 25) in rural WASH areas and rain water (29 percent, 7 out of 24) in climate resilience areas. Almost all (overall 98%) schools had functional water sources and about 37 percent of them were within 10 meters from schools’ main building. One third of the schools, overall, had provision of safe drinking water, which was higher (64 percent) in rural WASH areas.

Overall 43 percent schools' surrounding (i.e. within 30 feet) of water sources was found fully clean.

Majority (89.5 percent) of the latrines in schools was found to be improved, (lower in rural WASH area: 77 percent). Over 60 percent of the latrines were 'water sealed with slab latrine connected to a septic tank' (lower in urban WASH areas: 40percent). Overall only 14 percent of the schools had functional improved and inclusive sanitation facilities (i.e. latrines) including MHM provision inside latrines.

About 81-98 percent latrines in schools reportedly remain open for students all time. However, major reasons mentioned were 'only for teachers' and, and 'dysfunctional/damaged' (38 percent each) for not using the latrine. In over 50 percent latrines only water was reported to be available, followed by 'water and soap' (30 percent). In case of cleanliness of latrine, 50 percent respondents provided positive response, i.e. latrines were clean (lower in rural WASH area: 17 percent). About 69 percent of schools' latrine could be used by disabled students.

Overall in 64 percent schools, classes on menstruation were held. Half of the respondents separately mentioned 'no female teacher' and 'unwillingness to take classes' as the main reasons for not taking classes on menstruation in schools. Only 6 percent schools had arrangement for supplying pads/napkins for students that are kept with 'female teachers' or 'maid/aya'.

Overall one fourth (27 percent) of the schools were found to have hand washing facilities; high in urban WASH areas (46 percent). About 75 percent schools (higher in urban area: 96 percent) had hand washing place inside latrines. About 49 percent of them (higher in rural WASH area 84 percent) had tubewell as the main hand washing arrangement. Overall 66 percent schools had only water at hand washing places, while

Menstrual hygiene of students

All of the respondent students have ever experienced menstruation and had knowledge about menstruation. About 67-75 percent of the students mentioned that maintaining personal hygiene and taking supplementary and nutrient foods are some behavioural rules to be followed during menstruation. Mother (76 percent), sisters (39 percent) and friends (28 percent) were three key sources of knowledge related to menstruation and menstrual hygiene.

About 51 percent of students used pads during menstruation, which was higher in urban WASH areas (62 percent). While about 47 percent of students used piece of cloth, it was more common among rural WASH students (56 percent). About 59 percent of the students used to change cloths after 4 hours, followed by '5-8 hours' (30 percent). 'Excessive bleeding' (69 percent) and 'to remain neat and clean' (67 percent) were the two main reasons behind changing used cloths.

A great majority (88 percent overall) of them mentioned that they washed used cloths after washing them with soap and water, followed by 'soap, water and Dettol' (8 percent). About 75 percent of them mentioned that they dried those washed cloths in sunlight outside of their house. Overall 48 percent of the students (lower in urban WASH

area 15 percent) mentioned that they buried pads underground by digging a hole in the ground, followed by 'in a fixed place' (overall 30 percent)

Overall 27 percent students mentioned that they remained absent from school during menstruation, (higher in climate resilience area: 42 percent) and the main reason of being absent was 'severe stomach pain' (58 percent).

Water, sanitation and hygiene in health centres

Health facility survey findings indicate that overall 80 percent of the health centres had improved water sources. Among the health centres that had sources of drinking water, in 71 percent cases sources were found functional, it was higher in urban WASH areas (100 percent, rural WASH areas 52 percent).

About 48 percent of the health centres had provision of safe drinking water (higher in urban WASH areas: 55 percent). Overall 78 percent of health centres' tubewells were found connected with platforms, made of cement. About 76 percent health centres had drainage system with safe water discharge system. Moreover, surroundings of 47 percent of the health centres were found fully clean.

The water of tubewells of over 37 percent of health centres in two areas (urban WASH: 15 percent, rural WASH: 52 percent) was reported to have been tested and were tested to detect arsenicosis only. Again, among the health centres where water tests were performed, green mark was found in the tube wells of 61 percent health centres indicating water was free from arsenic contamination.

Almost all (98 percent) of the health centres had latrines, where 92 percent of them had improved latrines, i.e. 'water seal with slab latrine connected to septic tank' (75 percent) and 'water seal pit latrine with slab connected to sewerage line' (16 percent). About 78 percent of the latrines were found functional. Overall in 87 percent of health centres latrines remained always open for patients. In about 41 percent of health centres latrines were found usable for disabled persons. Over 50 percent health centres had both water and soap available (urban WASH: 81 percent; rural WASH: 23 percent) in hand washing places; while 32 percent had only water and 14 percent had nothing at hand washing places. Latrines of 67 percent of the centres in both areas (urban WASH: 90 percent, rural WASH: 39 percent) were found clean.

In 38 percent of the health centres, female patients felt comfort in using latrines (urban WASH: 69 percent; rural WASH: 10 percent). About types of arrangement for menstrual hygiene, soap and water was available in 69 percent cases, basket in 85 percent cases and place for washing cloths in 54 percent cases.

About 80 percent health centres had arrangement for waste disposal. About 43 percent of them had 'basket/cartoon', followed by 'specific dustbin/container' (41percent). Overall 36 percent health centres, after certain period of time wastes were disposed to other place, while 30 percent burned them out.

Only 21 percent of the centres had fund for WASH related activities. Most of the providers in both the areas could mention the necessity of washing hands 'after

defecation' (urban WASH 93 percent and rural WASH 97 percent) and 'before eating' (urban WASH 88 percent and rural WASH 97 percent). Majority (91 percent) of the service providers mentioned 'to be free from germ' as the main reason for hand washing, followed by 'to remain clean' (18 percent).

About 10-15 percent of the service providers reportedly advised patients about hygiene and cleanliness. Overall 10 and 19 percent of the service providers, respectively, advised each and some of the patients on 'hand washing practices'.

About 7-14 percent of the service providers, advised patients on 'diarrhoea/food preservation hygienically'. Main advices that the service providers gave to patients were 'taking food after washing hand carefully', 'always to cover food' and 'to drink saline/salt water during diarrhoea'.

Allocation and utilization of union parishad budget on wash activities

In 2016-17, overall in a great majority of UPs (89 percent) allocation for WASH sectors was below 20 percent of proposed total budget, (91 percent and 82 percent respectively in rural WASH and climate resilience areas), while in 2015-16, corresponding percentage was 76.9 percent. Contrary to this, at least 20 percent of the total budget in 2016-17 was for WASH in 5 percent cases (4-9 percent in two areas), which was about 5 percent in 2015-16, while none of the UPs in Climate Resilience areas had allocation for WASH sector. However, 6 percent in 2016-17 (rural WASH: 6 percent, climate resilience: 9 percent), while about 19 percent (rural WASH: 14.8 percent and climate resilience: 36.4 percent) in 2015-16 had no allocation for this purpose.

Overall 5 percent of them had allocation for WASH in the UP budget in 2015-16 (5 and 3 percent in rural WASH and climate resilience areas), where overall 86 percent allocation of WASH was utilized.

Recommendations

Notable progress has been observed in regard to water and sanitation in all program areas. Tubewell is the main source of drinking water for households. But still there are many households that have no water source of their own. They collect water from others' source; even they have to collect water from quite a distant place. Water is not available in some tubewells in dry season due to fall of ground water level. Appropriate depth tubewell facilities should be provided where necessary. PSF facility should be extended in climate resilience areas. Less than half of the households (43 percent) have no access to improved latrine. Hygiene practices are not widely practiced by household members. Efforts should be given on providing improved latrines and raising awareness of household members on hygiene practices. Majority schools have improved drinking water sources and latrine facilities. But in most of the schools there is no separate latrine and menstrual hygiene facilities for girls. More emphasis should be given on this aspect as well as on awareness raising of students on hygiene practices. Hygiene practices are lacking among health service providers. Awareness raising should be given more emphasis. Advocacy at UP level should be conducted so that they keep at least 20 percent of their total budget for WASH purpose.

CHAPTER ONE

INTRODUCTION AND METHODOLOGY

1.1 Introduction

The governments of Bangladesh have been working to improve the situation in water supply and sanitation sector throughout the country over a long period of time. After independence, the Government laid emphasis on rehabilitation of damaged water supply and sanitation services and installation of new facilities in rural WASH and urban areas through the Department of Public Health Engineering (DPHE). Later, a number of policies and plans to address the challenges in the sector have been adopted. The policies and plans, among others, include: National Policy for Safe Water Supply and National Policy for Sanitation, both of 1998, a National Water Policy of 1999, a National Water Management Plan, and a National Policy for Arsenic Mitigation, both of 2004, as well as a National Sanitation Strategy of 2005. Accordingly, governments over the period have been working in this sector to improve the overall situation.

Against the above backdrop, Bangladesh has achieved a significant progress towards providing water supply and sanitation in the last two decades. According to JMP 2014, 85 percent people of Bangladesh have access to safe water and 57 percent people use hygienic sanitation facilities. Besides, Bangladesh has successfully improved poorest people's access to water and sanitation facilities in the recent past. Moreover, Bangladesh National Hygiene Baseline Survey 2014 reveals that only 40 percent households have water and soap available for handwashing. In 35 percent of schools a handwashing location with both water and soap was found, around one-third of students' hands appeared to be clean and 28 percent washed both hands with soap during handwashing demonstration. Menstrual hygiene management remains a challenge, especially in schools. Among menstruating girls and women, old cloth was the predominant menstruation management material (82-86 percent) among which 12 percent of school girls, 23 percent of girls at home and 27 percent of women washed cloth appropriately. Forty percent of surveyed girls reported that they miss school during menstruation for a median of 3 days a month. School facilities may contribute to absence during menstruation. Among hospitals, 19 percent had no toilets designated for doctors, 27 percent had no toilets for nurses or other hospital staff, and 1 percent had no toilets for patient/attendant. Almost all hospitals had at least one water source for general use, but many of the drinking water sources were not improved or protected. Most hospitals have adequate general water infrastructure, but need to improve drinking water supply, sanitation, environmental hygiene, and waste disposal, to provide a clean, well maintained environment¹.

Among government and non governmental organizations working on water, sanitation and hygiene (WASH) in Bangladesh, WaterAid Bangladesh (WAB) has been operating as one of the lead actors, and is experienced in scaling up and managing large scale projects targeting poor, vulnerable and excluded people. The geographic focus of WAB includes urban slums, hard-to-reach areas and eco-hazardous zones, such as hill tract and hillocks, dry and arid

¹ <http://www.wateraid.org/bd/what-we-do/the-crisis/hygiene>

barind tract, salinity-prone coastal belt, haor and flood-prone chars². Recently WAB has developed its country programme strategy (CPS) for 2016-2021 based on several guiding principles, drawn from WaterAid's Global Strategy 2015-2020. The CPS envisages certain changes at country programme (CP) level in the next five years, which have been reflected in its strategic objectives. The success against the strategic objectives will be measured focusing on the key indicators at outcome and impact level. To attain desired changes a programmatic structure has been developed that contains four programmes i.e. Urban WASH, Rural WASH, Climate Resilience, and Influencing & Enabling (I&E) programmes. These programmes will be implemented to accomplish certain objectives which will eventually contribute to achieve the strategic objectives in CPS.

The Rural WASH programme will address WASH needs of the excluded population in hard-to-reach areas and work to accomplish WASH gaps in institutions and public places in rural WASH context. The Urban WASH programme will continue to address the challenges of rapid urban WASHization and WASH deprivation of millions of poor and marginalized people living in cities and towns. The climate resilience programme will intervene in the climate vulnerable coastal zone, off-shore islands and drought prone barind tract and will also strengthen the climate change and disaster risk reduction components of Rural WASH and Urban WASH programmes. Influencing and Enabling programme will act both as a cross-cutting and standalone programme to support to influence sector capacity development; necessary policy development, change and enforcement; knowledge generation; and reformulation of national WASH agenda mostly at the national level.

1.2 Rationale of the study

In order to establish benchmark to measure success against the key indicators at Country Programme (CP) level, a baseline study was carried out. The study provides present scenario in WAB intervention areas in general as well as of its individual programmes.

1.3 Objectives of the study

The broad objective of the study is to understand and analyse present situation in Country Programme intervention areas as well as individual programmes against the key indicators to measure success of strategic objectives in CPS. However, the specific objectives of the study are as follows:

1. To understand situation of the households in intervention areas in terms of success to safe drinking water, improved sanitation facilities³ and hygiene.
2. To comprehend the situation of inclusive functional safe drinking water and improved sanitation facilities (including menstrual hygiene management) at schools and healthcare facilities.
3. To know the level of awareness of adolescent girls on menstrual hygiene management (MHM) at schools.
4. To know the proportion of households and institutions in intervention areas that practice hygiene.
5. To assess the knowledge of the government frontline health service providers on hygiene promotion.

² <http://www.wateraid.org/bd/audience/publications#sthash.D71QPMo4.dpuf>

³ Improved latrines are flush or pour flush to piped sewer system or septic tank or pit latrine, pit latrine with slab and composting toilet and unimproved latrines are flush/pour flush to elsewhere, without slab, bucket, hanging toilet or hanging latrine, no facilities or field and shared facilities of any type.

6. To assess water quality of the households and at institutions at source as well as at consumption level.
7. To understand what proportion of safe drinking water and sanitation facilities are functioning well during and after disaster.
8. To know what proportion of budget of the local government is allocated and utilized to improve WASH situation in the locality.

1.4 Methodology

Methodology applied for this baseline survey was a combination of both quantitative and qualitative components. It was a cross sectional study to get an understanding of the current water-sanitation-hygiene (WASH) situation at household and secondary school levels as well as healthcare facilities in the intervention areas. Data were collected through survey, observation and water quality tests from sample households, and educational and health facility level. Secondary data were collected from Union Parishads. For the purpose of triangulation some key informant interviews (KII) were also conducted.

1.4.1 Study area and population

1.4.1.1 Study area

The following table describes the methodology used in different parts of the study area.

Table 1.4.1.1: Different surveys with sample districtis and upazilas or wards covered

Programmes	Nature of survey	District	Upazila/Ward No.
Rural Area	WASH Household School and Surveys	Survey, Student Meherpur Kurigram Kurigram Thakurgaon Serajganj Sunamganj Moulavibazar	Gangni Rajarhat Ulipur Thakurgaon Sadar Ullahpara Tahirpur Sreemongal
			Heath Facility Survey Meherpur Sunamganj Gangni Tahirpur
Urban Area	WASH Household School and Surveys	Dhaka North Corporation	City Ward No. 4, 7, 8, 14, 17, 18, 21, 22, 23, 24, 28
		Dhaka South Corporation	City Ward # 2, 5, 12, 14, 24, 33, 45, 46, 47, 48, 49, 55, 56, 57
		Chittagong Corporation	City Ward No. 5, 6, 7, 8, 17, 18, 19, 35
	WASH Heath Facility Survey	Khulna City Corporation	Ward No. 1, 2, 3, 5, 9, 11, 15, 16, 17, 21, 24
		Dhaka Nilphamary	Savar Saidpur Municipality
		Khulna Tangail	Paikgachha Municipality Sakhipur Municipality
Heath Facility Survey	Dhaka North Corporation	City Ward No. 4, 7, 8, 14, 17, 18, 21, 22, 23, 24, 28	
	Dhaka South Corporation	City Ward No. 2, 5, 12, 14, 24, 33, 45, 46, 47, 48, 49, 55, 56, 57	
	Chittagong Corporation	City Ward No. 5, 6, 7, 8, 17, 18, 19, 35	
		Khulna City Corporation	Ward No. 1, 2, 3, 5, 9, 11, 15, 16, 17, 21, 24
Climate Resilience area	Household School and Surveys	Survey, Student Satkhira	Shaymnagar Upazila

1.4.1.2 Study population

Information at household level was collected from household mothers of under five children or spouse of household heads of the selected households. Information at school level was collected through interviewing school teachers, students along with physical observation of the schools. Similarly, data at health facility level were collected through observation and interview with service provider.

1.4.2 Methods of data collection

To meet the objectives of the survey, data were collected through following methods:

1. Quantitative method
2. Qualitative methods (Key informant interview)
3. Review of secondary data (UP's documents)

1.4.2.1 Quantitative method

1.4.2.1.1 Sample design and sample size

Quantitative data were collected through person-to-person interview on sample basis with pre-tested structured questionnaires. The sample households were selected following a two-stage cluster sampling design.

The sample size for household survey was determined using the following formula:

$$n = \frac{p(1-p)}{(p_1 - p_2)^2} \times (z_\alpha + z_\beta)^2 (deft)$$

Where $p = (P_1 + P_2)/2$

P_1 = proportions to be estimated for the indicator of interest in baseline

P_2 = proportions to be estimated for the indicator of interest in endline

z_α = standard normal value with 5% level of significance = 1.96

z_β = standard normal value with 80% power = 1.28

$(P_1 + P_2)$ = Admissible error difference between the estimates from baseline and endline

deft = design effect for cluster sampling

1.4.2.1.2 Sampling method

A total of 1220 households were selected from the communities under interventions following a two-stage cluster sampling design. At the first stage 20 clusters (say mauza/village in the rural WASH area, mahallah/slum in urban WASH area) were drawn with standard probability proportional to size sampling (PPS) methods for each program. Each mauza/village was divided into some segments of about 100 households in each, on an average, by preparing sketch maps. Such segments were considered as the primary sampling units (PSU) in the sampling process. Each cluster consisted of a number of households, which may be called secondary sampling unit (SSU) or ultimate sampling unit (USU). At the second stage, 20 households and eligible respondents were selected from each PSU by systematic sampling. This procedure of selection ultimately produced a sample which was self-weighting sample in each intervention areas.

The study included total 61 health facilities to observe provision of drinking water and sanitation in the facilities for two programmes. About ninety three healthcare providers were interviewed in the survey.

The study also included 73 secondary schools and dakhil madrasas from three programmes area. A total of 438 girl students (6 students from each school) were interviewed to assess practice and knowledge about MHM.

1.4.2.2 Qualitative methods

The qualitative method included key informant interview (KII) of key persons of Union Parishad, health facilities, schools and social elits to gather their views and opinions and other related necessary information. For this, a total of 27 KIIs were conducted throughout the study area. Besides KII relevant documents including union parishad budgets for WASH activities were reviewed.

1.4.2.3 Water quality tests

Two households (both source and consumption point) from every alternative cluster were selected for collecting water sample. A total of 120 water samples were collected from household survey. Similarly 30 water samples were collected from alternative health facilities and 36 water samples from schools. Thus, a total of 186 water samples were collected for water quality test. Each of these water samples were tested for fecal coliform, arsenic, iron, chlorine, pH and turbidity according to type of sources from nearest DPHE laboratory and Asia Arsenic Network.

1.4.2.4 Allocation for WASH in UP budget

Information on annual budget were collected from 65 local government institutions from Rural WASH (54) and Climate Resilience (11) programme areas. At the same time, UP chairman, member and key persons of communities were also targeted for key informant interview.

1.5 Implementation of the study

1.5.1 Development of study tools

The survey instruments were developed in consultation with the concerned officials of WaterAid Bangladesh, covering all issues of interest and finalized after field-testing for necessary changes and approval. The study team prepared the draft questionnaires, observation checklist and checklists for key informant interviews and WASH budgets after reviews of relevant literature as well as project documents.

The study team conducted the pre-testing of the draft questionnaires in some slum area in the project areas of WaterAid Bangladesh. The purpose of the pre-testing was to check the language, wording, translation, consistency and integrity of the study instruments.

1.5.2 Training

Three training programs were organized – on household listing, for household data collection including sample water collection, and finally on school, health facility and UP surveys including qualitative data collection for field personnel. Training consisted of lectures, classroom practices, group discussions and role playing or mock interviews. One day field test was also conducted to measure the level of understanding of the trainees. At the conclusion of the training, a final written test was administered to assess if the trainees had achieved the

knowledge and skills to work as investigators. All training were conducted for 4 days except listing was done for 1 day.

1.5.3 Data collection operations

1.5.3.1 Data collection period

To implement the fieldwork of this study, 3 listing persons, 3 teams for household interview and 4 teams for facilities and UP interviewing were deployed. Facility teams were entrusted for qualitative data collection as well. The listing team completed their assignment in 28 days including field work (18), movement, and weekend and training while the data collection team (HH and Facility team) required 33 days for the same to complete the data collection.

1.5.3.2 Collection and management of sampled water

Respondents or household heads of the targeted households were asked to provide “a glass of water which they drink or would give a child to drink” for testing. Similarly water sample was also collected from the source of water of these households. Samples of water in schools and health facilities were collected only from source. The containers filled with sample water were placed in ice boxes and transported to DPHE and Asia Arsenic Network.

In an attempt to test sampled water, before the supply, concerned staff of the laboratories cleaned those containers of 100 millilitre and 200 millilitre, respectively, using hydrochloric acid and acidifying the containers. The study team members collected sample water using those containers. The containers were placed in ice boxes and transported to nearby DPHE and Asia Arsenic Network laboratories within 4-8 hours after collection from the field.

1.6 Monitoring, supervision and quality control checking

In order to gather reliable data and information to assess availability and quality of WASH facilities and WASH related practices in households, school and health facilities, following techniques were applied:

- Observations of households, schools and health facilities (particularly WASH related facilities and points)
- Collection and recording of information on all WASH related facilities in households, schools and health facilities
- Interviews of household members, teachers and students, health personnel and other visitors of health facilities

Following activities were performed to collect information on availability and quality of WASH related facilities, their practices and overall environment of the listed/selected households, schools and health facilities, mentioned above.

A quality control team consisting senior research team members of SURCH was deployed for ensuring quality and reliability of collected data. Quality control checking were designed and enforced through physical verifications whether the investigators completed questionnaires by interviewing right respondents in right households by asking rightful questions fulfilling the questionnaires correctly on the spot. Quality control checking was undertaken both in ‘presence’ and ‘absence’ of the interviewing team members.

1.7 Data management, data analysis and triangulation of qualitative and quantitative information

Some data processing staff was assigned for editing, coding and data entry of all types of questionnaires. Data cleaning was managed by the data analyst. A tabulation plan was prepared containing dummy tables to meet the study objectives. Qualitative data was processed and analyzed manually by the qualitative specialist. It included compiling data under different themes and variables, comparison of the facts and relation between variables. Analytical results were synthesized by triangulation of quantitative and qualitative findings. By combining both quantitative and qualitative data, the interpretations were prepared across key research questions and objectives of the study as and where necessary.

1.8. Report preparation

The report constitutes of nine chapters. Chapter One contains details about introduction and study methodology, while Chapter Two describes findings on socioeconomic and household characteristics of sampled study population. Chapter Three elaborates findings on status of household access to safe water. Chapter Four and Five present findings on access to sanitation and hygiene practices in households and in schools, respectively. Chapter Six presents findings on sampled girl students' behaviour and perception about menstruation and menstrual hygiene management (MHM). Chapter Seven discusses findings related to water, sanitation and hygiene status in the sampled health facilities. Chapter Eight sheds light on findings related to union parishads' allocation and utilization of budget for WASH activities. Finally, Chapter Nine concludes the report with an overall discussion on the study findings as whole and policy implications for project implementation.

CHAPTER TWO

SOCIO DEMOGRAPHIC AND HOUSEHOLD CHARACTERISTICS

Chapter Two discusses socio-demographic and economic status of surveyed households. It presents age and sex distribution of household heads; educational and occupational status of household heads and household respondents. It presents findings on household composition, i.e. size of household and religious status of household members, structure of dwelling of the households, possession of valuable assets, and income status of households in the area.

2.1 Characteristics of respondents

Table 2.1 presents basic background information of household respondents in terms of their age, education and occupational status. Overall 36 percent of them were in 26-35 age group, followed by 'less than 25 years' (23 percent) and '36-45 years' (22 percent). Respondents came from all levels of educational background. About 29 percent of them completed primary level of education, while nearly every two out of five (39 percent) of them had no education.

Regarding occupation, majority (79 percent) of the household respondents were housewives (urban WASH: 70 percent, rural WASH: 85 percent and climate resilience: 83 percent). Small proportion (12 percent) of them were skilled or unskilled labourer (urban WASH: 15 percent, rural WASH: 7 percent and climate resilience: 14 percent) throughout three areas (Table 2.1).

Table 2.1: Characteristics of respondents by type of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Age (in year)				
<25	26.7	20.0	22.0	23.2
26-35	37.4	36.3	32.8	35.5
36-45	19.3	23.5	23.8	22.1
46 or above	16.7	19.5	21.5	19.2
Education				
Non-literate	39.6	41.5	36.5	39.2
Primary	30.3	26.3	29.5	28.7
Secondary	22.0	23.5	28.2	24.5
SSC or above	8.1	8.8	5.8	7.6
Occupation				
Housewife/household chore	70.0	85.0	82.8	79.2
Labour (skilled/ unskilled)	15.2	6.8	13.5	11.9
Business	2.9	1.0	1.0	1.6
Service	7.6	2.3	0.5	3.5
Agriculture	0.0	1.0	0.0	0.3
Other occupation*	4.3	4.0	2.3	3.5
n (number of household respondents)	420	400	400	1220

* Other occupation includes up member, unemployed, tuition, and begging; Labour includes unskilled laborer (assistant to mason or carpenter), skilled labourer (potter, black smith, cobbler, fisherman, tailor, mason, carpenter), rickshaw puller/van puller or boatman or push cart puller, driver, and maid servant (domestic help)

2.2 Characteristics of household heads

Findings relating to proportion of household head's age and their education are presented in Table 2.2. Data show that over 40 percent of them were in '46 or above age group', followed by '26-35 age group' (27 percent) and '36-45 age group' (26 percent).

Table 2.2 further shows that overall 26 percent of household head (male and female respectively) completed primary education. On the other hand, majority (61 percent) of female household head had no literacy (including can sign only, education in Qaumi madrasah), which was 44 percent among male heads over all.

Table 2.2: Characteristics of household heads by sex

Indicators	Sex		All
	Male	Female	
Age group (in year)			
<25	4.7	1.2	4.4
26-35	27.7	22.6	27.4
36-45	25.7	28.6	25.9
46 or above	41.9	47.6	42.3
Education			
Non-literate	43.5	60.7	44.7
Primary	26.1	26.2	26.1
Secondary	18.8	10.7	18.2
SSC or above	11.6	2.4	11.0
n (number of households)	1136	84	1220

2.3 Occupational status of household heads

Table 2.3 presents proportion of households regarding occupational status of household heads. Data show that over 50 percent of male heads of the households were mainly involved in labour (skilled and unskilled), followed by 'business' (18 percent) and 'agriculture' (14 percent). On the other hand, most (48 percent) of the female household heads across the areas were 'housewives', followed by 'labourers (skilled and unskilled)' (29 percent).

Table 2.3: Occupational status of household heads by sex

Occupational status of household heads	Sex	
	Male	Female
Agriculture	14.4	1.2
Labour (skilled/unskilled)	52.6	28.6
Service holder/professional	9.5	8.3
Business	17.9	2.4
Housewife/household chore	0.0	47.6
Retired/old aged	3.8	6.0
Other occupation*	1.6	6.0
n (number of households)	1136	84

* Other occupation includes unemployed, village kabiraj/homeopathic practitioner, imam/ muazzin/purohit, handicraft/cottage industry, begging, tuition and student; Labour includes unskilled labourer (assistant to mason or carpenter), skilled labourer (potter, black smith, cobbler, fisherman, tailor, mason and carpenter), rickshaw puller/van puller or boatman or push cart puller, driver, and maid servant (domestic help)

2.4 Household size

From Table 2.4 it is found that highest proportion of the households consisted of 3-4 members, which were 44-50 percent throughout three areas. Besides, 31-37 percent of households had 5-6 members across the areas. Average number of household members in

urban WASH area was 4.5 persons, which was 4.6 and 4.7 persons in other two areas, respectively. Corresponding national figure is 4.5 (BDHS-2014).

Table 2.4: Household size by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Religious status of households				
Islam	97.1	83.0	68.8	83.2
Hinduism	2.9	16.8	31.3	16.7
Buddhism	0.0	0.3	0.0	0.1
Household size (number of members)				
1-2 members	7.6	9.0	7.3	8.0
3-4 members	49.5	46.5	44.3	46.8
5-6 members	33.8	31.3	37.3	34.1
7 or more members	9.0	13.3	11.3	11.1
Average (mean) household size	4.5	4.6	4.7	4.6
n (number of households)	420	400	400	1220

2.5 Religious status of household

Table 2.5 presents religious status of the members of sample households as well as household size. As usual, Islam is the religion of most of the household members (urban WASH: 97 percent, rural WASH: 83 percent and climate resilience: 69 percent). Small proportions of them belong to Hinduism- 3, 17 and 31 percent, in all three areas, respectively.

Table 2.5: Religious status of households by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Religious status of households				
Islam	97.1	83.0	68.8	83.2
Hinduism	2.9	16.8	31.3	16.7
Buddhism	0.0	0.3	0.0	0.1

2.6 Structure of main dwelling room

Table 2.6 provides information on household's structure of main dwelling and possession of valuable assets. Findings reveal that walls in majority (69-73 percent) of the households in urban WASH and rural WASH were made of 'tin/ bricks', where roofs were made of 'tin', while 57 percent in climate resilience were 'mud/straw/thatch/palm leaf wall and tin roof'.

Table 2.6: Structure of main dwelling room in the household and possession of valuable assets by Type of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Structure of main dwelling room in the household				
Roof and walls made of mud/straw/palm leaf	7.4	2.8	20.5	10.2
Mud/straw/thatch/palm leaf made wall and tin made roof	18.1	20.5	56.8	31.6
Wall are made tin/brick and roof made of tin	69.0	72.8	18.5	53.7
Pucca (old/broken)	1.9	0.8	0.5	1.1
Pucca (good condition)	3.6	3.3	3.8	3.5

2.7 Possession of valuable assets

Table 2.7 provides information on household possession of valuable assets and access to electricity. Findings reveal that almost all households (86-96 percent) throughout three areas owned mobile phones. Overall 67 percent households had access to electricity (urban WASH: 95%, rural WASH: 63% and climate resilience: 43%). Besides, a vast majority of them in urban WASH area (71 percent) possessed 'television' (rural WASH: 33%, climate resilience: 27%).

Table 2.7: Structure of main dwelling room in the household and possession of valuable assets by type of programme

Possession of valuable asset	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Access to electricity	94.5	62.5	42.8	67.0
Radio	3.6	1.0	2.5	2.1
Television	71.4	33.0	27.0	44.3
Mobile phone	94.3	85.8	96.0	92.0
n (number of household respondents)	420	400	400	1220

2.8 Household monthly income

According to Table 2.8, overall monthly income of 26 percent of the households was Tk. 5001-7500, followed by Tk. 7501-10000 (21 percent) and Tk. 10001-15000 (19 percent). Average monthly income of households across the areas was Tk. 12261.2, where urban WASH and rural WASH areas had Tk. 14488.3 and Tk.12534.0, respectively, while a little smaller amount in climate resilience area (Tk. 9649.8). Median amounts of household income were 11258.3, 8079.2 and 7475.0 Taka in three areas, respectively, which reflect the fact that a few households had a quite higher income than the others. A similar pattern was found between rural WASH and climate resilience areas being a lower income, while a bit better condition in the urban WASH area being a higher income there.

Table 2.8: Monthly income of household by types of area

Household monthly income	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Up to Tk.5000	4.5	16.8	18.3	13.0
Tk. 5001-7500	17.4	27.0	32.8	25.6
Tk. 7501-10000	21.4	21.0	20.5	21.0
Tk.10001-15000	25.2	16.5	14.3	18.8
Tk.15001-20000	15.0	7.8	6.3	9.8
Above Tk. 20000	16.4	11.0	8.0	11.9
Average (mean) monthly income	14488.3	12534.0	9649.8	12261.2
Average (median) monthly income	11258.3	8079.2	7475.0	8933.3
n (number of households)	420	400	400	1220

CHAPTER THREE

HOUSEHOLD ACCESS TO SAFE WATER

Chapter Three presents and discusses findings related to sources of drinking water and ownership of such water sources, payments for using these sources. The Chapter also discusses findings on availability of drinking water in the main sources round the year, accessibility to the drinking water sources, knowledge on risk of using unsafe water, condition of platform connected to tubewell and legality of connection of water source etc.

3.1 Sources of water

3.1.1 Main source of water for drinking

Table 3.1.1 presents percent distribution of households according to main sources of drinking water. Findings reveal that source of drinking water varied widely among the areas. 'Shallow or Deep tube wells' were the most common sources of drinking water in the rural WASH area (82+16 percent), which served 38 percent in climate resilience area and 30 percent in urban WASH area along with another 33 percent using submersible pumps with theses tubewells. In addition, in climate resilience area 'PSF (Pond Sand Filter)' (all in climate resilience area: 33 percent) was an important source of water to avoid salinity. In urban WASH area, 'piped water into yard/plot' was an important source in this regard (25 percent).

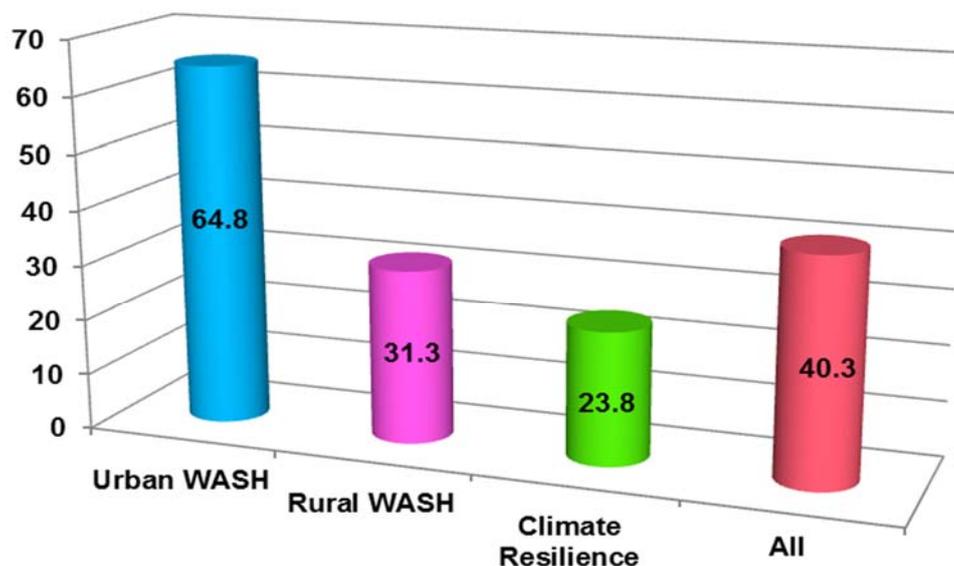
Table 3.1.1: Household's main source of water for drinking by types of area

Type of main sources of water	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Shallow tube well (<250 feet)	19.0	81.8	13.3	37.7
Deep tube well (250+ feet)	10.5	16.0	25.0	17.0
Shallow tube well + Pump/ Submersible pump (<250 feet)	15.5	0.8	0.0	5.6
Deep tube well + Pump/ Submersible pump (250+ feet)	17.4	1.3	0.0	6.4
Arsenic free treatment plant/SIDKO plant	0.2	0.0	8.8	3.0
Rain Water Harvesting (RWH)	3.1	0.0	3.8	2.3
Pathogen treatment plant (Pond Sand Filter): river/dam/lake/ponds/stream/canal/irrigation channel	0.0	0.0	32.8	10.7
Directly from river/dam/lake/ponds/stream/canal/irrigation channel	1.2	0.0	9.5	3.5
Distilled bottled water	0.2	0.0	0.0	0.1
Protected ring/dug well	0.0	0.0	0.3	0.1
Piped water into dwelling	0.2	0.0	6.8	2.3
Piped water inside room	2.9	0.0	0.0	1.0
Piped water into yard/plot	25.0	0.3	0.0	8.7
Public tap/stand pipe	4.0	0.0	0.0	1.4
Pipeline into neighbours house	0.7	0.0	0.0	0.2
n (number of households)	420	400	400	1220

Figure 3.1.1 presents proportion of households having access to safe water. Here access to safe water is defined as household having improved water source, water source inside house or upto 50 meters outside of the households and it takes maximum of 30 minutes to fetch water, and for tubewell source, that is well connected with platforms having no crack

and but having safe water removing drainage system. Findings reveal that overall 40 percent households had access to safe water. This percentage was higher in urban WASH area (65 percent), while 24-31 percent was in other two areas.

Figure 3.1.1: Households with access to safe water by types of programme



3.1.2 Ownership of water source, payment and reasons for payment for using the source

Findings related to ownership of main source of drinking water, household’s payment for using the sources as well as reasons for payment are presented in Table 3.1.2. Data show a wide variation between the areas in this regard. Use of own water source was 67 percent in rural WASH area, which was only 12-18 percent in urban WASH and climate resilience areas. “Others and Institutional” were major sources (51% and 25%) in climate resilience area. In urban WASH area, ‘Others, Government and house owner’ were the major owner of the sources.

Table 3.1.2 further shows that nearly 3 out of 5 households reportedly paid upto Tk. 100 monthly for using the water source (urban WASH: 48 percent, rural WASH: 60 percent, climate resilience: 66 percent). On the other hand, slightly over 30 percent of them (urban WASH: 23 percent, rural WASH: 39 percent, climate resilience: 31 percent) reportedly did not need to pay money in this regard. Payment was higher in urban WASH areas, where nearly 30 percent paid more than Tk. 100 during the same period. On an average, the households had to pay Tk. 97.9, 26.7 and 26.5 in urban WASH, rural WASH and climate resilience areas, respectively, for using water from main sources. Most of the households in rural WASH (99 percent) and climate resilience areas (80 percent) mentioned ‘upkeep cost’ as the main reason for payment, while in urban WASH areas it was ‘monthly water bill’ (urban WASH: 76 percent) followed by ‘upkeep cost’ (24 percent).

Table 3.1.2: Ownership of water sources, payment for using the sources and reasons for payment by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Ownership of main source of drinking water				
Self	18.3	67.3	11.5	32.1
Joint/shared	2.1	15.8	4.3	7.3
Other's	19.5	13.0	51.0	27.7
Government	36.4	3.8	8.8	16.6
Institutional	2.9	0.0	24.5	9.0
Owner of house	20.7	0.3	0.0	7.2
Payment for using water source				
Need not to pay money	23.3	38.5	31.3	30.9
Need to pay up to Tk. 100	48.1	60.0	66.0	57.9
Need to pay above Tk.100	28.6	1.5	2.8	11.2
Average (Mean)	97.90	26.69	26.51	53.83
Median	50.00	20.00	15.00	20.00
n (number of households)	420	400	400	1220
Reasons for payment				
Monthly water bill	75.8	0.8	18.2	35.1
Upkeep cost	24.2	98.8	79.6	64.1
Buying water	0.0	0.0	1.8	0.6
Carrying cost	0.0	0.4	0.4	0.2
n (number of households)	322	246	275	843

3.2 Year round availability of drinking water in the main source

3.2.1 Year round availability and reasons for unavailability of water

Percentage of households having year round water in their main sources of water is presented in Table 3.2.1. Water remained available in the main sources year round in almost all (96 percent) households throughout three areas.

Most households in rural WASH (50 percent) and climate resilience areas (30 percent) mentioned 'drought' as the main reason for unavailability of water in the main water source, while in urban WASH area it was 'exhaustion of collected rain water' (urban WASH: 75 percent).

Table 3.2.1: Availability of water in water source in a year and reasons for unavailability of water by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Number of months in a year water available in the main source of water				
6-8 month	1.7	0.3	3.5	1.8
9-11 month	1.2	3.3	2.3	2.2
12 months (year round)	99.1	96.5	94.3	96.0
n (number of households)	420	400	400	1220
Reasons for unavailability of water in the main water source (multiple responses)				
Water level falls down very deep	0.0	42.9	13.0	18.4
Damage of water source	8.3	14.3	21.7	16.3
Drought	33.3	50.0	30.4	36.7
Other disasters	0.0	21.4	4.3	8.2
Becomes difficult to go to the source due to flooding	0.0	35.7	4.3	12.2

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Water source becomes inundated under flood water	8.3	21.4	8.7	12.2
Exhaustion of collected rain water	75.0	0.0	17.4	26.5
n (number of households)	12	14	23	49

3.2.2 Alternative drinking water source and payment for using the source

Table 3.2.2 presents proportion of households by availability of alternative water source and payment for using alternative source of drinking water. Overall one tenth (10 percent) of them provided positive responses in this regard, which was little higher in climate resilience areas (21.5 percent). 'Rain water harvesting' was the main source in this regard, (64 percent overall and climate resilience: 81 percent), followed by 'shallow tube well' (overall 14 percent).

Data presented in Table 3.2.2 reveal that 37 percent of them had to pay money for using alternative source of water (climate resilience: 49 percent). On an average, households across three areas had to pay Tk. 48 (median amount Tk. 30) for using water from alternate sources (Not shown in a Table).

Table 3.2.2: Availability of alternative drinking water source and payment for using the source by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Provision of alternative water source				
Yes	4.5	3.5	21.5	9.8
No	95.5	96.5	78.5	90.2
n (number of households)	420	400	400	1220
Types of alternative source of drinking water (multiple responses)				
Shallow tube well (<250 feet)	*	*	1.2	14.3
Deep tube well (250+ feet)	*	*	1.2	6.7
Arsenic free treatment plant/SIDKO plant	*	*	8.1	5.9
Rain Water Harvesting (RWH)	*	*	81.4	63.9
Tanker truck	*	*	0.0	0.8
Pond Sand Filter: river/dam/lake/ponds/stream/canal/irrigation channel	*	*	8.1	7.6
Directly from river/dam/lake/ponds/stream/canal/irrigation channel	*	*	3.5	3.4
Distilled bottled water	*	*	0.0	0.8
Pipeline into neighbours house	*	*	0.0	2.5
n (number of households)	19	14	86	119

Note: * refers to unavailability of estimates

Sufficient water is available in tube-wells of Rangpur, Kurigram, Meherpur and Gaibandha districts throughout the year. The UP chairman in Shayamnagar sub-district of Satkhira district stated that sufficient water is not available in tube-wells throughout the year. Drinking water collected in tanks (rain water harvesting) is sufficiently available for 5-6 months. For rest of the months of the year, people are to collect drinking water from much distant places. In Satkhira district, it is also reported that rain water is not available during dry season and drinking water is also not available in most of the ponds during that time. In that time, drinking water is available in a few PSF tanks. Similarly, UP chairman in Sreemongal

reported that scarcity of water is an old and perpetual problem in this area, because being hilly area tubewell cannot be sunk in every place.

3.3 Distance of main drinking water source and status of accessibility

3.3.1 Distance of water source, time needed to collect water from source

Findings related to distance of main source of drinking water from households' main living room and time needed to only go and comeback from water source as well as total needed time to collect water are presented in Table 3.3.1. Findings show that slightly over 50 percent household's water source was inside house, followed by 'above 100 meters' and 'up to 50 meters' (21 percent each). Average (mean) distance (in meter) of water sources from households, which had sources outside of households, was recorded as 69.2, 41.4 and 273.3 meters in urban WASH, rural WASH and climate resilience areas, respectively. The corresponding median figures were 21.4, 23.0 and 194.4 meters in three areas, respectively indicating that there were few households which had quite longer distance compared to others. Most of them in urban WASH and rural WASH areas reported to need up to 15 minutes for both 'to only go and comeback from water source' (96-98%) and 'total time to collect water' (88-90%). The percentages were 67 and 49 in climate resilience areas, respectively.

Table 3.3.1: Distance of drinking water source and time needed to collect water by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Distance (at meter) for fetching drinking water from the source				
Inside house	57.6	85.3	12.0	51.7
Up to 50 meters	30.2	12.3	18.5	20.5
51-100 meters	6.9	1.3	11.0	6.4
101-800 meters	4.4	2.5	58.5	21.4
Average distance of main source from house	69.2	41.4	273.3	188.4
Median distance of main source from house	21.4	23.0	194.4	85.1
n (number of households)	420	400	400	1220
Time needed to only go and comeback from water source*				
Up to 15 minutes	96.1	98.3	66.8	78.8
16-30 minutes	3.4	1.7	19.3	12.7
More than 30 minutes	0.6	0.0	13.9	8.5
n (number of households)	178	59	352	589
Time needed to collect water*				
Up to 15 minutes	87.6	89.8	48.9	64.7
16-30 minutes	11.2	8.5	17.0	14.4
More than 30 minutes	1.1	1.7	34.1	20.9
n (number of households)	178	59	352	589

* includes only those households which did not have source within household premises

Following convenience in the availability of drinking water was reported by the respondents in Rangpur, Kurigram, Gaibandha and Meherpur districts: Ground water is available throughout the year at the depth of 50-70 feet and so tube-well can be sunk at minimum cost. So, there are tube-wells in almost all houses in these districts. However, as reported by the UP chairman, member and other social elits, there are following inconveniences in the availability of drinking water in the survey districts:

- Poor people cannot install tube-well in their houses; so they collect drinking water from the tube-wells of other houses that have tube-well.
- There is excessive iron in tube-well water; and in some places, tube-well water contains arsenic.
- There are very small number tube-wells in Tahirpur sub-district of Sunamganj district. So many of the households have no tube-well of their own. These households are to collect drinking water from tube-wells of other households covering 10-20 minutes' walking distance. Sometimes the households having no tube-well of their own are not allowed to collect water from the households having tube-well.
- During dry season when rain water and also pond water are not available in Satkhira district; people are to collect drinking water from ponds at far off places. Roads are not in good condition, so people face much difficulty in collecting water from far off places; level of ground water is very low, so cost of installation of tube-well is very high in this area.

3.3.2 Persons collect drinking water

Table 3.3.2 presents proportion of households regarding household's persons who used to collect drinking water. Data show that in 87 percent of the households, (urban WASH: 93 percent, rural WASH: 95 percent, climate resilience: 82 percent) mothers collected water from water source throughout three areas, followed by 'other female members' (23-29 percent) and 'male members' (10-28 percent).

Table 3.3.2: Persons collect drinking water by types of programme

Persons who collected drinking water (multiple responses)	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Respondent (household mother)	93.3	94.9	81.8	86.6
Other female members	29.2	25.4	22.7	25.0
Male members	28.1	10.2	20.7	21.9
Boys less than 18 years of age	12.9	6.8	5.1	7.6
Girls less than 18 years of age	18.0	11.9	12.5	14.1
Collected by other man who gets wage	0.6	0.0	2.0	1.4
n (number of households)	178	59	352	589

3.4 Facing problems in collecting water

Household respondents were asked whether they faced any problem in collecting water from water and type of problems they faced. Their responses in Table 3.4 reveal that overall 47 percent of respondents provided positive responses in this regard (urban WASH: 28 percent, rural WASH: 24 percent, climate resilience: 61 percent). A great majority (74 percent) of them, who reported problems, mentioned 'need to stand in queue' as a main problem. Small proportion of them mentioned 'take much time' (66 percent) and 'too far from house' (53 percent). However, 22 percent of them in urban WASH areas mentioned 'scuffles with others', which was quite negligible in climate resilience area.

Table 3.4: Facing problems in collecting water by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Households faced problem in collecting water				
Yes	27.5	23.7	60.8	47.0
n (number of households)	178	59	352	589
Type of problems faced in collecting water (multiple responses)				
Need to stand in queue	87.0	*	74.3	74.4
Too far from house	38.8	*	58.4	52.7
Takes much time	38.8	*	72.9	65.7
Scuffles with others	22.4	*	2.3	7.6
No transport facility	0.0	*	7.0	5.4
Fear of eve teasing	0.0	*	0.5	0.4
Owner's restriction	0.0	*	1.9	2.2
Road is submerged during rainy season	2.0	*	3.3	5.1
Mud and filth around platform	4.1	*	0.0	0.7
n (number of households)	43	20	214	277

Note: * refers to unavailability of estimates

3.5 Condition of platform connected to tubewell

Table 3.5 presents information regarding condition of platforms connected to tubewells as well as their drainage system. Findings reveal that slightly tubewells in over 50 percent of households were found connected with platforms, almost all (95 percent) of which were made of cement. Overall 88 percent of them had no crack. However, few had 'big crack' and 'thin crack' (6 percent each). A great majority (74 percent) of the households had safe water removing arrangement as drainage system of the platform (urban WASH: 85 percent, rural WASH: 59 percent, climate resilience: 87 percent), while 23 percent had unsafe water removing arrangement (urban WASH: 15 percent, rural WASH: 39 percent, climate resilience: 4 percent).

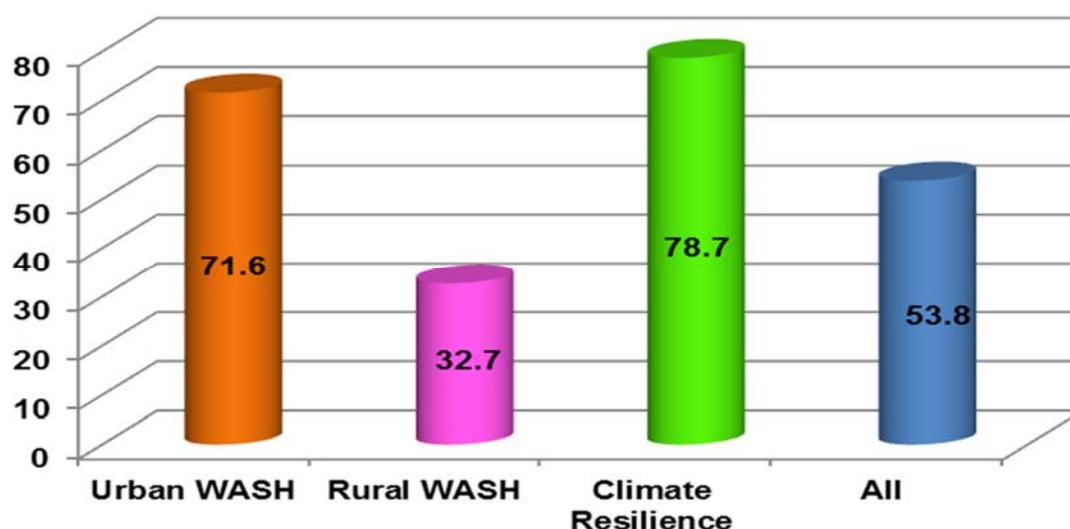
Table 3.5: Condition of platform of tubewell in the household by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Tubewell well connected to platform				
Yes	49.8	60.8	41.3	50.6
No	3.8	37.8	2.3	14.4
Other water source except tubewell	46.4	1.5	56.5	35.0
n (number of households)	420	400	400	1220
Materials used to construct platform				
Brick	0.6	7.8	1.2	4.1
Cement	98.8	91.1	98.8	95.3
Earthen	0.6	1.1	0.0	0.6
n (number of households)	170	282	165	617
Crack in platform				
Big crack	1.9	13.2	1.2	6.2
Thin crack	7.2	6.2	3.6	5.8
No crack	90.9	80.7	95.2	88.0
n (number of households)	209	243	165	617

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Drainage system of the platform (multiple responses)				
Safe water removing arrangement	82.8	56.8	86.7	73.6
Water remained at slab	1.4	4.1	23.6	8.4
Unsafe water removing arrangement	15.8	41.6	3.6	22.7
Water cannot be removed	0.5	0.8	1.2	0.8
n (number of households)	209	243	165	617

Figure 3.5 presents distribution of households having protected water sources (i.e. tubewell well connected to platform, no crack in platform and had safe water removing arrangement). It is found that over 50 percent households had protected water sources. About 72-79 percent of households in urban WASH and climate resilience areas, while 33 percent in rural WASH area had protected water sources.

Figure 3.5: Protected water sources at households by types of programme



3.6 Sharing status of water source and legality status of the source

Findings related to sharing of main sources of drinking water are presented in Table 3.6. Overall, every two out of five respondents in the study area reportedly shared their main water source with above 20 households; the pattern widely varied between areas (urban WASH: 39 percent, rural WASH: 4 percent, climate resilience: 76 percent), followed by 'below 10 households' (urban WASH: 32 percent, rural WASH: 50 percent, climate resilience: 13 percent). Similarly, sharing with other household members was quite low in rural WASH areas; 90 percent of them shared with less than 50 persons which was 50 percent in urban WASH and 19 percent in climate resilience area.

Almost all (99 percent) of them responded that their connection of water source was legal (urban WASH: 97 percent, rural WASH: 100 percent), while about 3 percent only in urban WASH area was illegal.

Table 3.6: Sharing and legality of main water source by types of programme

Indicator	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Sharing of main water source				
Not shared	15.2	43.5	5.5	21.3
Below 10 households	32.4	49.5	13.3	31.7
10-19 households	13.1	3.8	5.5	7.4
Above 20 households	39.3	3.8	75.8	39.6
n (number of households)	420	400	400	1220
Sharing of main water source with other household members				
Below 50 persons	49.5	89.5	18.8	52.5
50-100 persons	18.3	6.5	10.8	12.0
Above 100 persons	32.1	4.0	70.5	35.5
n (number of households)	420	400	400	1220
Legality of connection of water source				
Legal	96.9	100.0	-	98.6
Illegal	2.5	0.0	-	1.1
Don't know	0.6	0.0	-	0.3
n (number of households)	326	399	-	725

3.7 Water quality testing of water source

3.7.1 Testing of water from main water source by Government

Respondents were further asked whether households' main sources of water were tested to detect presence of arsenic, iron in water or fecal test of water. If arsenic test was done, they were also asked whether there was any sign/colour on those water sources to mark. Their responses in Table 3.7.1 reveal that slightly over 20 percent of them (urban WASH: 12 percent, rural WASH: 31 percent, climate resilience: 23 percent), provided positive response in this regard. On the other hand, 45-59 percent of them in urban WASH and climate resilience areas could not mention anything in this regard, while this percentage was quite negligible in rural WASH area.

Among those, who provided positive response about testing, over 90 percent mentioned that arsenic tests were performed, followed by 'iron tests' (12 percent). Only 2 percent in urban WASH area reported fecal tests of water. About 56 percent of household (higher in rural WASH area: 67 percent) reported that household's water source was marked with green colour after testing to detect arsenicosis. However, 41 percent of them (higher in urban WASH and climate resilience areas: 53 percent) could not mention any colour in this regard (Table 3.7.1).

Table 3.7.1: Test of household tubewell water and contamination with arsenic and iron by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Water in the main sources of water tested				
Yes	12.4	30.8	23.0	21.9
No	43.1	68.0	18.0	43.0
Don't know	44.5	1.3	59.0	35.1
n (number of households)	420	400	400	1220
Contamination status of tubewell water (multiple responses)				
Contaminated with arsenicosis	90.4	89.4	94.6	91.4

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
With Iron	7.7	13.8	10.9	11.6
With FC	1.9	0.0	0.0	0.4
Don't know	0.0	0.0	2.2	0.7
n (number of households)	52	123	92	267
Colour of water sources marked with indicating presence or absence of arsenicosis				
Red	0.0	7.3	1.1	3.7
Green	46.8	67.3	46.1	55.7
Don't know	53.2	25.5	52.8	40.7
n (number of households)	47	110	89	246

3.7.2 Water quality test during survey

Sample of water was collected from households' main drinking water source and point of use of household for water quality test. According to guideline of WaterAid Bangladesh test was conducted based on sources of water. Findings reveal that most of the samples were found safe in case of arsenic contamination (47 out of 48), faecal coliform (57 out of 60), and presence of iron (19 out of 24), chlorine (8 out of 8), PH (3 out of 3) and turbidity (7 out of 7) (Table 3.7.2a and Table 3.7.2b).

Table 3.7.2a: Water test results of households' main drinking water source

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Result of arsenic				
Below Bangladesh standard	-	-	-	50
Above Bangladesh standard	-	-	-	2
n (number of households)	-	-	-	52
Result of faecal coliform				
<1 CFU/100 ml (Nil)	-	-	-	54
1-9 (Low)	-	-	-	4
10-99 (Medium)	-	-	-	1
>=100 (High)	-	-	-	2
n (number of households)	-	-	-	61
Result of Iron				
>3 mg/l	-	-	-	21
<3 mg/l	-	-	-	7
n (number of households)	-	-	-	28
Result of chlorine				
>0.2 mg/l	-	-	-	8
<0.2 mg/l	-	-	-	-
n (number of households)	-	-	-	8
Result of PH				
6.50-8.50	-	-	-	3
<8.50	-	-	-	-
n (number of households)	-	-	-	3
Result of Turbidity				
>10	-	-	-	7
<10	-	-	-	-
n (number of households)	-	-	-	7

Table 3.7.2b: Results of water test at point of use of household

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Result of arsenic				
Below Bangladesh standard	-	-	-	50
Above Bangladesh standard	-	-	-	2
n (number of households)	-	-	-	52
Result of faecal coliform				
<1 CFU/100 ml (Nil)	-	-	-	41
1-9 (Low)	-	-	-	9
10-99 (Medium)	-	-	-	12
>=100 (High)	-	-	-	2
n (number of households)	-	-	-	64
Result of Iron				
>3 mg/l	-	-	-	25
<3 mg/l	-	-	-	3
n (number of households)	-	-	-	28
Result of chlorine				
>0.2 mg/l	-	-	-	8
<0.2 mg/l	-	-	-	-
n (number of households)	-	-	-	8
Result of PH				
6.50-8.50	-	-	-	3
<8.50	-	-	-	-
n (number of households)	-	-	-	3
Result of Turbidity				
>10	-	-	-	9
<10	-	-	-	-
n (number of households)	-	-	-	9

3.8 Natural disaster and usability of water sources

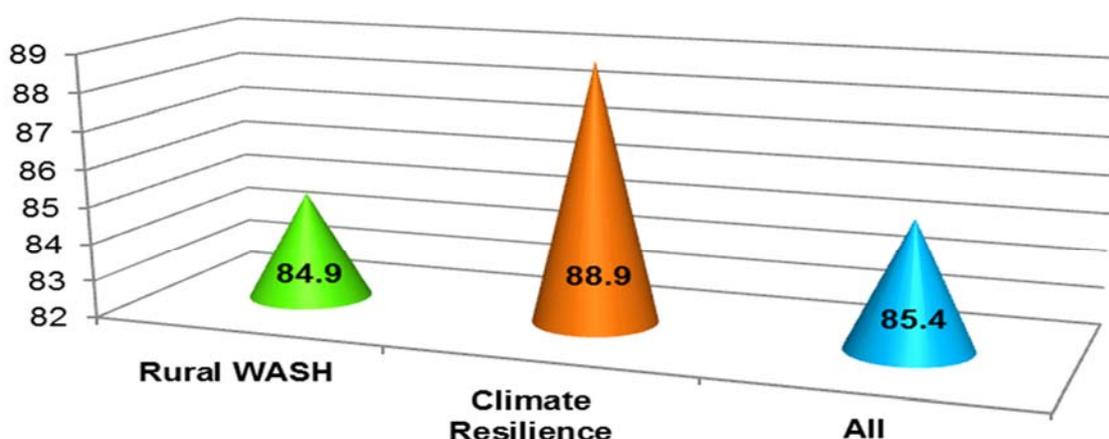
Respondents were also asked about whether they faced any natural disaster during five years preceding the survey, availability of useable source of drinking water as well as corresponding reasons for usability of water source. Their responses are presented in Table 3.8. Table shows that a high majority (84 percent) of them (urban WASH: 91 percent, rural WASH: 64 percent, climate resilience: 96 percent) reportedly did not face any natural disaster during five years preceding the survey, followed by 'flood' (majority of them in rural WASH area: 33 percent). Over 80 percent of them provided positive responses regarding availability of useable drinking water during disaster (85-90 percent both in rural WASH and climate resilience areas). Slightly over 80 percent mentioned 'tubewell installed above flood level' (rural WASH: 82 percent, climate resilience: 56 percent) as a main reason for usability of drinking water source during disaster, followed by 'tubewell not submerged during flood or rain water' (rural WASH: 11 percent, climate resilience: 44 percent).

Table 3.8: Natural disaster and usability of source of drinking water by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Natural disaster faced during five years before the survey				
Don't face	91.4	63.8	95.5	83.7
Flood	1.7	32.5	0.3	11.4
Cyclone	1.0	2.5	4.3	2.5
Tide	0.5	0.3	0.0	0.2
Water surge	6.0	2.3	0.0	2.8
n (number of households)	420	400	400	1220
Drinking water source useable during disaster				
Yes	-	84.9	88.9	84.7
n (number of households)	-	146	18	164
Reason for usability of drinking water source during disaster (multiple responses)				
Tubewell not submerged due to flood or rain water	-	11.3	43.8	13.1
Tubewell installed above flood level	-	82.3	56.3	81.5
Tubewell mouth was above water level	-	6.5	0.0	4.8
n (number of households)	-	124	16	140

Figure 3.8 presents proportion of households which had access to useable drinking water source during disaster. Findings reveal that 85 percent of them had useable drinking water source. There was no noticeable difference observed between the areas (85-89 percent).

Figure 3.8: Households with useable drinking water source during disaster



3.9 Knowledge on risk of using unsafe water

Household respondents were enquired whether they had any knowledge on risk of using unsafe water and types of risk for this. Their responses in Table 3.9 show that over 88 percent of them (urban WASH: 89 percent, rural WASH: 75 percent, climate resilience: 99.5 percent) provided positive responses in this regard. About 73 percent of them responded 'diarrhoea' (69-79 percent across three areas), followed by 'attack by diseases' (57-66 percent across three areas).

Table 3.9: Knowledge on risk of using unsafe water by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Knowledge of the risk of using unsafe water				
Yes	89.3	75.5	99.5	88.1
n (number of households)	420	400	400	1220
Perceived risks for drinking unsafe water (multiple responses)				
Diarrhoea	78.7	68.9	71.4	73.2
Attack by germ	10.9	9.9	3.3	7.8
Attack by diseases	58.7	65.9	57.0	60.1
Skin diseases	8.3	19.5	0.8	8.7
Others	6.9	10.5	0.0	5.5
n (number of households)	375	302	398	1075

*others include jaundice, anaemia, caught cold and fever, growth of worms in stomach, arsenicosis, pox, and pneumonia.

CHAPTER FOUR

HOUSEHOLD ACCESS TO SANITATION AND HYGIENE PRACTICE

Chapter Four discusses findings on sanitation facilities of the sampled households and some specific hygiene practices of household members. The discussions elaborate findings related to status of households' access to improved latrine, easy accessibility to and distance of latrines from main living room of the household, availability of water and soap inside or close to latrines, sharing status of latrines, types of latrine users and use of sandal inside latrines. In addition, the chapter discusses issues related to places of defecation of, and disposal places of faeces of under-five children in the households. Further, it elaborates findings on effects of natural calamities on household latrines and usability status of latrines during rainy season or cyclone or tidal surge. Besides, this chapter presents findings on hand washing location and arrangement inside or nearby household latrine and kitchen, and presence of water and soap in hand washing locations. Household respondents' knowledge on hand washing practices with water and soap at critical times and their related practices are also discussed in this chapter. Finally, this chapter concludes with a discussion focussing management of other solid waste of the household.

4.1 Latrine facilities

Improved latrine facility is likely to ensure hygienic separation of human excreta from human contact. Improved sanitation facilities include flush/pour flush (to piped sewer system or septic tank, and pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet⁴.

4.1.1 Types of latrine

During data collection, household latrines were physically checked to determine types of latrines- whether or not it was improved. Table 4.1.1 presents findings related to types of household latrines. Table shows that overall 57 percent households had access to improved sanitation facility (higher in urban WASH area: 71 percent), where 19 percent used 'water seal with slab latrine connected to septic tank', (higher in urban WASH area: 26 percent). It is followed by 'water seal pit latrine with slab' (17 percent), and 'water seal pit latrine with slab connected to sewerage line' (11 percent).

Findings in Table 4.1.1 further indicate that about 77 percent of the households across the areas had latrine outside of household in 0.1-20 meters from main living room of the households. Only 10 percent households had latrine inside households (higher in urban WASH area: 21 percent). Again, about 59-61 percent of the households across the areas were found with latrines emitting bad smell and where faeces were visible over floor.

⁴ <https://www.wssinfo.org/definitions-methods/watsan-categories/>

Table 4.1.1: Types of latrine in the households by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Type of latrine				
Improved latrine ¹	71.2	48.3	51.3	57.1
Unimproved latrine	28.8	51.7	48.7	42.9
Water seal with slab latrine connected to septic tank	25.7	12.5	19.0	19.2
Water seal with slab latrine connected to unsafe tank	3.3	1.3	4.8	3.1
Slab latrine with broken water seal connected to safe tank	0.2	0.5	3.0	1.2
Slab latrine with broken water seal connected to unsafe tank	0.2	0.3	2.0	0.8
Water seal pit latrine with slab connected to sewerage line	32.6	0.0	0.1	11.3
Pit latrine with slab and broken water seal connected to sewerage line	2.2	0.0	0.0	0.7
Water seal pit latrine with slab	8.2	18.8	24.5	17.0
Pit latrine with slab and broken water seal	2.6	32.7	36.3	23.5
Pit latrine with slab and cover	4.5	16.2	2.8	7.8
Pit latrine without slab	0.3	2.3	2.0	1.5
Water seal pit latrine with slab connected to open place	6.2	1.2	0.8	2.8
Pit latrine with slab and broken water seal connected to open place	9.0	4.3	2.0	5.2
Hanging latrine	5.0	2.2	0.7	2.7
SATOPAN pit latrine	0.0	0.2	1.7	0.7
No latrine/bush/field	0.0	7.5	0.3	2.5
Distance of latrine from house				
Inside house	20.7	6.2	3.5	10.4
0.1-20.00 meters	68.1	80.0	84.5	77.4
20.01-50.00 meters	9.0	13.3	10.5	10.8
Above 50 meters	2.2	0.5	1.5	1.4
Bad smell emits from latrine				
Yes	51.2	68.6	63.4	60.7
Human faeces visible over latrine slab and/or latrine floor				
Yes	48.8	65.4	64.4	59.2
n (number of households)	420	370	399	1189

Note: ¹ improved latrine includes water seal with slab latrine connected to septic tank, slab latrine with broken water seal connected to safe tank, water seal pit latrine with slab connected to sewerage line, water seal pit latrine with slab, pit latrine with slab and cover and sato pan pit latrine

4.1.2 Availability of water and soap inside/outside of latrine

Table 4.1.2 presents information regarding availability of soap and water inside or outside of household latrine. Findings show that overall only 10 percent households had water and soap inside latrines, while 4-5 percent households, respectively, had water and soap within 2 and 5 meters of latrines. A more or less similar pattern is visible across the areas in this regard. Notably, one third of the households had no water and soap even within 5 meters of latrines (lower in urban WASH area: 17 percent).

Findings also show that among the households which had soap within 5 meters of (inside or outside of) latrine, in almost all of the households (95 percent) toilet soaps were found wet by the study team, indicating that those were used a short time before checking.

Table 4.1.2: Availability of water and soap inside/outside of latrine by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Availability of water and soap inside latrine				
Water and soap available inside latrine	15.0	8.1	5.3	9.6
Water and soap available within 2 meters of latrine	6.0	3.2	3.5	4.2

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Water and soap available within 5 meters of latrine	5.2	5.2	4.5	5.0
Water but no soap available within 5 meters of latrine	55.0	27.3	57.6	47.3
Soap but no water available within 5 meters of latrine	0.2	0.8	0.3	0.4
No water and soap available within 5 meters of latrine	18.6	55.4	28.8	33.5
n (number of households)	420	370	399	1189
Toilet soap found wet				
Yes	92.8	98.4	94.4	94.8
n (number of households)	111	64	54	229

4.2 Persons use latrines

Table 4.2 presents percentage of households with different types of members who used and who couldn't or didn't use household latrines all-times. In addition, this table presents percentage of households by reasons for non-use of latrines. Findings reveal that overall all male, all female members or all members except young children of almost all of the households (about 90 percent each) reportedly always use their latrines. More or less a similar pattern is observed between the areas in this regard.

Among the households, whose some members could not use latrines all the time, were asked reasons for this. Findings in Table 4.2 reveal that, above 94 percent of them reported that these members were too young children to use latrine. Physical disability and old age were other reasons in this regard (2-4 percent across the areas).

Table 4.2: Household members using or not using household latrines and reasons for non-use of latrines by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Members who could use household latrine always (multiple variables)				
All male members of household	94.3	93.8	85.7	91.3
All female members of household	94.8	94.6	89.9	93.1
All members except young children	77.2	98.7	98.1	89.5
All members except old aged person	22.7	97.9	100.0	50.8
All members except mentally retarded/physically disabled	9.1	96.6	100.0	33.6
n (number of households)	420	370	399	1189
Members who could not use household latrine all-time (multiple responses)				
Young child members	31.4	34.6	33.1	33.0
Old aged members	0.2	1.0	0.8	0.8
Mentally retarded or physically disabled members	1.2	0.5	2.0	1.3
All member can use	67.5	64.9	64.7	65.8
n (number of households)	420	370	399	1189
Reasons for non-use of household latrines by some members all-time (multiple responses)				
Physical disability	3.7	1.5	6.4	3.9
Inability due to old age	0.7	3.8	2.1	2.2
Too little child to be able to use	95.6	95.4	91.5	94.1
n (number of households)	136	130	141	407

4.3 Use of sandal in latrine

Table 4.3 presents findings related to status of households in terms of use of sandal in latrine by household members. Findings show that 83 and 64 percent households,

respectively, reported that respondents and other members of the households always used sandal inside latrine.

Table 4.3: Use of sandal by household members in latrine by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Respondents used sandal in latrine				
Yes, always use	89.5	66.2	91.2	82.8
Yes, sometimes use	9.5	33.2	8.5	16.6
Do not use	1.0	0.5	0.3	0.6
Other members of household use sandal in latrine (multiple responses)				
Yes, all members always use	72.1	50.0	69.2	64.4
Yes, all members sometimes use	26.4	48.1	28.6	33.9
Yes, some members always use	1.0	2.7	2.0	1.9
None use anytime	1.0	0.3	0.5	0.6
n (number of households)	420	370	399	1189

4.4 Sharing of latrine

Table 4.4 presents findings related to sharing status of latrines. Findings reveal that half of the households reported that they did not share their latrines with others. Among the other half of the households, which shared latrines, 36percent shared their latrines with 1-5 households. Further, 89 percent of such households shared the facility with up to 30 persons.

Table 4.4: Sharing status of household latrine by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Latrine used other HH member				
Yes	68.6	40.5	39.3	50.0
Sharing of latrine with other household				
Used by self/not shared	31.4	59.5	60.7	50.0
Shared with 1-5 households	31.7	39.7	37.8	36.2
Shared with 6-10 households	22.6	0.8	0.5	8.4
Shared with 11-15 households	6.4	0.0	0.5	2.4
Shared with 16-20 households	2.9	0.0	0.0	1.0
Shared with 21-50 households	5.0	0.0	0.5	1.9
Number of persons latrine shared with				
Up to 30 persons	70.7	99.7	99.5	89.4
30-60 persons	20.2	0.3	0.5	7.4
60-100 persons	9.0	0.0	0.0	3.2
n (number of households)	420	370	399	1189

4.5 Accessibility to an usability of latrines round the year

Status of accessibility of household latrine round the year is presented in Table 4.5. Findings show that latrines in almost all households were reported to remain accessible round the year.

Among the households where latrines remained inaccessible sometimes in a year, 88 percent reported that rainy season was the time when latrines remained inaccessible. While in climate resilience area all of the households' latrines were remained inaccessible during flood, followed by 'tide' (50 percent). Findings further show that almost all (84 percent) of them reported to 'come up of water to the latrine (i.e. inundation of latrine) as the main reason for non-usability.

Table 4.5: Accessibility to latrine round the year by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Latrines remain accessible and usable for household members round the year				
Yes	95.7	74.3	99.5	90.3
n (number of households)	339	451	399	1189
Time period of non-usability of latrines in a year (multiple responses)				
During rainy season	83.3	90.5	0.0	87.8
During flood	16.7	54.7	100.0	49.6
During Water surge	5.6	12.6	0.0	11.3
During tide	16.7	0.0	50.0	3.5
Reasons for non-usability of latrines sometimes in a year (multiple responses)				
Filth comes up in the latrine	33.3	11.6	0.0	14.8
Water comes up in the latrine	77.8	84.2	100.0	83.5
Latrine becomes damaged	0.0	34.7	0.0	28.7
Walls of latrine become broken	0.0	7.4	0.0	6.1
n (number of households)	18	95	2	115

4.6 Place of defecation and person clean child faeces

4.6.1 Place of defecation and disposal of faeces of under-five children

Household respondents were asked about behaviour of household children age under-5 years as to whether or not they used household latrines for defecation. The respondents were further asked about their places of disposal of faeces of children age under five years. Findings in Table 4.6.1 show that in overall 59 percent of the households faeces were disposed in a proper way (i.e. safely).

Further, among children age upto 1 year, about 52 percent in urban WASH area, 56 percent in rural WASH areas and 44 percent in climate resilience area defecated in bed/cloth and their faeces were reportedly washed in tap water/tubewell.

Situation was found a bit different among children aged >1-2 years. Findings reveal that, about 50 percent in urban WASH area, 35 percent in rural WASH area and 21 percent in climate resilience area defecated in a fixed place or pot and faeces were disposed in household latrine or some fixed holes.

However, among children age >2-5 years, about 53-58 percent in urban WASH and climate resilience areas and 28 percent in rural WASH area used household latrine for both defecation and disposal of children's faeces.

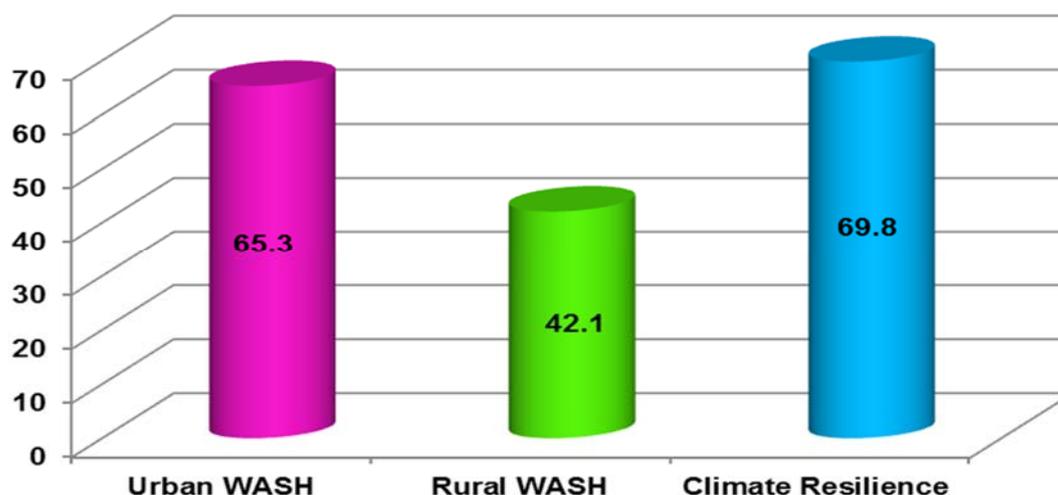
Table 4.6.1: Place of defecation and place of disposal of excreta of children aged under-five years by types of programme

Indicators	Age of children									All
	Upto 1 year			>1-2 years			>2-5 years			
	Urban WASH	Rural WASH	Climate Resilience	Urban WASH	Rural WASH	Climate Resilience	Urban WASH	Rural WASH	Climate Resilience	
Faeces disposed in proper way (i.e. safely)	25.3	16.5	34.4	69.5	54.8	68.3	80.3	58.4	83.8	59.2
Faeces not disposed in proper way(i.e. disposed unsafely)	74.7	83.5	65.6	30.5	45.2	31.7	19.7	41.6	16.2	40.8
n (number of children)	170	218	160	154	210	126	345	445	420	2248
Place of defecation and place of disposal of excreta for children aged 0-5 years										
Defecated in household latrine and faeces were disposed in household latrine	0.0	0.0	0.0	8.4	2.4	4.8	53.3	27.6	57.9	25.5
Defecated in a fixed place/pot and faeces were disposed in household latrine/ fixed hole	17.1	10.1	18.1	50.0	34.8	20.6	23.5	19.1	9.5	20.6
Defecated in a fixed place but faeces thrown into drain/sewerage line/dustbin/no fixed place	5.3	1.8	1.3	6.5	4.3	1.6	4.6	3.1	0.5	3.0
Defecated in a fixed place but faeces were thrown into river/pond/washed in tap water/tubewell	2.4	0.5	2.5	6.5	0.0	3.2	3.8	0.9	0.7	1.9
Defecated in a fixed hole and thrown in a fixed hole	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.2	0.1
Defecated in drain/sewerage line/dustbin and faeces thrown in a similar place	0.0	0.0	0.0	0.6	0.0	0.0	0.3	0.0	0.0	0.1
Defecated in no any fixed place but faeces were thrown in household latrine/ fixed hole	0.6	5.5	10.0	9.1	17.6	40.5	3.2	11.7	16.2	11.7
Defecated in no any fixed place but faeces were thrown in drain/sewerage line/dustbin	3.5	0.5	4.4	7.1	1.4	3.2	2.0	0.2	1.2	2.0
Defecated in no any fixed place but faeces were thrown into river/pond	2.9	0.0	10.0	7.8	0.5	21.4	7.8	0.2	13.6	6.5
Defecated in no any fixed place but faeces were thrown in no fixed hole	2.4	16.5	0.6	1.9	39.0	0.8	0.3	36.9	0.2	13.0
Defecated in bed/cloth and washed in tap water/tubewell	52.4	55.5	43.8	0.0	0.0	0.8	0.9	0.2	0.0	12.7
Defecated in bed/cloth and faeces were thrown in household latrine	7.6	0.9	6.3	0.6	0.0	2.4	0.3	0.0	0.0	1.3
Defecated in bed/cloth and faeces thrown in drain/sewerage line/dustbin/no any fixed place	5.9	8.7	3.1	0.0	0.0	0.8	0.0	0.0	0.0	1.6
n (number of children)	170	218	160	154	210	126	345	445	420	2248

Figure 4.6.1 presents in about 65-70 percent in urban WASH and climate resilience areas and 42 percent in rural WASH area, household's child faeces were disposed in a safe way

i.e., child either used adult latrine or if child faeces in a fixed hole or in a pot and filth rinsed into adult latrine/fixed hole.

Figure 4.6.1: Households disposed child faeces safely by types of programme



4.6.2 Persons clean child faeces

Table 4.6.2 presents findings on hand washing practices after cleaning child's faeces. Findings show that in almost all cases (96 percent) child faeces were cleaned by their mother. The proportion of washing hands with soap and water after cleaning child's bottom was 67 percent.

Table 4.6.2: Persons cleaning faeces of children aged 0-5 years and their hand washing practices after cleaning child faeces by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Person who clean child faeces				
Mother	95.8	98.1	94.5	96.3
Grandmother	2.5	0.8	1.7	1.6
Father	0.3	0.1	0.0	0.1
Boys age under-18 years	0.3	0.0	0.0	0.1
Girls age under-18 years	0.1	0.0	0.1	0.1
Other male members of household	0.9	0.0	1.7	0.8
Child himself/herself	0.0	1.0	2.0	1.0
Practice of hand washing after cleaning child faeces				
Do nothing/do not dry hand	0.1	0.2	0.1	0.2
With self-worn clothes	0.6	0.1	0.0	0.2
Clean with water only	40.5	36.7	12.7	30.3
Clean with water and soap	68.8	58.6	74.6	66.7
Clean with water and ash	4.0	22.8	21.8	16.9
n (number of children)	669	873	706	2248

4.7 Functionality of latrines and effect of natural calamity on latrines

Data regarding the effect of natural calamity on household latrine are presented in Table 4.7. Findings reveal that latrines in 21 percent households in rural WASH area and 2 percent in climate resilience area were in undated by water during flood/cyclone water/high tide water (no such report is in urban WASH area). Among the households, whose latrines became

inundated by cyclone or high tide, 9 and 33 percent in rural WASH and climate resilience areas, respectively, remained functional and usable during flood. Latrine situated in low land was reported to be the main reason for unusable latrine during flood/cyclone/high tide in both the areas. But in rural WASH area, 'road to latrine is low' (29 percent) and 'low ground level' (23 percent) were other reasons in this regard.

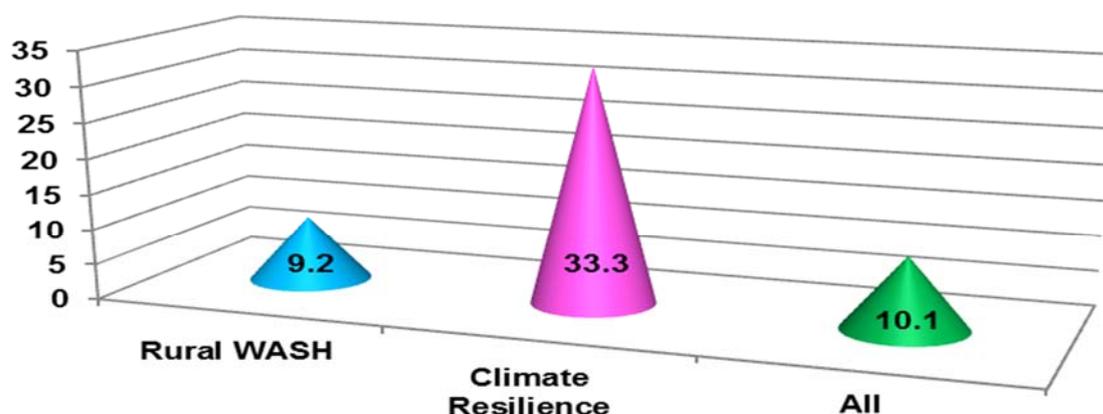
Among the households, where latrines became inundated by flood or cyclone or high tide, 64 percent in both rural WASH and climate resilience areas used 'bush or used no fixed place' for defecation. While, in rural WASH area about 56 percent of the households used others' latrine during this time (Table 4.7).

Table 4.7: Effect of natural calamity on latrines by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Latrine inundated by water during flood/cyclone water/high tide water				
Yes	-	21.1	1.8	12.1
n (number of households)	-	360	166	843
Latrine remain functional and usable during flood				
Yes	-	9.2	33.3	10.1
n (number of households)	-	76	3	79
Reasons for un-usability of latrine during flood/cyclone/high tide (multiple responses)				
Area is lower than the level of water of flood/cyclone	-	23.2	0.0	30.7
Latrine is situated low land area	-	66.7	100.0	59.1
Road of latrine is low	-	29.0	0.0	26.1
n (number of households)	-	69	2	71
Place of defecation during flood/cyclone/high tide (multiple responses)				
Use other's latrine	-	55.6	0.0	52.9
Use no fixed place/bush	-	61.8	66.7	64.3
Use own latrine	-	22.4	33.3	29.4
Latrine is installed in another place	-	5.3	0.0	3.9
n (number of households)	-	76	3	79

Figure 4.7 shows that about 9 and 33 percent of the household latrines in rural WASH and climate resilience areas, respectively, remained disaster resilient during flood/cyclone/high tide.

Figure 4.7: Households with disaster resilient sanitation facilities during flood/cyclone/high tide by types of programme



4.8 Availability of hand washing facilities

4.8.1 Hand washing facilities near or inside latrine

Table 4.8.1 presents information on hand washing facilities near (within 15 feet or 21.7 meters of) latrine. Findings show that overall 64 percent of the households had hand-washing facility. Among households with such arrangement 51 percent in urban WASH area had tap with running water, 79 percent in rural WASH area had tubewell, while 61 percent in climate resilience area had river/pond for hand washing.

Table 4.8.1 further shows that, overall 65 percent of the households had both water and ash, while 32 percent had water and soap in hand washing places.

Table 4.8.1: Hand washing facilities inside or near latrine by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Hand washing facilities inside or near (15 feet or 21.7 meters of) latrine				
Yes	80.5	41.3	70.3	64.3
n (number of households)	420	400	400	1220
Types of arrangement in hand washing places (multiple responses)				
Tubewell	32.0	78.8	11.7	34.6
Tap with running water	50.6	6.1	5.7	25.1
Tap with basin with running water	2.4	2.4	0.0	1.5
Bucket/pitcher	22.8	18.8	31.0	24.9
River/pond	1.8	0.0	60.9	22.6
Water house	1.2	0.0	0.0	0.5
Water and soap available in hand washing places				
Water and soap available	34.3	41.2	22.4	31.5
Water and soap not available	1.8	1.2	6.0	3.2
Water and ash available	63.9	57.6	71.5	65.3
n (number of households)	338	165	281	784

4.8.2 Hand washing facilities in kitchen

Table 4.8.2 presents information on hand washing facilities in kitchen. Findings show that overall 68 percent of the households had this facility in the kitchen. Among households with such facility 60 percent had bucket/pitcher, followed by tubewell (28 percent) and tap with running.

Table 4.8.2 further shows that 75 percent of the households had both water and ash while 20 percent had water and soap at hand washing places in the kitchen.

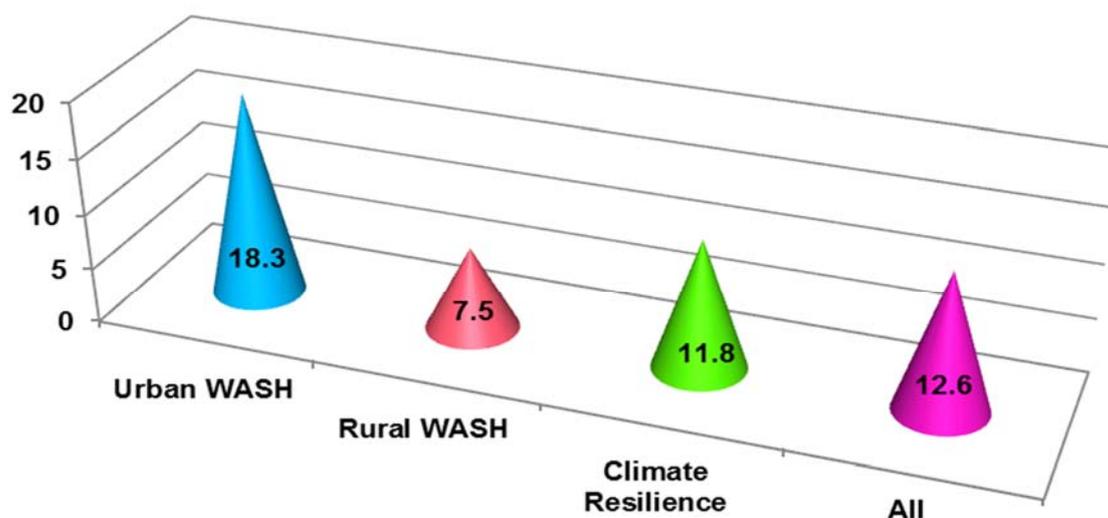
Table 4.8.2: Hand washing facilities in kitchen by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Hand washing facility in kitchen				
Yes	63.8	61.8	79.8	68.4
n (number of households)	420	400	400	1220
Types of arrangement in hand washing place (multiple responses)				
Tubewell	23.1	53.0	13.5	28.3
Tap with running water	49.3	2.0	1.6	16.9
Tap with basin with running water	1.5	1.6	0.6	1.2

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Bucket/pitcher	39.6	57.1	79.3	60.0
River/pond	1.9	0.0	18.5	7.7
n (number of households)	268	247	319	834
Water and soap available in hand washing places				
Water and soap available	32.5	15.0	14.4	20.4
Water and soap not available	3.0	5.7	4.7	4.4
Water and ash available	64.6	79.4	80.9	75.2
n (number of households)	268	247	319	834

Figure 4.8.2 reveals that about 13 percent of households were found that had access to hand washing facilities. Here access to handwashing facilities includes household having handwashing facilities with water and soap available near latrine or kitchen (within 5 yards).

Figure 4.8.2: Households with access to hand-washing facilities by types of programme



4.8.3 Hand washing with soap at critical times

To understand the situation of hand washing practices with soap by the household respondents, they were asked about purposes for which soap was used by them in 24 hours preceding the survey. Also, they were asked about occasions when hands should be washed with soap and water. Findings related to these issues are presented in Table 4.8.3. Table shows that almost all respondents (98 percent) reportedly washed hands in 24 hours preceding the survey. Ninety percent of them further mentioned that they usually washed hands with soap at the time of 'bathing/cleaning body', followed by 'at the time of washing cloths' (68 percent) and 'after cooking and defecation' (over 37 percent).

Regarding knowledge on critical times when one should wash hands with soap and water, almost all of the respondents (96 percent) mentioned that everyone should wash hands with

soap and water after defecation, followed by 'before eating' (48 percent) and 'before/after other domestic works' (47 percent) (Table 4.8.3).

Table 4.8.3: Respondents' practice and knowledge on critical times of hand washing with soap by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Used soap for any purpose in 24 hours preceding the survey				
Yes	99.5	99.0	97.0	98.5
n (number of households)	420	400	400	1220
Occasions when respondents practice hand washing with soap (multiple responses)				
At the time of washing cloths	74.2	68.9	61.3	68.3
Time of bathing/cleaning body	91.6	91.7	85.6	89.7
For bathing children	9.6	10.6	2.6	7.7
For washing child's bottoms	8.6	7.1	3.9	6.6
For washing my children's hands	0.2	0.5	0.0	0.2
Cleaning hands after defecation	39.7	33.1	38.4	37.1
Cleaning own hands before feeding a child	1.0	0.8	0.8	0.8
Cleaning own hands before cooking	4.8	3.0	2.3	3.4
Cleaning own hands before eating	8.1	7.3	4.4	6.7
After cooking	39.0	45.7	33.8	39.5
After cleaning utensils	10.3	14.4	0.0	8.3
After cutting fish or doing dirty work	1.2	5.1	0.3	2.2
n (number of households)	418	396	388	1202
Knowledge on critical times for using soaps in hand washing (multiple responses)				
After defecation	97.4	95.0	94.5	95.7
Before eating	55.0	46.5	40.8	47.5
Before cooking	13.8	10.3	18.8	14.3
After cleaning child's faeces	14.5	8.5	8.8	10.7
Before feeding child	3.6	2.5	3.0	3.0
Before/after other works	41.2	57.5	42.8	47.0
After examining patient	0.2	0.0	0.0	0.1
n (number of households)	420	400	400	1220

4.8.4 Knowledge on way of disposal of child faeces and hand washing methods after disposal of child faeces

Table 4.8.4 presents percent distribution of household respondents according to their knowledge on way of disposal of child faeces and their knowledge on hand washing methods after disposal of child faeces. Findings show that overall 56 percent of the respondents mentioned that it should be put into household latrines, while 37 percent mentioned that it should be put into a fixed hole. Besides, 29 percent mentioned need to wash in haor/pond/river in this regard.

Findings in Table 4.8.4 further show that almost all of the respondents (92 percent) had knowledge that hands should be washed with water and soap after cleaning child faeces.

Table 4.8.4: Knowledge on disposal of child’s faeces and hand washing after cleaning child excreta by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Knowledge on disposal of faeces of child under-three years (multiple responses)				
No need to do anything	0.2	0.0	0.0	0.1
Need to put into household latrine	67.9	39.8	59.3	55.8
Need to put into a fixed hole	28.3	27.3	25.0	36.7
Need to wash into tubewell water	22.6	34.5	3.5	20.2
Need to wash in pond/river/haor	15.7	39.8	32.5	29.1
Throwing into drain	3.6	0.3	0.0	1.3
Throwing into anywhere	0.5	3.3	0.0	1.2
In city corporation dustbin	0.2	0.0	0.0	0.1
Knowledge on disposal of faeces of children age 3-5 years (multiple responses)				
No need to do anything	0.2	0.0	0.0	0.1
Need to put into household latrine	80.2	67.3	88.3	78.6
Need to put into a fixed hole	21.4	48.5	20.0	29.8
Need to wash into tubewell water	4.8	2.0	0.3	2.4
Need to wash in pond/river/haor	9.3	9.0	10.8	9.7
Throwing into drain	1.7	0.0	0.0	0.6
Throwing into anywhere	0.2	1.3	0.0	0.5
In city corporation dustbin	0.2	0.0	0.0	0.1
Knowledge on hand washing method after cleaning child’s faeces (multiple responses)				
No need to do anything	0.0	0.0	0.3	0.1
Clean hands with cloths	1.4	0.5	0.8	0.9
Wash hands with only water	5.0	9.5	12.8	9.0
Wash hands with water and soap	94.5	91.0	88.8	91.5
Wash hands with mud/ash and water	5.7	20.8	7.8	11.3
n (number of households)	420	400	400	1220

4.8.5 Sources of knowledge on hand washing practices

Table 4.8.5 presents information on sources of household respondents’ knowledge on hand washing practices. Overall 89 percent respondents mentioned that they knew it from their relatives/neighbours, followed by ‘television’ (31 percent), ‘NGO staff’ (29 percent) and ‘government health staff/centre’ (11 percent). A similar pattern was observed across the areas in this regard.

Table 4.8.5: Sources of knowledge on hand washing practices

Sources of knowledge on hand washing practices (multiple responses)	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Did not hear about hand washing	0.0	0.3	0.0	0.1
Govt. health staff/centre	11.2	13.0	8.5	10.9
NGO staff	25.0	27.0	35.5	29.1
Television	49.3	30.0	12.3	30.8
Radio	0.0	0.3	0.0	0.1
Poster	3.1	2.3	0.0	1.8
Milking	0.5	2.0	0.0	0.8

Sources of knowledge on hand washing practices (multiple responses)	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Fair	0.5	0.3	0.0	0.2
Drama	0.7	0.8	2.0	1.1
Village practitioner	3.1	0.5	2.0	0.9
Religious leader	0.0	1.0	0.0	0.3
Relatives/neighbours	84.3	89.8	92.0	88.6
Mobile phone SMS	0.0	1.3	0.5	0.6
Book	5.2	5.3	4.0	4.8
Teachers	7.6	10.8	5.5	8.0
n (number of households)	420	400	400	1220

4.9 Management of household solid waste

4.9.1 Place of disposal for solid waste

Findings on the cleanliness of household courtyards, places of waste disposal and type of waste they disposed of are presented in Table 4.9.1. Table shows that courtyards of 49 percent households were found clean. Some fixed hole or pits were reported to be place of waste disposal in 35 percent households, followed by 'fixed place' (19 percent) and 'low slopping place' (16 percent).

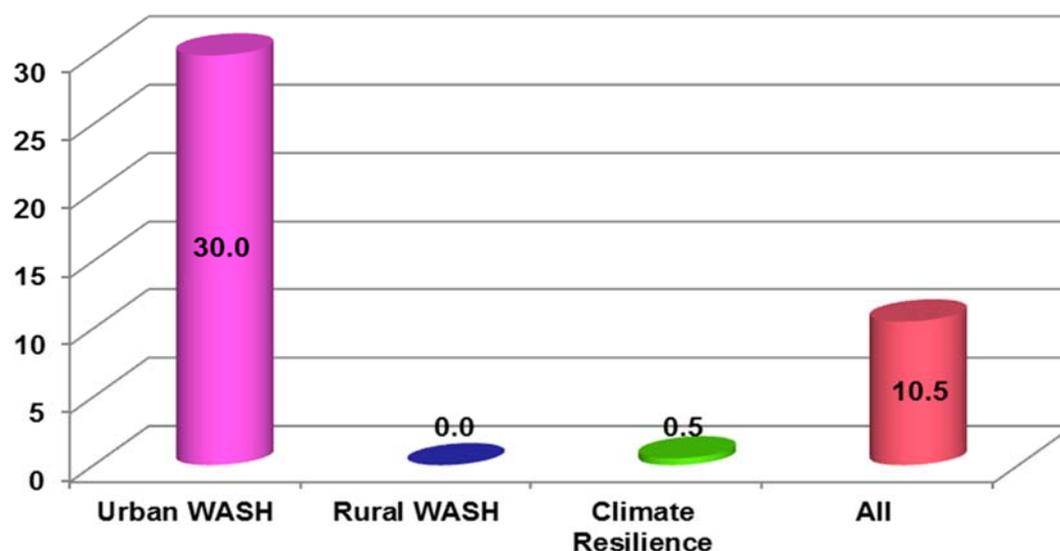
Filth/garbage other than kitchen garbage or human/animal excreta was the main type of waste that was disposed of by 75 households, followed by "beast's/animal stool" (34 percent) and 'kitchen garbage' (27 percent).

Table 4.9.1: Place of disposal for solid waste by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Household courtyard is clean				
Clean	48.3	41.5	56.8	48.9
n (number of households)	420	400	400	1220
Places of waste disposal (multiple responses)				
Fixed hole/pit	8.8	30.8	66.5	34.8
Fixed place	19.0	28.3	9.3	18.9
Fixed basket	40.0	2.8	3.0	15.6
Low/slopping place	12.9	25.8	10.0	16.1
By road-side	3.6	1.0	0.8	1.8
Drain	18.6	7.3	4.5	10.2
Courtyard/here & there	6.9	15.5	9.3	10.5
Bushes	0.5	5.3	0.3	2.0
Throw in pond, canal	1.9	2.5	0.8	1.7
n (number of households)	420	400	400	1220
Types of waste disposed of (multiple responses)				
Beast/animal stool	12.0	50.9	37.0	33.5
Child's stool	1.4	3.0	0.6	1.8
Kitchen garbage	27.6	26.1	26.0	26.6
Other filth/garbage	81.6	75.2	64.7	74.5
n (number of households)	217	234	173	624

In urban WASH areas 30 percent of household had improved solid waste disposal mechanism, but in rural WASH and climate resilience areas percentage of having solid waste disposal mechanism were very negligible.

Figure 4.9.1: Households with improved solid waste disposal mechanism by types of programme



4.9.2 Disposal of household waste

Table 4.9.2 presents findings on way of disposal of household solid waste. Findings show that 66 percent households reportedly kept such waste in a low place, followed by 'making compost fertilizer' (21 percent).

In urban WASH area 17 percent of the household reported that the city corporation staffs always clean City Corporation's roadside dustbins where their waste disposed of. However, about 41 percent do not know anything about in this regard.

Table 4.9.2: Disposal of household waste in household by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Way of disposal of solid waste of household in the place of disposal				
City corporation workers take garbage/filth	15.5	0.0	0.0	5.3
Throw in dustbin	16.4	0.0	0.5	5.8
Keep in low place	56.7	75.0	65.8	65.7
Make it compost	2.6	24.0	36.8	20.8
Keep in road side	5.7	1.8	0.0	2.7
Burn out	1.2	0.8	0.3	0.7
Accumulate in drain	2.1	1.8	0.0	1.1
Goes into nearby canal or pond	4.0	3.0	0.8	2.6
specific hole	0.5	1.5	0.5	0.8
Don't know	0.5	0.0	0.0	0.2
n (number of households)	420	400	400	1220
City corporation authority cleans waste				
Always cleans	16.9	-	-	16.9
Sometimes clean	8.6	-	-	8.6
Does not clean	7.6	-	-	7.6

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
No dustbin set up by city corporation and hence does not clean	20.9	-	-	20.9
Don't know	46.0	-	-	46.0
n (number of households)	278	-	-	278

CHAPTER FIVE

WATER, SANITATION AND HYGIENE IN SCHOOLS

Chapter Five presents findings on characteristics of respondents in the sampled schools as well as water sources, sanitation facilities and hand washing locations in the schools and hygiene programme/activities of the schools. This chapter also presents findings related to types of improved latrine, availability of water and soap inside latrines, places and materials of hand washing, and finally WASH related school annual plan and management.

5.1 Characteristics of the respondents

Table 5.1 presents basic background information of respondents in the schools in terms of gender and designation. Table shows that overall almost all (96 percent) of them were male, while only 4 percent female (all in urban WASH area). About 55 percent of them were head teachers, followed by 'teacher', and 'superintendent' and 'principal'.

Table 5.1: Characteristics of respondents by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Sex of respondent				
Male	87.5	100.0	100.0	95.9
Female	12.5	0.0	0.0	4.1
Designation of respondent				
Superintendent	0.0	12.0	37.5	16.4
Principal	4.2	16.0	4.2	8.2
Head teacher	70.8	48.0	45.8	54.8
Teacher	25.0	24.0	12.5	20.5
n (number of schools)	24	25	24	73

5.2 Water supply system in school

5.2.1 Main source of drinking water

Respondents were asked about types of main water source in the schools, functionality of water sources, and distance of water sources from school main building. Findings related to these are presented in Table 5.2.1. Table shows that 'tap (submersible pump)', (33%, 8 out of 24) and 'tap (motor pump)' (25%, 6 out of 24) were more common water sources in urban WASH area. While shallow tubewell (72%, 18 out of 25) and deep tubewell (20%, 5 out of 25) in rural WASH area and rain water (29%, 7 out of 24) in climate resilience area were more common water sources. However, 38 percent (#9 out of 24) schools in urban WASH area and 17 percent (#4 out of 24) schools in climate resilience area had no water sources.

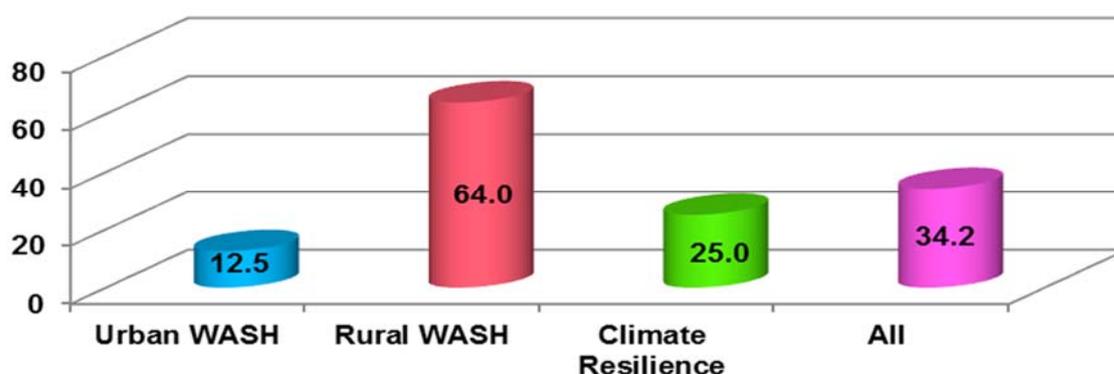
Table further shows that almost all (overall 98%) schools had functional water sources. About 37percent of them were within 10 meters from school's main building, followed by 'over 20 meters' and '10.01-20.00 meters'. By area, water sources were more likely to be located within 10 meters in rural WASH area while beyond 10 meters in other two areas.

Table 5.2.1: Main source of drinking water in school by types of programme

Indicators (number in parenthesis)	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Type of main water sources				
Improved	100.0	100.0	100.0	100.0
Unimproved	-	-	-	-
No water source	37.5 (9)	0.0 (0)	16.7 (4)	17.8
Tap (submersible pump)	25.0 (6)	0.0(0)	4.2 (1)	9.6
Tap (motor pump)	33.3 (8)	8.0 (2)	8.3 (2)	16.4
Deep tubewell	4.2 (1)	20.0 (5)	16.7 (4)	13.7
Shallow tube well	0.0 (0)	72.0 (18)	8.3 (2)	27.4
Pond Sand Filtering (PSF) system	0.0 (0)	0.0 (0)	16.7 (4)	5.5
Rain water	0.0 (0)	0.0 (0)	29.2 (7)	9.6
n (number of schools)	24	25	24	73
Main source of drinking water functional				
Yes	93.3 (14)	100.0 (25)	100.0 (20)	98.3
n (number of schools)	15	25	20	60
Distance (in meter) of drinking water source from main school building				
Inside school building	20.0 (3)	12.0 (3)	5.0 (1)	11.7
0.01-10.00 meters	13.3 (2)	60.0 (15)	25.0 (5)	36.7
10.01-20.00 meters	33.3 (5)	8.0 (2)	30.0 (6)	21.7
Over 20 meters	33.3 (5)	20.0 (5)	40.0 (8)	30.0
n (number of schools)	15	25	20	60

Figure 5.2.1 presents percent distribution of schools with provision of safe drinking water (i.e., improved and functional water source and well connected with platform having no crack). Figure shows that one third of the schools, overall, had provision of safe drinking water. This proportion was higher (64 percent) in rural WASH area; comparatively lower in urban WASH and climate resilience areas - 13 and 25 percent, respectively.

Figure 5.2.1: Schools with provision of safe drinking water by types of programme



5.2.2 Condition of platforms of tubewells and cleanliness of surrounding of water sources

Table 5.2.2 presents information regarding condition of connection of platform to tubewell, drainage system of the tubewell as well as cleanliness of surrounding of main water source. It is to be noted here that, majority of these tubewells are in rural WASH areas. Findings reveal that tubewells in over 80 percent of school's were found connected with platforms, where almost all (96 percent) of them were made of cement. Overall 89 percent of them had no crack, followed by 'thin crack' (7 percent). A great majority (71 percent) of them had safe water removing arrangement as drainage system of the platform, while 4 percent had unsafe water removing arrangement.

In case of cleanliness status of the surrounding (i.e. within 30 feet) of water sources, it was observed by the study team that overall in 43 percent schools it was found fully clean. Contrary to this, in 40 percent of the schools, surroundings were found partially clean, followed by 'fully unclean' (17 percent) (Table 5.2.2).

Table 5.2.2: Condition of platform of tubewell and cleanliness of surrounding of main water source in school

Indicators	Percent
Tubewell well connected to platform	
Yes	82.4
n (number of schools)	34
Materials used to construct platform	
Brick	3.6
Cement	96.4
n (number of schools)	28
Crack in platform	
No crack	89.3
Thin crack	7.1
Thick crack	3.6
n (number of schools)	28
Drainage system of the platform	
Safe water removing arrangement	71.4
Water remained at slab	32.1
Unsafe water removing arrangement	3.6
n (number of schools)	28
Cleanliness of surroundings (within 30 feet) of the main water source	
Fully clean	43.3
Partially clean	40.0
Fully unclean	16.7
n (number of schools)	60

5.3 Testing of water of main water sources

5.3.1 Testing of water of main water sources to detect arsenic and iron contamination

Respondents were further asked whether schools' main sources of water were tested to detect presence of arsenicosis, iron or faecal coliform (E. coli). If arsenic test was performed, respondents were further asked whether there was any sign/colour on the tested water sources to mark that the sources were contaminated or free from contamination. Their responses in Table 5.3.1 reveal that overall nearly half of them (47 percent) reported that

water of the sources was tested (to detect arsenicosis or iron). However, 17 percent of them could not mention anything in this regard.

In response to whether tests were performed to detect arsenicosis or iron, overall all of the respondents mentioned that tests were performed in all schools to detect presence of arsenicosis, while only 4 percent (i.e. in one school) reported 'iron test' in this regard (Table 5.3.1).

Further, overall a great majority (71 percent) of the respondents reported that school's water sources, which were tested to detect presence of arsenicosis, were marked with green colour, while 3 percent with red colour after tests. However, 25 percent of them could not mention anything about it.

Table 5.3.1: Testing of tubewell water in schools and status of contamination with arsenic and iron

Indicators	Percent
Water tested in main sources of water (tubewell)	
Yes	46.7
No	36.7
Don't know	16.7
n (number of schools)	60
Tubewell water tested to detect arsenicosis or iron (multiple responses)	
To detect arsenicosis	100.0
To detect iron	4.2
n (number of schools)	28
Colour the tested sources marked with	
Red colour	3.6
Green colour	71.4
Don't know	25.0
n (number of schools)	24

5.3.2 Water quality test of main water source and point of use

Table 5.3.2a and 5.3.2b reveal that almost all samples in the school were found safe in case of arsenic contamination, faecal coliform, and presence of iron, chlorine, PH and turbidity.

Table 5.3.2a: Water test results of schools' main source of drinking water

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Result of arsenic				
Below Bangladesh standard	-	-	-	28
Above Bangladesh standard	-	-	-	-
n (number of schools)	-	-	-	28
Result of faecal coliform				
<1 CFU/100 ml (Nil)	-	-	-	31
1-9 (Low)	-	-	-	2
10-99 (Medium)	-	-	-	2
>=100 (High)	-	-	-	1
n (number of schools)	-	-	-	36
Result of Iron				
>3 mg/l	-	-	-	7
<3 mg/l	-	-	-	1
n (number of schools)	-	-	-	8

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Result of chlorine				
>0.2 mg/l	-	-	-	7
<0.2 mg/l	-	-	-	-
n (number of schools)	-	-	-	7
Result of PH				
6.50-8.50	-	-	-	5
<8.50	-	-	-	-
n (number of schools)	-	-	-	5
Result of Turbidity				
>10	-	-	-	3
<10	-	-	-	-
n (number of schools)	-	-	-	3

Table 5.3.2b: Result of water test at point of use of school

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Result of arsenic				
Below Bangladesh standard	-	-	-	28
Above Bangladesh standard	-	-	-	-
n (number of schools)	-	-	-	28
Result of faecal coliform				
<1 CFU/100 ml (Nil)	-	-	-	30
1-9 (Low)	-	-	-	2
10-99 (Medium)	-	-	-	4
>=100 (High)	-	-	-	-
n (number of schools)	-	-	-	36
Result of Iron				
>3 mg/l	-	-	-	5
<3 mg/l	-	-	-	-
n (number of schools)	-	-	-	5
Result of chlorine				
>0.2 mg/l	-	-	-	7
<0.2 mg/l	-	-	-	-
n (number of schools)	-	-	-	7
Result of PH				
6.50-8.50	-	-	-	5
<8.50	-	-	-	-
n (number of schools)	-	-	-	5
Result of Turbidity				
>10 NTU	-	-	-	3
<10 NTU	-	-	-	-
n (number of schools)	-	-	-	3

5.4 Sanitation facility in schools

5.4.1 Types of latrine

Table 5.4.1 reveals that all schools had latrine facility throughout three areas. Among the latrines majority (89.5 percent) in 73 schools were found to be improved, (lower in rural WASH area: 77 percent). Over 60 percent of the latrines were 'water sealed with slab latrine connected to a septic tank' (lower in urban WASH area: 40 percent). Besides, 22 percent of

the facilities were 'water sealed pit latrines with slab connected to sewerage line' (59 percent in urban WASH area, only 2 percent in rural WASH area).

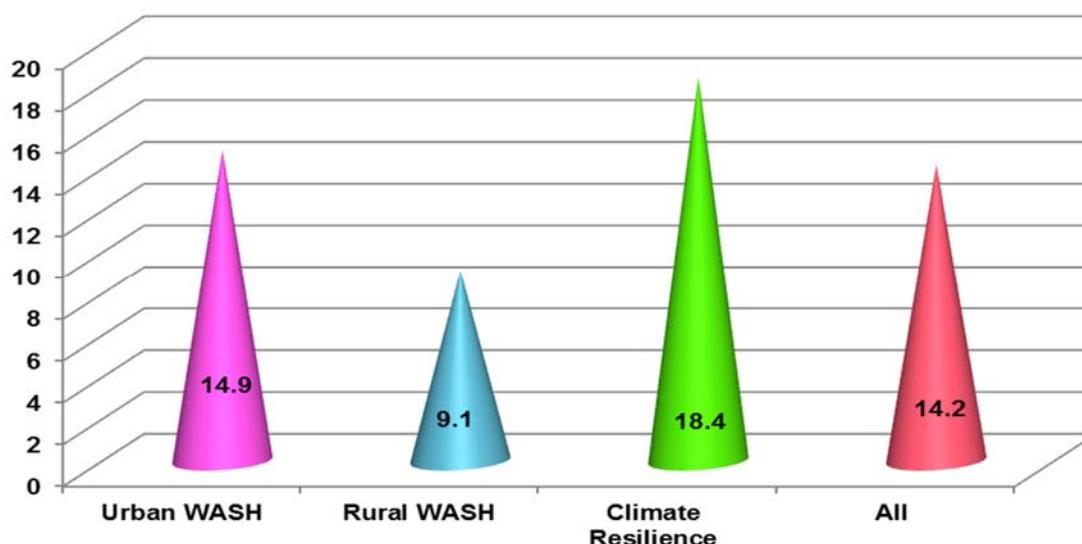
Table 5.4.1: Latrine facilities in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Any latrine in school				
Yes	100.0	100.0	100.0	100.0
n (number of schools)	24	25	24	73
Types of latrine				
Improved latrine	99.2	76.8	90.3	89.5
Unimproved latrine	0.8	23.2	9.7	10.5
Water seal with slab latrine connected to septic tank	39.7	74.7	90.3	66.6
Water seal with slab latrine connected to unsafe tank	0.0	10.1	8.7	5.9
Slab latrine with broken water seal connected to safe tank	0.0	8.1	1.0	2.8
Slab latrine with broken water seal connected to unsafe tank	0.8	4.0	0.0	1.5
Water seal pit latrine with slab connected to sewerage line	59.0	2.0	0.0	22.3
Water seal pit latrine with slab	0.0	2.0	0.0	0.6
Pit latrine with slab and broken water seal	0.0	1.0	0.0	0.3
n (number of latrines)	121	99	103	323

In majority of the schools in Shaymnagar upazila of Satkhira district had no arrangement for drinking water. In some schools, rain water was collected, as tube-well water was saline there. But collected rain water was exhausted in a very short time. Latrine facility in the schools in Taraganj, Ulipur, and Palashbari was good. But the facility was of low quality in some schools. In some schools/madrasahs there was adequate number of latrines, but they remained unusable most of the time. A UP member of Ullapara reported that, there was scarcity of safe water sources and sanitation facilities in all types of madrasahs (i.e. Hafezi, Qaumi and Ebtedaye) in the area. Limited budgetary allocation was the main constraint for these educational institutes in this regard.

Figure 5.4.1 presents proportion of schools which had functional improved sanitation facilities, remained open for all including menstrual hygiene management (MHM) provision inside latrines in schools. Findings show that, overall only 14 percent of the schools had such facility. There was no remarkable difference found in this regard between the areas (15, 9 and 18 percent, respectively).

Figure 5.4.1: Schools with improved sanitation facilities, remained open for all including MHM inside latrines by types of programme



5.4.2 Location and functionality of latrines

Findings in Table 5.4.2 reveal that 81 percent of the schools (lower in rural WASH area: 58 percent) had latrines inside the schools. In almost all cases (91 percent) the latrines were functional. About 81-98 percent of school latrines reportedly remain open for students all time. However, overall, major reasons mentioned were ‘only for teachers’ and, and ‘dysfunctional/damaged’ (38 percent each) for not using the latrine.

Table 5.4.2: Location and functionality of latrines in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Location of latrine				
Inside school	99.2	57.6	80.6	80.5
Outside school	0.8	42.4	19.4	19.5
Distance of latrine from school building				
Inside school building	99.2	57.6	80.6	80.5
Within 10 meters	0.8	33.3	10.7	13.9
More than 10 meters	0.0	9.1	8.7	5.6
Functionality status of latrines				
Functional	96.7	83.8	90.3	90.7
Non-functional	3.3	16.2	9.7	9.3
Latrines remain open all time for students				
Yes	97.5	80.8	82.5	87.6
n (number of latrines)	121	99	103	323
Reasons for non-usability of latrines for students (Multiple responses)				
Key is missing	*	*	*	5.0
Dysfunctional/damaged	*	*	*	37.5
Assigned for teachers only	*	*	*	37.5
Newly set up and yet to start use	*	*	*	7.5
Only for guest	*	*	*	5.0
Slab is filled up with excreta	*	*	*	5.0
No arrangement for water	*	*	*	7.5
n (number of latrines)	3	19	18	40

Note: * Refers to unavailability of estimates due to very small samples

5.4.3 Water and soap inside latrines

Respondents were asked about cleanliness status of the latrines and availability of water and soap in the latrines. Their responses, in Table 5.4.3, show that in over 50 percent latrines only water was reported to be available, followed by 'water and soap' (30 percent).

In case of cleanliness, 50 percent respondents provided positive responses, i.e. latrines were clean (lower in rural WASH area: 17 percent)(Table 5.4.3).

Table 5.4.3: Percent distribution of latrines according to availability of water and soap inside latrines by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Availability of water and soap inside latrines				
Water and soap available	47.9	16.2	23.3	30.3
Only water available	49.6	73.7	54.4	58.5
Only soap available	0.0	0.0	1.0	0.3
Water and soap unavailable	2.5	10.1	21.4	10.8
Latrines clean				
Yes	61.2	17.2	68.9	50.2
n (number of latrines)	121	99	103	323

5.4.4 Sanitation facility for disabled students

Respondents were further asked whether disabled students could use the schools' latrine and if not, reasons for not using it. Their responses in Table 5.4.4 show that 69 percent of schools' latrine (urban WASH: 60 percent, rural WASH: 77 percent, climate resilience: 72 percent) could be used by disabled students. In almost all urban WASH schools disabled students used separate latrines (98 percent in urban WASH area but lower in rural WASH area: 9 percent).

Overall, major reasons for non-usability mentioned, include latrines were 'only for teachers' and latrines were 'dysfunctional/damaged' (14 and 12 percent, respectively)(Table 5.4.4).

Table 5.4.4: Percent distribution of latrines according to sanitation facility for disabled students in the schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Disabled student used latrine				
Yes	60.3	76.8	71.8	69.0
No	39.7	23.2	28.2	31.0
n (number of latrines)	121	99	103	323
Reasons for non-usability of latrine by disabled students (Multiple responses)				
Newly set up and yet to start use	0.0	*	10.3	3.0
Dysfunctional/damaged	0.0	*	10.3	14.0
Remains locked	0.0	*	0.0	3.0
Only for teachers	2.1	*	37.9	12.0
No arrangement for water	0.0	*	0.0	3.0
Use separate latrines	97.9	*	41.4	61.0
Inappropriate/unusable for disabled	0.0	*	0.0	4.0
n (number of latrines)	48	23	29	100

Note: * refers to unavailability of estimates due to small sample

5.4.5 Management of sanitation facility

Table 5.4.5 presents proportion of schools' latrine regarding responsible persons for cleanliness of latrine and types of cleansing agent. In a great majority (73 percent) of schools maid/aya (lower in rural WASH: 32 percent) were responsible for cleanliness of latrine, followed by 'sweeper' (higher in rural WASH: 36 percent).

As main cleansing agent, about 90 percent schools reportedly used 'Harpic', a liquid cleansing agent, followed by 'bleaching power' (overall: 30 percent and rural WASH: 4 percent)(Table 5.4.5).

Table 5.4.5: Management of sanitation facility by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Person responsible for cleanliness of latrine				
Sweeper	12.5	36.0	8.3	19.2
Maid/aya	95.8	32.0	91.7	72.6
Peon/clerk	4.2	12.0	0.0	5.5
Night guard	0.0	4.0	0.0	1.4
Student Bridget	0.0	20.0	4.2	8.2
No one	0.0	0.0	4.2	1.4
n (number of schools)	24	25	24	73
Types of cleansing agent				
Harpic	91.7	96.0	83.3	90.4
Soap	4.2	0.0	0.0	1.4
Bleaching powder	33.3	4.0	54.2	30.1
Only water	0.0	4.0	12.5	5.5
n (number of schools)	24	25	24	73

5.4.6 Locked latrines during school hour

Proportions of schools where latrines were found locked during school hours are presented in Table 5.4.6. It shows that latrines in 16 percent schools in rural WASH area and 38 percent schools in climate resilience area and zero percent in urban WASH area were found locked during school hours. Latrines remained locked because those were 'only for teachers', or 'only for visitors/guests' (not presented in Table).

Table 5.4.6: Latrine remain locked in school hour by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Latrine remained locked				
Yes	0.0	16.0	37.5	17.8
n (number of schools)	24	25	24	73

5.4.7 Girl students' feeling comfort in using latrines

Table 5.4.7 presents information on female students' status in terms of feeling comfort in using latrines of the schools, availability of any adequate or separate place inside latrines and types of arrangement for menstrual hygiene. Findings show that over 80 percent of schools' female students felt comfort in using latrines. On the other hand, 12 percent schools had no separate latrine for female student; 28 percent in rural WASH area and only 4

percent each in other two areas. About 21 percent of them had adequate/separate place for menstrual hygiene inside latrines (17-25 percent in areas).

Among the schools which had arrangement for menstrual hygiene practices, had 'basket' as arrangement for menstrual hygiene, followed by 'fixed place for washing cloths' (not presented in Table).

Table 5.4.7: Feeling comfort by female students in using latrines by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Female students feel comfort in using latrine				
Yes	91.7	68.0	91.7	83.6
No	4.2	4.0	4.2	4.1
No separate latrine for female students	4.2	28.0	4.2	12.3
Adequate and separate places for menstrual hygiene practices				
Yes	16.7	20.0	25.0	20.5
n (number of schools)	24	25	24	73

5.4.8 Class on menstruation and supply of pads/napkins

Respondent girls were asked whether classes on menstruation were held in schools as well as schools had any arrangement of supplying pads/napkins for students. Data in Table 5.4.8 show that overall 64 percent of them provided positive responses in this regard.

Half of the respondents separately mentioned 'no female teacher' and 'unwillingness to take classes' as the main reasons for not taking classes on menstruation in schools (not shown in the Table).

Further, only 6 percent schools had arrangement of supplying pads/napkins for the students (Table 5.4.8). Such pads/napkins were kept by 'female teachers' or 'maid/aya' and the students reportedly could take napkins/pads in need (not shown in the Table).

Table 5.4.8: Classes on menstruation and supplying pads/napkins by types of programme

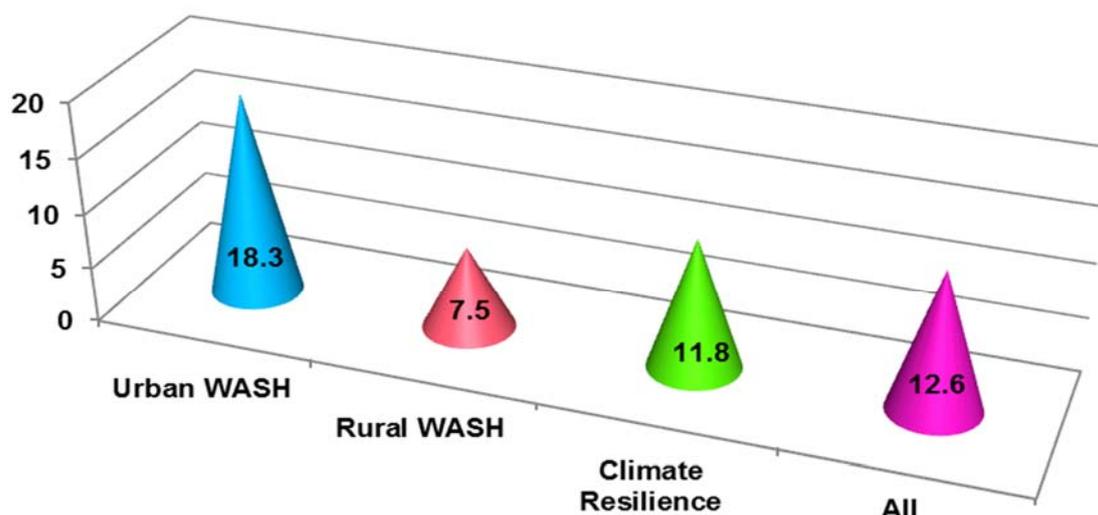
Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Classes on menstruation held in schools				
Yes	66.7	56.0	70.8	64.4
n (number of schools)	24	25	24	73
Any arrangement for supplying pads/napkins in school for students				
Yes	4.2	8.0	4.2	5.5
n (number of schools)	24	25	24	73

5.5 Hand washing facilities in the schools

5.5.1 Availability of hand washing facilities

Figure 5.5.1 presents distribution of schools according to availability of hand washing facilities with soap and water in the schools. Findings reveal that overall one fourth (27 percent) of the schools were found to have hand washing facilities; high in urban WASH area (46 percent). Corresponding percentages were more or less similar in other two areas (16 and 21 percent, respectively).

Figure 5.5.1: Schools with hand-washing facilities with soap and water by types of programme



5.5.2 Place and type of hand washing arrangement in schools and water and soap in the hand washing places

Table 5.5.2 presents information on hand washing facilities in school. Findings show that 75 percent schools (higher in urban WASH area: 96 percent) had hand washing place inside latrine. About 49 percent of them (higher in rural WASH area 84 percent) had tubewell as a main hand washing arrangement. Small proportion of them had ‘tap with running water’ (38 percent), ‘tap with basin and running water’ (32 percent) and ‘bucket’ (21 percent). Overall 66 percent schools (urban WASH: 54 percent, rural WASH and climate resilience: 72-73 percent) had only water at hand washing places, while 31 percent had both water and soap available (higher in urban WASH area 46 percent).

Table 5.5.2: Hand washing places and devices/sources in schools and water and soap in the hand washing places by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Places for hand washing in the schools (multiple responses)				
Inside the latrine	95.8	72.0	58.3	75.3
Beside the latrine	25.0	40.0	45.8	37.0
Other place in school other than latrine	16.7	32.0	25.0	24.7
Outside the school around (fixed for school)	0.0	20.0	0.0	6.8
Outside the school around (not fixed for school)	0.0	4.0	0.0	1.4
Pond	0.0	0.0	20.8	6.8
No arrangement for hand washing	0.0	0.0	8.3	2.7
n (number of schools)	24	25	24	73
Types of hand washing arrangement (i.e. devices or water sources)(multiple responses)				
Tubewell available	4.2	84.0	9.1	48.9
Tap with running water available	75.0	40.0	36.4	38.3
Tap with basin and running water available	37.5	44.0	18.2	31.9
Bucket available	12.5	16.0	27.3	21.3

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Jar/jug/jerrican available	0.0	0.0	13.6	6.4
Pond/river/canal available	0.0	0.0	40.9	19.1
n (number of schools)	24	25	22	71
Water and soap available in the hand washing places				
Water and soap available	45.8	20.0	27.3	31.0
Only water available	54.2	72.0	72.7	66.2
Water and soap not available	0.0	8.0	0.0	2.8
n (number of schools)	24	25	22	71

5.5.3 Distance of hand washing facilities from latrines

Table 5.5.3 presents that almost all schools (97 percent) had arrangement of hand washing facilities inside/outside of latrine. Overall 70 percent of them (lower in rural WASH and climate resilience areas: 52-59 percent) were inside latrine, followed by 'up to 10 meters' (20 percent) and 'above 10 meters' (10 percent)

Table 5.5.3: Distance of hand washing facilities from latrine by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Arrangement of hand washing facilities inside/outside of latrine				
Yes	100.0	100.0	91.7	97.3
n (number of schools)	24	25	24	73
Distance (in meter) of hand washing place from latrine				
Inside latrine	100.0	52.0	59.1	70.4
Up to 10 meters	0.0	36.0	22.7	19.7
Above 10 meters	0.0	12.0	18.2	9.9
n (number of schools)	24	25	22	71

5.6 Cleanliness of classrooms and surroundings

Further, the study team physically checked inside and in-front of classrooms in the schools to assess their cleanliness. Also, they checked whether there was boxes/bin for disposal of garbage in each classroom in the schools. Findings are presented in Table 5.6. It shows that 71 percent schools' all sides of classrooms were found clean (lower in rural WASH area 32 percent). About 52 percent schools had no arrangement of dustbin in any classroom (lower in urban WASH area 13 percent). However, overall 27 percent (higher in urban WASH area 58 percent) schools had this arrangement in all classrooms, while 21 percent had it in some classrooms.

Table 5.6 also shows that about 43 percent schools' some classroom were clean (higher in climate resilience area 63 percent), followed by 'all classrooms are clean' (38 percent overall and urban WASH 71 percent). A great majority (overall 62 percent) of schools had no drainage system in schools, followed by 'water moves through drain with boundaries' (37 percent).

Table 5.6: Cleanliness of classrooms and surroundings of classrooms in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
All sides of classrooms clean				
Yes	100.0	32.0	83.3	71.2
Dustbin in each classroom for disposal of garbage				
In all classrooms	58.3	12.0	12.5	27.4
In some of classrooms	29.2	8.0	25.0	20.5
Not available in any classroom	12.5	80.0	62.5	52.1
Cleanliness of all classrooms				
All classrooms are clean	70.8	12.0	33.3	38.4
Some classrooms are clean	29.2	36.0	62.5	42.5
Not clean any classroom	0.0	52.0	4.2	19.2
Drainage system in schools				
Water moves through drain with boundaries	50.0	8.0	54.2	37.0
Fifth blocks drain	0.0	4.0	0.0	1.4
No drain	50.0	88.0	45.8	61.6
n (number of schools)	24	25	24	73

5.7 WASH programmes and related activities in schools

Table 5.7 presents that about 48 percent of schools (higher in rural WASH area: 72 percent) arranged programme on WASH in one year preceding the survey. One third of them established new water point as a WASH programme in school. Small proportions of them were 'established new toilet facility' (31 percent), 'to observe hand washing day' (20 percent) and 'established separate toilet facility for female' (14 percent).

Overall 40 percent of the schools' wash programme were financially supported by NGO, followed by 'SMC provides fund' (31 percent), 'teachers' (20 percent) and 'other fund of school' (11 percent).

Table 5.7: School programme/activities on WASH by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Any programme/activity on WASH arranged by school in one year preceding the survey				
Yes	33.3	72.0	37.5	47.9
n (number of schools)	24	25	24	73
Types of programme/activity				
Established new water point	*	*	*	34.3
Repaired old water source	*	*	*	8.6
Established new toilet facility	*	*	*	31.4
Repaired old toilet facility	*	*	*	8.6
Established separate toilet facility for female	*	*	*	14.3
Managed adequate menstrual hygienic arrangement in latrine	*	*	*	5.7
To set up water pump	*	*	*	2.9
To observe hand washing day	*	*	*	20.0
Individuals/organisations provided financial supports for programme/activity				
SMC provides fund	*	*	*	31.4
Other fund of school	*	*	*	11.4
Teachers	*	*	*	20.0
Students share the cost	*	*	*	5.7

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Government departments	*	*	*	5.7
Upazila education office fund	*	*	*	2.9
NGO	*	*	*	40.0
Union parishad	*	*	*	2.9
Directorate of Education Engineering	*	*	*	2.9
n (number of schools)	8	18	9	35

Note: * Refers to unavailability of estimates.

5.8 Annual development plan on WASH in school

Table 5.8 presents that majority (90 percent) of the schools had annual development plan. About 49 percent of them (higher in rural WASH area 73 percent) had programme on WASH in annual development plan. Over 40 percent of the schools reportedly observed hand washing days/programmes, followed by 'built new latrines' (25 percent) and 'provided training to girl students on method of hand washing' (16 percent).

Table further shows that about 28 percent schools (higher in rural WASH area: 68 percent) had fund for development and maintenance.

Table 5.8: Annual development plan on WASH in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Any annual development plan in school				
Yes	91.7	92.0	87.5	90.4
n (number of schools)	24	25	24	73
Any programme/activity on WASH in annual development plan				
Yes	36.4	73.9	33.3	48.5
n (number of schools)	22	23	21	66
Type of development and maintenance programme/activities on WASH implemented				
A tank is bought for collecting water	*	*	*	6.3
Observing hand washing day programme	*	*	*	43.8
Providing training to girl students on method of hand washing	*	*	*	15.6
Arranging water/repairing water source	*	*	*	9.4
Discuss healthcare rules	*	*	*	3.1
Built new latrines	*	*	*	25.0
Work on sanitation is going on	*	*	*	9.4
Water vessel, towel and soap were provided for hand washing	*	*	*	6.3
n (number of schools)	8	17	7	32
Any fund for development and maintenance				
Yes	12.5	68.0	4.2	28.8
n (number of schools)	24	25	24	73

Note: * Refers to unavailability of estimates.

CHAPTER SIX

MENSTRUAL HYGIENE OF STUDENTS

Menstruation is a normal biological process and a key sign of reproductive health of a girl, yet in many cultures it is treated as something negative, shameful or dirty. The continued silence around menstruation combined with limited access to information at home and in schools results in millions of women and girls having very little knowledge on what is happening to their bodies when they menstruate and how to deal with it⁵. Many cultures have beliefs, myths and taboos relating to menstruation. Almost always, there are social norms or unwritten rules and practices about managing menstruation and interacting with menstruating women.

Against this backdrop, Chapter Six discusses findings on menstrual hygiene status of the sampled adolescent girl students. Findings include discussions on characteristics of the students, their menstrual hygiene practices at home and schools. In addition, the chapter elaborates findings related to perceived behavioural rules to be followed during menstruation. Besides, this chapter discusses findings related to knowledge of the students on hand washing method at critical times.

6.1 Characteristics of the students

Table 6.1 presents basic background information of the students in terms of their age, grades studying in, marital status and religion. Overall 84 percent of them were upto 15 years old and almost all of them were unmarried (99 percent) and their religion was Islam (91 percent) Small proportions of them belong to Hinduism (8 percent). Almost equal proportion of them (20 percent) each were in grade 6 to grade 10 (Table 6.1).

Table 6.1: Profile of adolescent students by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Age (in year)				
Upto 15	82.6	86.8	83.2	84.2
16 or above	17.4	13.2	16.8	15.8
Grade				
Grade 6	18.8	17.2	18.9	18.3
Grade 7	18.8	19.2	21.0	19.6
Grade 8	20.1	22.5	18.9	20.5
Grade 9	21.5	19.2	20.3	20.3
Grade 10	20.8	21.9	21.0	21.2
Marital status				
Unmarried	99.3	99.3	97.9	98.9
Married	0.7	0.7	2.1	1.1
Religion				
Islam	96.5	96.0	80.4	91.1
Hinduism	2.1	4.0	19.6	8.4
Christianity	0.7	0.0	0.0	0.2
n (number of students)	144	151	143	438

⁵ <http://www.wash-united.org/our-work/issues/menstrual-hygiene-management/articles/our-work-issues-menstrual-hygiene-management>

6.2 Perception of students on behavioural rules during menstruation

6.2.1 Perception on behavioural rules to be followed

Students were asked whether or not they had ever experienced menstruation and they had any knowledge about menstruation. Data related to this are presented in Table 6.2.1. Findings show that all of the students have ever experienced menstruation.

Table 6.2.1 further shows that about 67-75 percent of the students mentioned that maintaining personal hygiene and taking supplementary and nutrient foods are some behavioural rules to be followed during menstruation. Besides, a good proportion of them mentioned 'to change used cloth or pad on regular basis' (42 percent), 'to wash used cloth with clean water and soap' (40 percent) and 'to avoid jumping and playing' (25 percent). Besides, 8-11 percent of them mentioned 'restriction in movement and food' in this regard.

Table 6.2.1: Perception on behavioural rules and regulations to be followed by girls during menstruation by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Ever experienced menstruation				
Yes	100.0	100.0	100.0	100.0
Perceived behavioural rules to be followed by girls during menstruation (Multiple responses)				
To maintain personal hygiene	77.1	71.5	77.6	75.3
To take supplementary and nutrient food	70.1	73.5	56.6	66.9
To change used cloth or pad on regular basis	56.9	47.0	20.3	41.6
To wash used cloth with clean water and soap	48.6	48.3	21.0	39.5
To avoid jumping and playing	25.7	21.9	27.3	24.9
To wash used cloth and dry in sunlight	23.6	25.2	23.8	24.2
To dump used cloth or pad in a fixed place or hole	29.9	31.1	10.5	24.0
To use a clean and worn piece of cloth	9.0	30.5	4.2	14.8
To follow restriction in movement	7.6	12.6	13.3	11.2
To follow restrictions in foods	4.2	8.6	12.6	8.4
To use a new piece of cloth after washing it	4.2	17.2	2.1	8.0
Not to participate in playing	7.6	4.6	8.4	6.8
To use a new piece of cloth	4.2	10.6	4.9	6.6
To remain inside room	3.5	0.7	12.6	5.5
To use a worn piece of cloth for menstruation	2.8	8.6	0.0	3.9
Avoid carrying heavy items	2.1	0.7	5.6	2.7
To sleep in a separate bed	0.7	2.0	2.8	1.8
Should avoid bathing in a pond	0.0	0.0	4.2	1.4
Should be free from tension, anxiety	0.0	0.7	1.4	0.7
Should avoid touching sacred things	0.0	0.0	2.1	0.7
Preserve/store used cloth in a safe place	0.0	1.3	0.0	0.5
Should remain smiling and light-minded all time	0.0	0.7	0.0	0.2
Have to use sandal all time during menstruation	0.0	0.7	0.0	0.2
Have to wash hands with soap and water	0.0	0.7	0.0	0.2
n (number of students)	144	151	143	438

6.2.2 Source of knowledge on menstruation

Findings of Table 6.2.2 reveal that mother (76 percent), sister (39 percent) and friends (28 percent) were three key sources of knowledge related to menstruation and menstrual

hygiene. Also, about 12-30 percent of students mentioned relatives and teachers as sources of knowledge in this regard.

Table 6.2.2: Sources of knowledge on menstruation by types of programme

Sources of knowledge on menstruation (Multiple responses)	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Mother	87.5	69.5	71.3	76.0
Sister	34.7	49.7	32.9	39.3
Friend	26.4	40.4	15.4	27.6
Relative	8.3	27.8	25.2	20.5
Teacher	6.9	33.8	11.9	17.8
Neighbour	4.2	11.3	0.7	5.5
Book	0.0	3.3	2.8	2.1
BRAC staff	0.0	0.7	0.0	0.2
n (number of students)	144	151	143	438

6.3 Menstrual hygiene practices during menstruation

6.3.1 Use of absorbent materials

Table 6.3.1 presents percentage of students used absorbent materials during menstruation. Findings show that 51 percent of students used pads during menstruation, which was higher in urban WASH area (62 percent). While about 47 percent of students used piece of cloth, it was more common among rural WASH students (56 percent).

Table 6.3.1: Absorbent material used during menstruation by types of programme

Absorbent material used during menstruation	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Piece of cloth	36.1	56.3	47.6	46.7
Pad	61.8	43.7	46.2	50.5
Pad and tissue paper	1.4	0.0	3.5	1.6
Cotton	0.0	0.0	2.1	0.7
Tissue paper	0.7	0.0	0.7	0.5
n (number of students)	144	151	143	438

6.3.2 Changing of clothes during menstruation

Students, who reportedly used cloth, were asked about the type of the cloth they used and from when they were using it. They were also asked how frequently they used to change the cloth and reasons behind changing the used cloth. Besides, they were enquired about whether they had any knowledge on the time interval for changing the used cloth. Findings in this regard are presented in Table 6.3.2.

Findings show that majority of the students (87 percent) mentioned they used old piece of cloth during menstruation. And about 44 percent of them were repeating this cloth for 3 months. Overall half of the students opined about changing used cloth after every 4 hours which was higher in climate resilience area (81 percent), followed by '5-8 hours' (overall 35 percent).

Findings also show that about 59 percent of the students used to change the cloth after 4 hours, followed by '5-8 hours' (30 percent). 'Excessive bleeding' (69 percent) and 'to remain neat and clean' (67 percent) were the two main reasons behind changing used cloth for

number of times mentioned by the them, followed by 'germ may attack if it is not changed' (20 percent).

Table 6.3.2: Changing of clothes during menstruation by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Type of cloth used during menstruation (Multiple responses)				
Old cloth	96.2	85.9	80.9	86.8
New/fresh cloth	11.5	25.9	19.1	20.0
Number of months used the same cloth				
1 month	19.2	28.2	20.6	23.4
2 months	48.1	36.5	50.0	43.9
3 months	19.2	27.1	22.1	23.4
More than 3 months	13.5	8.2	7.4	9.3
Perceived time interval (in hour) in a day to be followed in changing the used cloth				
Up to 4 hours	46.2	28.2	80.9	50.2
5-8 hours	40.4	45.9	17.6	35.1
Above 8 hours	13.5	5.9	1.5	6.3
Don't know	0.0	20.0	0.0	8.3
Practiced time interval (in hour) in a day for changing the used cloth				
Up to 4 hours	50.0	61.9	61.8	58.8
5-8 hours	32.7	32.8	26.5	30.2
Above 8 hours	17.3	7.1	11.8	11.2
Reasons for changing the used cloth for number of times mentioned (Multiple responses)				
Excessive bleeding	71.2	69.4	66.2	68.8
To remain neat and clean	71.2	70.6	58.8	66.8
Germ may attack if it is not changed	17.3	29.4	10.3	20.0
Less bleeding	1.9	5.9	11.8	6.8
Feel embarrassing in frequent changing of cloth	5.8	2.4	1.5	2.9
To stop bed smelling and be light-minded	1.9	1.2	1.5	1.5
To remain healthy and normal	0.0	1.2	0.0	0.5
n (number of students)	52	85	68	205

6.3.3 Cleaning of clothes during menstruation

Table 6.3.3 presents information on students' behaviour in terms of cleaning the used cloth during menstruation. Among the students, who used cloth during menstruation, great majority of them mentioned that they washed the used cloth with soap and water, followed by 'soap, water and Dettol' (8 percent). About 75 percent of them mentioned that they used to dry the washed cloths in sunlight outside of house. Further, it was observed by the study team and found that over 40 percent of them stored the used cloth in a packet/polythene/paper or a box/almirah/bag/show-case.

Table 6.3.3: Cleaning of clothes during menstruation by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Materials used to wash the used cloth				
Soap and water	88.5	85.9	89.7	87.8
Soap, water and Dettol	5.8	10.6	5.9	7.8
Water and Dettol	0.0	0.0	1.5	0.5
Only water	0.0	0.0	1.5	0.5
Hot water and wheel soap	0.0	3.5	0.0	1.5
Does not wash	5.8	0.0	1.5	2.0

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Place where the used cloth dried (Multiple responses)				
Outside in sunlight	65.3	90.6	65.7	74.6
In a corner of house	30.6	15.3	37.3	27.8
In a open place of house	24.5	16.5	4.5	14.1
Place where the used cloth stored for re-use (Multiple responses)				
In a packet/polythene/paper	42.3	17.6	73.5	42.4
In a box/almirah/bag/show-case	40.4	61.2	17.6	41.5
Bury underground	13.5	2.4	7.4	6.8
In backside of a rack	1.9	10.6	2.9	5.9
Always use fresh piece of cloth	3.8	9.4	0.0	4.9
n (number of students)	52	85	68	205

6.3.4 Changing pads during menstruation

Table 6.3.4 presents information about those students who used pads during menstruation. Findings reveal that slightly over half of them (54 percent) opined about changing used cloth after 5-8 hours which was higher in urban WASH area (66 percent).

Table 6.3.4 also shows that about 49 percent of the students used to change the cloth after 5-8 hours, followed by 'up to 4 hours' (29 percent). 'To remain neat and clean' (64 percent) and 'excessive bleeding' (58 percent) were the two main reasons for changing the used cloth for number of times mentioned by the students, followed by 'germ may attack if it is not changed' (39 percent). Overall 48 percent of the students (lower in urban WASH area 15 percent) mentioned that they buried pads underground by digging a hole in the ground, followed by 'in a fixed place' (overall 30 percent, urban WASH area: 50 percent), 'hole in the pan inside latrine' (rural WASH and climate resilience: 24-35 percent) and 'basket inside latrine' (urban WASH area: 39 percent).

Table 6.3.4: Changing pads during menstruation by types of programme

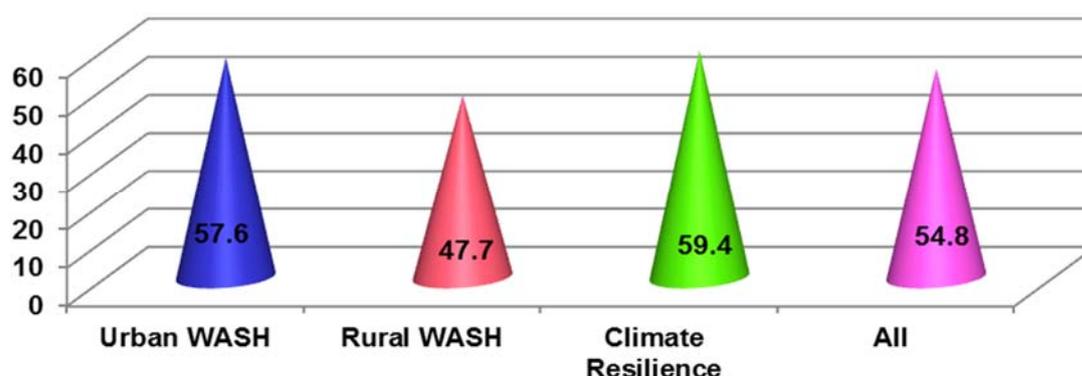
Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Perceived time interval (in hour) in a day to be followed to change the used pads				
Up to 4 hours	18.7	4.5	49.3	24.1
5-8 hours	65.9	53.0	38.0	53.5
Above 8 hours	14.3	37.9	12.7	20.6
Don't know	1.1	4.5	0.0	1.8
Practiced time interval (in hour) in a day to change the used pads				
Up to 4 hours	25.3	21.2	42.3	29.4
5-8 hours	63.7	30.3	46.5	48.7
Above 8 hours	11.0	48.5	11.3	21.9
Reasons for changing the used pads (Multiple responses)				
To remain neat and clean	74.7	72.7	54.9	63.5
As excessive bleeding occurs	71.4	40.9	73.2	57.7
Germ may attack if it is not changed	40.7	60.6	19.7	39.4
To feel frequent changing of cloth as embarrassing	13.2	16.7	0.0	8.0
Due to less bleeding	1.1	7.6	5.6	6.6
Due to feeling uneasiness	1.1	0.0	5.6	2.9
Due to bed smell	1.1	1.5	1.4	1.5
Due to staining the dress	0.0	0.0	2.8	1.5
Due to uneasiness in movement	0.0	0.0	1.4	0.7

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Places of dumping the used pads (Multiple responses)				
Bury underground by digging a hole in the ground	15.4	77.3	62.0	47.8
In a fixed place	49.5	12.1	22.5	30.3
Hole in the pan inside latrine	4.4	34.8	23.9	19.3
Basket inside latrine	38.5	0.0	1.4	15.8
In open place	19.8	13.6	0.0	11.8
No fixed place	6.6	3.0	0.0	3.5
in rivers/throw into a river	0.0	0.0	1.4	0.4
Burn	0.0	0.0	1.4	0.4
n (number of students)	91	66	71	228

6.3.5 General awareness about menstruation

Respondents' general awareness on menstruation is considered based on their knowledge of changing clothes or pad within 6 hours during menstruation, washing clothes with water and soap as well as dettol and also drying cloths in open places inside or outside of house, or throwing pads in basket/ fixed place/ buried in specific hole. Findings of Figure 6.3.5 show that overall 55 percent of the students provided positive responses regarding awareness on menstruation. There was no noticeable difference found between the areas in this regard.

Figure 6.3.5: General awareness of girl students about menstruation by types of programme



6.4 Practices during menstruation

6.4.1 Absence from schools during menstruation and its reasons

Table 6.4.1 represents information on percentage of students remained absent from school and reasons for absence from school during menstruation. Findings show that overall 27 percent of the students mentioned that they remained absent from school during menstruation, (higher in climate resilience area: 42 percent). The main reason behind this was 'severe stomach pain' (58 percent). The other reasons were 'feeling that should not go

outside home' (38 percent), 'no place for changing the used cloths/pads' (14 percent) and 'excessive bleeding' (9 percent).

Table 6.4.1: Absence from school during menstruation and its reasons by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Remain absent from schools during menstruation				
Yes	18.1	19.9	42.0	26.5
n (number of students)	144	151	143	438
Reasons for remaining absence from schools during menstruation (Multiple responses)				
Severe stomach pain	65.4	53.3	60.0	57.8
Feel that should not go outside home	46.2	40.0	36.7	37.8
No place for changing of used cloths/pads	11.5	23.3	10.0	14.4
Excessive bleeding occurs	3.8	6.7	10.0	8.9
Due to uneasiness in movement	0.0	3.3	10.0	7.8
Feel shy to sit side by side with boys	7.7	13.3	1.7	5.6
Fear of staining the dress with blood	0.0	13.3	0.0	4.4
No place for washing and drying of used cloths/pads in school	11.5	0.0	3.3	2.2
Should avoid touching sacred things (Holy Quran etc.)	0.0	0.0	3.3	2.2
No place for dumping of used cloths/pads	3.8	0.0	1.7	1.1
Feel shy to attend school	0.0	3.3	0.0	1.1
n (number of students)	26	30	60	116

6.4.2 Changing pads/clothes in schools and reasons for no change of pads in schools

Students were asked whether or not they could change pads/cloths in their schools and if able to change then the type of arrangement for this they had, and if not then reasons for this. They were also asked about place of disposal of pads/cloths in the school. Data in this regard are presented in Table 6.4.2. Findings show that the proportion of students who mentioned that they could change pad/cloth in school was 34 percent. Among them about 84 percent of the student mentioned about sufficient space inside latrine for changing pads/cloth, followed by 'dumping place for pads/cloth inside latrine' (29 percent).

Table 6.4.2: Type of arrangement for changing pads/cloths, reasons for not changing pads/cloths and disposal of pads/cloth in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Possible/easy to change pads/clothes in schools				
Yes	38.9	41.7	20.3	33.8
No	61.1	58.3	79.7	66.2
n (number of students)	144	151	143	438
Type of arrangement for changing the pads/cloth (Multiple responses)				
Sufficient space inside latrine	100.0	98.4	51.7	83.7
Dumping place for pads/cloth inside latrine	12.5	17.5	55.2	29.3
School authority/management provides fresh pads	0.0	12.7	3.4	9.8
Place for washing and drying of used pads/cloths	1.8	12.7	0.0	8.7
n (number of students)	56	63	29	148
Reasons for not changing of used pads/cloth (Multiple responses)				
No place for changing the pads/cloth in the school	63.6	94.3	77.2	78.3
No fixed and protected place for drying of cloth	5.7	30.7	12.3	15.9
No water and soap for washing used cloth	0.0	35.2	5.3	12.8
Don't change at school	34.1	0.0	0.9	10.7

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
No place for washing and drying of used cloths/pads	1.1	23.9	4.4	9.3
Don't like to change/don't feel need to change	0.0	0.0	21.1	8.3
Don't attend school	0.0	1.1	0.0	0.3
n (number of students)	88	88	114	290
Dumping place for used pads/cloth during school time (Multiple responses)				
No fixed place	39.6	2.0	46.2	28.8
Do not dump though there is an arrangement for dumping	34.7	4.6	44.1	27.4
Return to home, as no arrangement for change	3.5	51.0	0.0	18.7
Basket inside latrine	24.3	12.6	12.6	16.4
Don't change at school	0.7	26.5	0.0	9.4
Fixed place	16.0	2.0	4.9	7.5
Hole in the pan inside latrine	0.0	4.0	5.6	3.2
Open place	5.6	2.0	0.0	2.5
Don't attend school	0.0	2.6	0.0	0.9
n (number of students)	144	151	143	438

6.4.3 Arrangement for supply of pads in schools

Respondents were asked whether schools' had any arrangement of pad/napkin for student. Table 6.4.3 show that only 15 percent school had arrangement of pad/napkin for students (urban WASH: 10 percent, rural WASH and climate resilience: 17-18 percent). In 77 percent of them, 'female teacher' were responsible for arranging pads; while in climate resilience, ayan/maid was responsible for that. Thirty percent of the students mentioned about getting pads from schools. However, few of them mentioned feeling shy to collect from male teacher and male peon as reasons for not getting pad during menstruation in schools.

Table 6.4.3: Arrangement for supply of pads in schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Arrangement for keeping pads				
Yes	9.7	16.6	17.5	14.6
n (number of students)	144	151	143	438
Person responsible for arrangement for pads (Multiple responses)				
Female Teacher	*	*	*	76.6
Aya/Maid	*	*	*	23.4
n (number of students)	14	25	25	64
Got pad from school management				
Yes	*	*	*	29.7
n (number of students)	14	25	25	64
Reasons for not getting pads in school (Multiple responses)				
Feel shy to collect from male teacher	*	*	*	15.6
Feel shy to collect from male peon	*	*	*	4.4
Aya/office clerk are not willing to give	*	*	*	2.2
No arrangement	*	*	*	2.2
Don't need	*	*	*	71.1
n (number of students)	8	23	14	45

Note: * indicates that estimates are not found due to small samples

6.4.4 Classes and discussions on menstruation

Respondent students were asked whether or not classes and discussions on menstruation other than textbooks were held in the schools. Data in Table 6.4.4 show that overall 79 percent of them provided positive responses about class on menstruation. Over 40 percent of them (urban WASH: 30 percent, rural WASH: 48 percent, climate resilience: 50 percent) mentioned that discussion took place on menstruation other than textbook and almost all of the discussions were held by female teachers.

Table 6.4.4: Discussion on menstruation in the schools by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Class on menstrual hygiene management (MHM) held in the schools				
Yes	70.8	85.4	79.7	78.8
Discussion on MHM other than textbooks held in the schools				
Yes	29.9	48.3	50.3	42.9
n (number of students)	144	151	143	438
Persons discussed about MHM (Multiple responses)				
Female Teacher	100.0	95.9	100.0	98.4
NGO	0.0	13.7	0.0	5.3
n (number of students)	43	73	72	188

6.5 Knowledge on hand washing practices at critical times

Data related to knowledge of the students on hand washing at critical times are presented in Table 6.5. As revealed in Table, knowledge level of the students on the need of hand washing at some critical times is almost similar across the areas. Overall most of the students could mention the need of washing hands 'before eating' (98 percent) and 'after defecation' (93 percent). Findings further show that 41 percent students mentioned 'otherwise diarrhoea/cholera/dysentery may occur' as the main reason for hand washing. Other reasons were 'to remain neat and clean/to be clean' (36 percent) and 'to be protected from germs/to remove germs' (29 percent). There is a noticeable difference between the areas in this regard.

Table 6.5: Knowledge on hand washing practices at critical times by types of programme

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
Knowledge of hand washing at critical times (Multiple responses)				
Before eating	97.9	98.0	98.6	98.2
After defecation	93.8	95.4	88.1	92.5
Before cooking	6.3	17.9	7.0	10.5
Before feeding child	1.4	8.6	3.5	4.6
After cleaning child's faeces	0.7	6.0	7.0	4.6
Before/after different domestic and other activities	89.6	84.8	82.5	85.6
n (number of students)	144	151	143	438
Reasons for need of HW in times mentioned (Multiple responses)				
Otherwise diarrhoea/cholera/dysentery may occur	36.1	84.0	0.7	41.0
To remain neat and clean/to be clean	43.1	3.3	62.2	35.7
To be protected from germs/to remove germs	20.2	18.7	48.3	28.8
To be protected from disease	6.9	8.0	14.7	9.8
Otherwise fever may occur	0.0	2.0	0.0	0.7

Indicators	Type of programme			All
	Urban WASH	Rural WASH	Climate Resilience	
n (number of students)	144	150	143	437

CHAPTER SEVEN

WATER, SANITATION AND HYGIENE IN HEALTH CENTRES

Chapter Seven discusses findings arrived through a health centre survey across the study area. Findings include: water and sanitation system, hand washing arrangement for patients and service providers, and management of cleanliness and waste disposal in the sampled health centres. This chapter discusses issues related to the health centre's fund for hand washing facility and management of funds. In addition, this chapter elaborates findings on knowledge of the sampled service providers on hand washing and their advice to patients on hygiene and cleanliness issues.

7.1 Water supply system in the health centres

7.1.1 Main source of drinking water

Table 7.1.1 presents percent distribution of health centres according to the main source of drinking water, its functionality and distance from latrine by types of area. Findings show that overall 80 percent of the health centres had improved water sources. In rural WASH area over 90 percent of health centres had improved water sources, while in urban WASH area it was 69 percent. Among the health centres that had sources of drinking water, in 71 percent cases sources were found functional, it was 100 percent in urban WASH area (in rural WASH area: 52 percent). Overall 63 percent sources were found 10 meters away from latrine of the health centres (higher in rural WASH area: 83 percent).

Table 7.1.1: Main source of drinking water in the health centres by types of programme

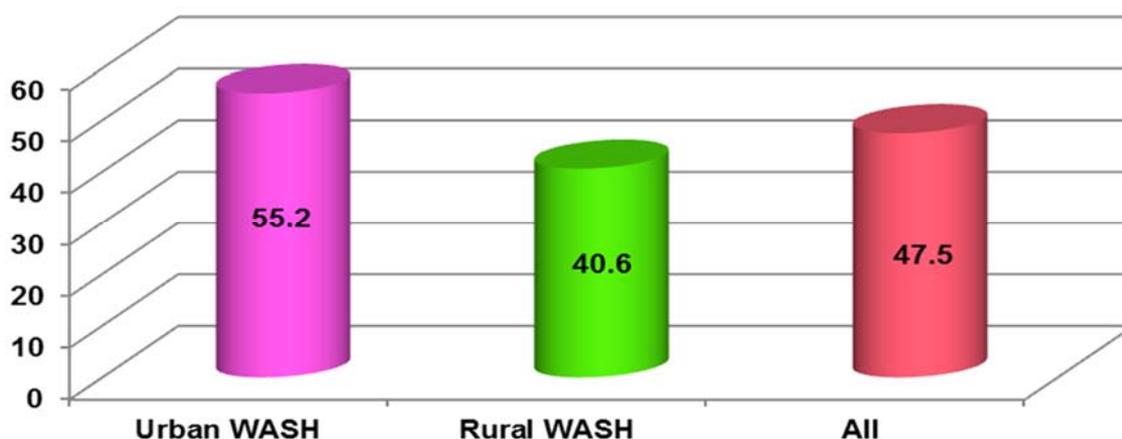
Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Types of main source of drinking water			
Improved	69.0	90.6	80.3
Unimproved	31.0	9.4	19.7
No source	31.0	9.4	19.7
Piped water/Tap water	37.9	0.0	18.0
Deep tubewell	27.6	12.5	19.7
Shallow tubewell	0.0	78.1	41.0
Bottled water	3.4	0.0	1.6
n (number of health centres)	29	32	61
Main source of drinking water functional			
Yes	*	51.7	71.4
No	*	48.3	28.6
n (number of health centres)	20	29	49
Distance of main source of drinking water from latrine			
Inside latrine	*	3.4	2.0
Within 10 meter	*	82.8	63.3
Over 10 meter	*	13.8	34.7
n (number of health centres)	20	29	49

Note: * indicates that estimates are not found due to small samples

Figure 7.1.1 presents percent distribution of health facilities with provision of safe drinking water (i.e., improved and functional water source and well connected with platform having no

crack). Findings reveal that about 48 percent of the health centres had provision of safe drinking water (higher in urban WASH area: 55 percent).

Figure 7.1.1: Health facilities with provision of safe drinking water by types of programme



7.1.2 Condition of platforms of tubewell, drainage system, cleanliness of surroundings of water sources

Table 7.1.2 presents information regarding condition of platform connected to the tubewells in the health centres by types of area. Table also presents information on drainage system and cleanliness of surroundings of the main water source in the health centres. Findings reveal that tubewells of 78 percent of the health centres, overall, were found connected with platforms, made of cement. Findings further reveal that platforms of tubewells in 91 percent health centres had no crack.

Table further shows that overall 76 percent health centres had drainage system with safe water removing system, while 16 percent had water sources with platforms and unsafe water removing system. Remaining 8 percent health centres had water sources where water stagnated and could not be removed. Surroundings of 47 percent of the health centres were found fully clean (Table 7.1.2).

Table 7.1.2: Condition of tubewell-platforms, drainage system and cleanliness of surroundings of main water sources in health centres by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Tubewell well connected to platform			
Yes	*	82.8	78.0
n (number of health centres)	12	29	41
Materials used to construct platform			
Cement	*	100.0	100.0
Crack in platform of tubewell			
Thin crack	*	4.2	6.3
Thick crack	*	0.0	3.1
No crack	*	95.8	90.6
n (number of health centres)	8	24	32

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Drainage system of the platform of water sources in the health centres			
Safe water removal system	*	75.9	75.5
Water stagnant on the platform	*	3.4	4.1
Unsafe water removal system	*	13.8	16.3
Water cannot be removed	*	6.9	4.1
Cleanliness of surroundings of the main water source			
Fully clean	*	37.9	46.9
Partially clean	*	10.3	10.2
Completely unclean	*	51.7	42.9
n (number of health centres)	20	29	49

Note: * Indicates that estimates are not found due to small sample

7.1.3 Testing of water

Findings related to the test of tubewell water of the health centres and status of contamination with arsenic by types of area is presented in Table 7.1.3. Findings reveal that the water of tubewells of over 37 percent health centres (urban WASH: 15 percent, rural WASH: 52 percent) was reported to have been tested. Among the health centres where water was tested, were tested to detect arsenicosis only. Again, among the health centres where water test was performed, green mark was found in the tube wells of overall 61 percent health centres indicating water was free from arsenic contamination. On the other hand, red mark was found in tubewells of 6 percent health centres showing arsenic contamination in water. However, no colour was found in the tube wells of 33 percent health centres.

Table 7.1.3: Status of contamination with arsenic, iron and E.coli of health centre's tubewell water by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Water was tested			
Yes	15.0	51.7	36.7
No	15.0	41.4	30.6
Don't know	70.0	6.9	32.7
n (number of health centres)	20	29	49
Type of water testing (multiple responses)			
Arsenic	*	*	100.0
n (number of health centres)	3	15	18
Water sources with colour sign indicating arsenic contamination			
Red	*	*	5.6
Green	*	*	61.1
Cannot tell specific colour	*	*	33.3
n (number of health centres)	3	15	18

Note: * Indicates that estimates are not found due to small sample

7.1.4 Water quality test

Table 7.1.4.1: Result of water test at health facility drinking water source

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Result of arsenic			
Below Bangladesh standard			16
Above Bangladesh standard			7
n (number of health facilities)			23

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Result of faecal coliform			
<1 CFU/100 ml (Nil)			19
1-9 (Low)			2
10-99 (Medium)			2
n (number of health facilities)			23
Result of Iron			
>3 mg/l			7
<3 mg/l			5
n (number of health facilities)			12
Result of chlorine			
>0.2 mg/l			8
<0.2 mg/l			-
n (number of health facilities)			8

Table 7.1.4.2: Result of water test at point of use of health facility

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Result of arsenic			
Below Bangladesh standard			17
Above Bangladesh standard			6
n (number of health facilities)			23
Result of faecal coliform			
<1 CFU/100 ml (Nil)			19
1-9 (Low)			2
10-99 (Medium)			2
n (number of health facilities)			23
Result of Iron			
>3 mg/l			6
<3 mg/l			4
n (number of health facilities)			10
Result of chlorine			
>0.2 mg/l			8
<0.2 mg/l			-
n (number of health facilities)			8

7.2 Sanitation facility

7.2.1 Types of latrines

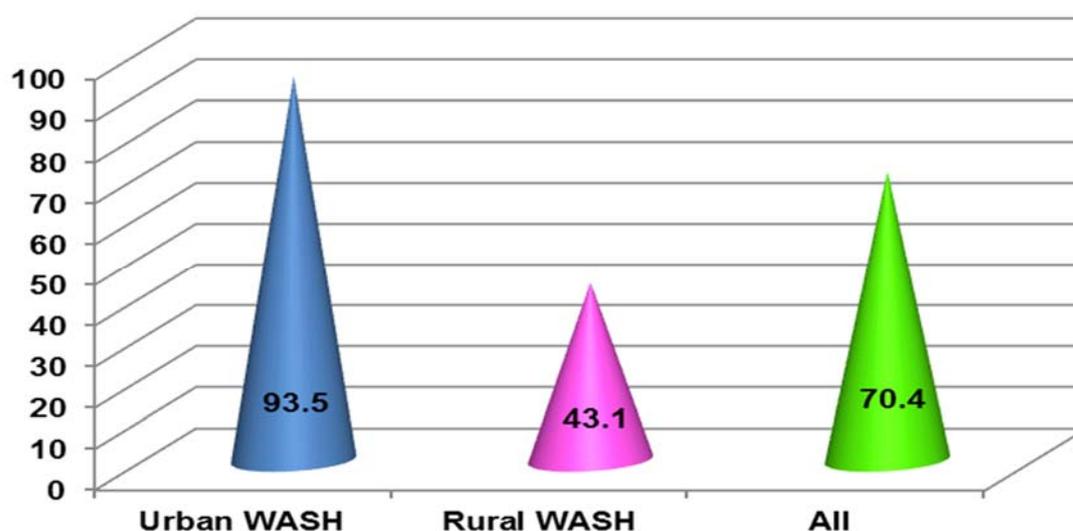
Table 7.2.1 presents findings that almost all (98 percent) of the health centres had latrines in the centres by types of area. Findings further reveal that 92 percent of the health facilities had improved latrines. It shows that 75 percent of them had latrines with 'water seal with slab latrine connected to septic tank' and 16 percent had 'water seal pit latrine with slab connected to sewerage line'.

Table 7.2.1: Latrine facilities in health centre by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Any latrine in health facility			
Yes	100.0	96.9	98.4
No	0.0	3.1	1.6
n (number of health centres)	29	32	61
Types of latrine			
Improved	98.7	82.8	91.5
Unimproved	1.3	17.2	8.5
Water seal with slab latrine connected to septic tank	68.8	82.8	75.2
Water seal with slab latrine connected to unsafe tank	0.0	7.8	3.5
Slab latrine with broken water seal connected to safe tank	0.0	6.3	2.8
Slab latrine with broken water seal connected to unsafe tank	0.0	1.6	0.7
Water seal pit latrine with slab connected to sewerage line	29.9	0.0	16.3
Water seal pit latrine with slab connected to open place	1.3	0.0	0.7
Pit latrine with slab and broken water seal connected to open place	0.0	1.6	0.7
n (number of latrines)	77	64	141

Findings in Figure 7.2.1 reveal that overall 70 percent of the health centres had functional improved sanitation facilities that was opened for all, higher in urban WASH area (94 percent).

Figure 7.2.1: Health facilities with improved sanitation facilities by types of programme



Some key informant added some comments in this regard. 'Sanitation facility in health centre is very weak. In many cases there is no such facility at all or there are insufficient numbers of facility, not hygienic even'- a UP chairman, Sreemongal, Moulvi Bazaar.

7.2.2 Location and functionality of latrines

Findings of Table 7.2.2 reveal that all of the centres had latrines inside the centres by types of area. About 78 percent of the latrines were found functional, while in 22 percent were non-functional.

Table 7.2.2: Location and functionality of latrines in health centres by types of area

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Location of the latrines			
Inside health facility	100.0	100.0	100.0
Functionality status of latrines			
Functional	97.4	54.7	78.0
Non-functional	2.6	45.3	22.0
n (number of latrines)	77	64	141

7.2.3 Patients' and disabled persons' accessibility to latrines

Table 7.2.3 presents information that overall in 87 percent of the health centres latrines remained always open for patients. Among the latrines that were found closed, remained closed mostly due to non-functionality (not presented in Table).

Table 7.2.3 also shows that in about 41 percent of health centres latrines were found usable for disabled persons. No arrangement suitable for disable person was the main reason for non-usability of latrine by disable persons.

Table 7.2.3: Accessibility to latrines by patients and disabled persons and reasons for non-usability in health centres by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Latrines always remain open for patients			
Yes	97.4	73.4	86.5
No	2.6	26.6	13.5
n (number of latrines)	77	64	141
Usable for disabled persons			
Yes	75.3	0.0	41.1
No	24.7	100.0	58.9
n (number of latrines)	77	64	141

Note: * Indicates that estimates are not found due to small sample

7.2.4 Water and soap at hand washing places in latrine

Findings in Table 7.2.4 reveal that overall 55 percent health centres had both water and soap available in hand washing places (urban WASH: 81 percent; rural WASH: 23 percent); while 32 percent had only water and 14 percent had nothing at hand washing places.

Table 7.2.4: Water and soap in hand washing places inside latrines by types of programme

Availability of water and soap in hand washing places	Type of programme		All
	Urban WASH	Rural WASH	
Both water and soap available	80.5	23.4	54.6
Only water available	18.2	48.4	31.9
Nothing available	1.3	28.1	13.5
n (number of latrines)	77	64	141

7.2.5 Cleanliness of latrines

Table 7.2.5 presents information on cleanliness status of latrines of the health centres by types of area. Findings show that latrines of 67 percent of the centres were found clean (urban WASH: 90 percent, rural WASH: 39 percent). Among the centres where latrines were

found clean, 82 percent used Harpic/soap/Vim for cleaning purpose and 18 percent of them cleaned with bleaching powder. Among the health centres with latrines, in 7 percent cases latrines remained and were found locked.

Table 7.2.5: Cleanliness, persons for cleaning, and locking of latrines by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Latrines clean			
Yes	89.6	39.1	66.7
No	10.4	60.9	33.3
n (number of latrines)	77	64	141
Person responsible for cleanliness of latrines in the health centres (multiple responses)			
Sweeper	0.0	3.2	1.7
Maid	96.6	45.2	70.0
Community healthcare promoter (CHCP)	0.0	3.2	1.7
None	3.4	51.6	28.3
Material used for cleaning latrines (multiple responses)			
Harpic (a liquid cleansing agent)	100.0	64.5	81.7
Soap	20.7	0.0	10.0
Bleaching powder	34.5	3.2	18.3
Only water	0.0	25.8	13.3
Do not clean	0.0	12.9	6.7
Latrines remain and found locked			
Yes	6.9	6.5	6.7
No	93.1	93.5	93.3
n (number of health centres)	29	31	60

7.2.6 Female patients feeling comfort in using latrines

Table 7.2.6 presents information on feeling comfort by female patients in using latrines of the health centres, availability of adequate or separate place inside latrines and types of arrangement for menstrual hygiene practice by types of area. Findings show that in 38 percent of the health centre, female patients reportedly felt comfort in using latrines (urban WASH: 69 percent; rural WASH: 10 percent).

In over half of the health centres, where females reportedly felt comfort to use latrines, there were adequate and separate places inside latrines for menstrual hygiene practices (Table 7.2.6). Further, soap and water or basket or places for washing clothes were available inside latrines as part of the provision for menstrual hygiene practices (not in Table).

Table 7.2.6: Feeling comfort by female patients in using latrines by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Female patients feel comfort in using latrines			
Yes	69.0	9.7	38.3
No	17.2	3.2	10.0
No arrangement for female latrine	13.8	87.1	51.7
n (number of health centres)	29	31	60
Adequate and separate places inside latrines for menstrual hygiene practices			
Yes	*	*	56.5
No	*	*	43.5
n (number of health centres)	20	3	23

Note: * Indicates that estimates are not found due to very small sample

7.3 Hand washing facilities

7.3.1 Hand washing facilities for patients

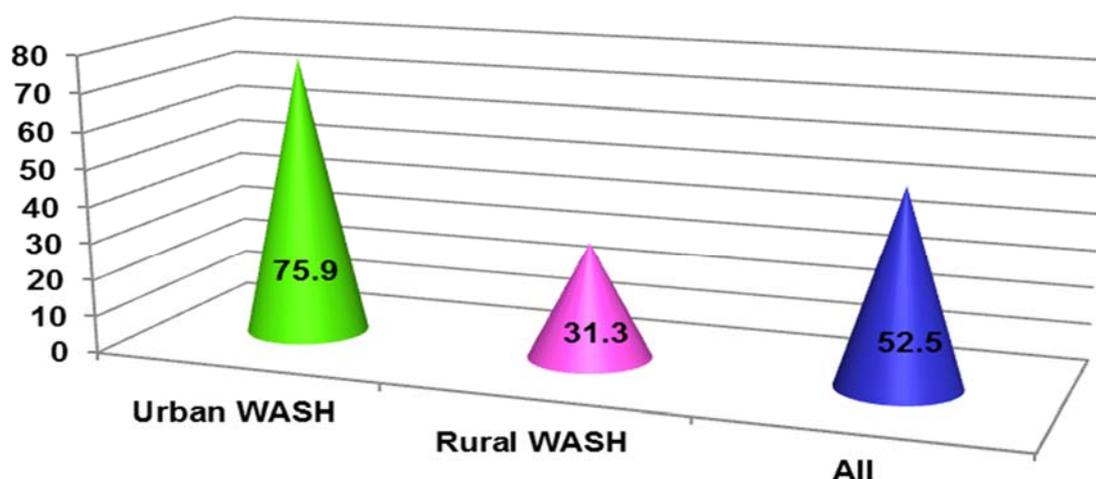
Table 7.3.1 presents information on hand washing facilities in the health centres by types of area. Findings show that 54 percent health centres had hand washing facility inside latrine, followed by 'adjacent to latrine' and 'any place outside latrine' (23 percent each). Among the health centres with such arrangement, 61 percent had basin with tap with running water and 29 percent had tap with running water for hand washing. Overall 67 percent centres had both water and soap; while 25 percent had only water in hand washing places.

Table 7.3.1: Hand washing facility for patients in health centre by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Places for hand washing (multiple responses)			
No arrangement/no place for hand washing	3.4	34.4	19.7
Places inside latrine	72.4	37.5	54.1
Places adjacent to latrine	34.5	12.5	23.0
In any place other than latrine	31.0	15.6	23.0
Places outside health centre (fixed place)	3.4	18.8	11.5
n (number of health centres)	29	32	61
Types of hand washing facility/devices/equipment (multiple responses)			
Tube well	3.6	47.6	22.4
Tap with running water	42.9	9.5	28.6
Basin with tap with running water	92.9	19.0	61.2
Bucket/pitcher/jug/jerrican	3.6	47.6	22.4
Water and soap available in hand washing places			
Both water and soap available	82.1	47.6	67.3
Only water available	10.7	42.9	24.5
Nothing available	0.0	9.5	4.1
n (number of health centres)	28	21	49

Findings in Figure 7.3.1 reveal that about 53 percent of the health centres had hand-washing facilities including availability of water and soap, higher in urban WASH area (76 percent).

Figure 7.3.1: Health facilities with hand-washing facilities including availability of water and soap by types of programme



7.3.2 Hand washing facilities for health service provider in the health centres

Table 7.3.2 presents information on hand washing facilities for health service providers in the health centres by types of area. Findings show that slightly over half of the health centres (urban WASH: 90 percent, rural WASH: 16 percent) had arrangement at patients' checking place. Among health centres with such arrangement 74percent had basin with tap and running water and only in urban WASH area 31 percent had only tap with running water for hand washing. Overall 74 percent health centres had both water and soap available; while 13 percent had only water at hand washing places. For making people aware about hand washing about 62 percent health centres had poster (urban WASH: 100 percent, rural WASH: 28 percent).

Table 7.3.2: Hand washing facility for health service provider in health centres by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Hand washing arrangement for health service provider in health centres			
Yes	89.7	15.6	50.8
No	10.3	84.4	49.2
n (number of health centres)	29	32	61
Types of hand washing facility for health service provider (multiple responses)			
Tap with running water	30.8	*	25.8
Basin with tap and running water	80.8	*	74.2
Bucket/pitcher/jug/jerrican	3.8	*	12.9
Availability of water and soap in HW places			
Both water and soap	80.8	*	74.2
Only water	3.8	*	12.9
Only soap	7.7	*	6.5
Nothing	7.7	*	6.5
n (number of health centres)	26	5	31
Arrangement for making people aware about HW (multiple responses)			
Poster	100.0	28.1	62.3
Booklet	24.1	0.0	11.5
Nothing	0.0	75.0	39.3
n (number of health centres)	29	32	61

Note: * Indicates that estimates are not found due to small sample

7.4 Overall cleanliness and waste management of health centres

7.4.1 Cleanliness status

Findings related to cleanliness status of health centres by types of area are presented in Table 7.4.1. It shows that 'surroundings' and 'corridors and rooms' of 79 and 85 percent health centres respectively were found clean. Almost all of the health centres in urban WASH area (97 percent) had manpower for cleaning purpose, while over half in rural WASH areas had such manpower (53 percent). Overall about 80 percent health centres had arrangement for waste disposal.

Among the health centres with above arrangement, 43 percent had 'basket/cartoon', followed by 'specific dustbin/container' (41 percent) and 'no fixed place' (13 percent).

Table 7.4.1: Overall cleanliness of health centres by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Surroundings of health centres found clean			
Yes	93.1	65.6	78.7
No	6.9	34.4	21.3
Corridor and rooms of health centres found cleaned			
Yes	96.6	75.0	85.2
No	3.4	25.0	14.8
Any manpower for cleaning			
Yes	96.6	53.1	73.8
No	3.4	46.9	26.2
Garbage disposal arrangement available			
Yes	96.6	65.6	80.3
No	3.4	34.4	19.7
Types of waste disposal arrangement (multiple responses)			
Specific dustbin/container	51.7	31.3	41.0
Basket/cartoon	48.3	37.5	42.6
Specific open place	6.9	12.5	9.8
No specific place	0.0	25.0	13.1
n (number of health centres)	29	32	61

7.4.2 Waste management

Regarding management of disposed waste in the health centres, findings show that overall 36 percent health centres, after certain period of time removed the disposed waste to other places, while 30 percent burned it out. But in 41 percent cases in urban WASH area disposed waste was taken away by City Corporation staffs. With regard to frequency of waste disposal, it was found that in 60 percent cases disposed waste was removed daily, 21 percent within 8-30 days, and 19 percent within 2-7 days.

Table 7.4.2: Management of disposed waste of health centres by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Management of disposed waste (multiple responses)			
Burned out after certain period	34.5	25.0	29.5
Covered/buried under ground for certain period	3.4	25.0	14.8
Removed to other place at certain period	20.7	50.0	36.1
City corporation staffs took away	41.4	0.0	19.7
Nothing	0.0	9.4	4.9
n (number of health centres)	29	32	61
Frequency of waste disposal			
Daily	75.9	44.8	60.3
2-7 days	17.2	20.7	19.0
8-30 days	6.9	34.5	20.7
n (number of health centres)	29	29	58

7.4.3 Fund for WASH activities

Table 7.4.3 presents information on fund for WASH activities by the health centres by types of area. Findings show that only 21 percent of the centres had fund for WASH related activities. Most of the centres' fund in urban WASH area was arranged by health centre management committee (CG) and in rural WASH area arranged by collecting money from patients.

Table 7.4.3: Fund for WASH activities in health centres by types of programme

Any fund for WASH	Type of programme		All
	Urban WASH	Rural WASH	
Yes	27.6	15.6	21.3
No	72.4	84.4	78.7
n (number of health centres)	29	32	61

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

7.5.1 Knowledge on hand washing

Data related to knowledge of health service providers on hand washing at critical times by types of area are presented in Table 7.5.1. As revealed through data knowledge level of health service providers about the necessity of hand washing at some critical times is almost similar in both urban WASH and rural WASH areas. Most of the providers in both the areas could mention the necessity of washing hands 'after defecation' (urban WASH 93 percent and rural WASH 97 percent) and 'before eating' (urban WASH 88 percent and rural WASH 97 percent). But higher proportion of them in urban WASH area (59 percent) than in rural WASH area (22 percent) could mention about the necessity 'before touching patients'. Findings further show that 91percent service providers mentioned 'to be free from germ' as the main reason for hand washing, followed by 'to remain clean' (18 percent).

Table 7.5.1: Knowledge of health service providers on hand washing and reasons for need of hand washing by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Knowledge of service provider on Hand washing (multiple responses)			
After defecation	92.9	97.3	94.6
Before eating	87.5	97.3	91.4
Before cooking	17.9	43.2	28.0
After cleaning child's faeces	16.1	27.0	20.4
Before feeding child	26.8	29.7	28.0
Before touching patients	58.9	21.6	44.1
Before cleaning sores/wound	32.1	24.3	29.0
Before touching sores/wound	44.6	18.9	34.4
At the time of bathing/cleaning body	26.8	5.4	18.3
At the time of cleaning cloth	14.3	5.4	10.8
After HH chore	12.5	35.1	21.5
After cooking	3.6	5.4	4.3
After eating	3.6	13.5	7.5
After attending patients	3.6	0.0	2.2
Reasons for need of hand washing in critical times mentioned (multiple responses)			
To be free from germ	94.6	86.5	91.4
To remain clean	21.4	13.5	18.3
For deworming	0.0	2.7	1.1
To remain free from diarrhoea	0.0	13.5	5.4
n (number of service providers)	56	37	93

7.5.2 Hand washing practices by the service providers

Table 7.5.2 presents information on hand washing practices by the service providers by types of area. Findings show that few providers washed hands before and after examining patients (before: 8-18 percent and after: 10-29 percent). Those who washed hands before and after examining patients, did it mainly with soap and water (overall 81 percent). Most of

the provider in rural WASH areas never washed hands before and after examining patients (before: 97 percent and after: 92 percent). This proportion is 59 and 41 percent respectively in urban WASH areas.

Table 7.5.2: Health service providers' practice of hand washing by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Service providers washed hands before examining patients			
Washed hands each times	12.5	0.0	7.5
Washed hands some times	28.6	2.7	18.3
Never washed hands	58.9	97.3	74.2
Service providers washed hands after examining patients			
Washed hands each times	16.1	0.0	9.7
Washed hands some times	42.9	8.1	29.0
Never washed hands	41.1	91.9	61.3
n (number of service providers)	56	37	93
Materials used in washing hands before and after examining patients			
With soap and water	75.0	*	81.1
With Hexasol	13.9	*	13.5
Only with water	11.1	*	5.4
n (number of service providers)	36	3	39

Note: * Indicates that estimates are not found due to small sample

7.5.3 Service providers' advice to patients for cleanliness practices

Table 7.5.3 presents data on whether service providers gave any advice to patients on hygiene and cleanliness, if advised then what types of advice were given by them. Findings reveal that 10-15percent of the service providers reportedly advised patients about hygiene and cleanliness. About 71percent of them urban WASH area, who gave advice, advised 'always to remain neat and clean', while over half of the service providers in rural WASH advised to 'wash hand before taking food'.

Table 7.5.3: Service provider advised on hygiene and cleanliness by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Advice given to patient about hygiene and cleanliness			
Advised each patients	17.9	0.0	10.8
Advised some patients	12.5	18.9	15.1
Never Advised	69.6	81.1	74.2
n (number of service providers)	56	37	93
Types of advice given (multiple responses)			
Advice for HW before taking food	*	*	33.3
Advice for cutting nails timely	*	*	8.3
To keep household clean	*	*	8.3
To wash hands with soap	*	*	33.3
Always remain neat and clean	*	*	50.0
To wash fruit before eating	*	*	4.2
n (number of service providers)	17	7	24

Note: * Indicates that estimates are not found due to small sample

7.5.4 Service providers' advice to patients for hand washing practices

Table 7.5.4 presents information on whether service providers gave any advice to patients on hand washing practices, if advised then what types of advice were given by them.

Findings reveal that 10 and 19 percent of the service providers, respectively, advised each and some of the patients on 'hand washing practices'. The main advice on hand washing practices given was 'to wash hands with soap before eating or feeding child' (82 percent), followed by 'washing hand after defecation' (44 percent).

Table 7.5.4: Service providers' advice on hand washing practices by types of programme

Indicators	Type of programme		All
	Urban WASH	Rural WASH	
Advice given to patient about hand washing practice			
Advised each patients	16.1	0.0	9.7
Advised some patients	12.5	29.7	19.4
Never advised	71.4	70.3	71.0
n (number of service providers)	56	37	93
Types of advice given (multiple responses)			
To wash hands with soap before eating or feeding child	*	*	81.5
Advice for HW after defecation	*	*	44.4
To wash hands child's hand with soap before eating	*	*	7.4
To clean dirty hand with soap	*	*	11.1
n (number of service providers)	16	11	27

Note: * Indicates that estimates are not found due to small sample

7.5.5 Service providers' advice to patients for hand washing practices

Table 7.5.5 presents information on whether service providers gave any advice to patients on diarrhoea/food preservation hygienically, if advised then what types of advice were given by them. Findings reveal that 7-14percent of the service providers, advised patients on 'diarrhoea/food preservation hygienically'. Main advices that the service providers given to the patients were 'taking food after washing hand carefully', 'always to cover food' and 'to drink saline/salt water during diarrhoea'.

Table 7.5.5: Service providers' advice to patients on diarrhoea and food preservation hygienically by types of programme

Advice given to patient about diarrhoea/food preservation hygienically	Type of programme		All
	Urban WASH	Rural WASH	
Advised each patients	10.7	0.0	6.5
Advised some patients	17.9	8.1	14.0
Never advised	71.4	91.9	79.6
n (number of service providers)	56	37	93

CHAPTER EIGHT

ALLOCATION AND UTILIZATION OF UNION PARISHAD BUDGET ON WASH ACTIVITIES

Chapter Eight presents findings related to budgeting and utilization of total budgets planned and approved for the activities related to WASH by the local governments (i.e. union parishads, or UPs) in the study area. Information was collected from relevant documents and papers of UPs in this regard. Findings arrived through interview with UP chairmen and members are also presented in this chapter.

8.1 Background

Union Parishad is the lowest level local government Institution. It is an important institution to implement grass-root level development activities. All Union Parishads prepared their annual plans and some of them developed five year plans according to instruction in the development plan rules 2013. These plans were generally developed in the field of physical infrastructure, improved irrigation system, agricultural development, expansion of improved education and health care services including water and sanitation, and some social developmental issues. Annual plans were prepared along with annual budgets on the basis of sources of fund. Scarcity of resource is usually becomes a constraint in allocating required fund for the implementation of various development activities.

Revenue collection is a political and institutional responsibility of UP towards providing standard services to its people. In preparing annual budget the Union Parishads get funds generally from the following sources: Government grand for establishment cost, Government grand for other purposes, holding tax, tax on business, profession etc., trade licence fee, birth registration fee, leasing of haats and bazaars, allocation from district/ upazila parishad, allocation from Social Safety Net Projects (TR, Food for Work Program, VGD, VGF etc.), assistance from development partners for different development activities such as: UNDP, JICA, UNICEF, CARE, BRAC.

8.2 Process of preparing annual plan and budget

To prepare Annual Development Plan (ADP) of a Union Parishad, one or two Ward meetings were conducted in each ward. In the ward meetings, villages place their demands for development. Then sector wise development problems and demands were identified and draft development plan was prepared for each ward. After that the draft plan of each ward was scrutinized in the standing committee meetings and on the basis of discussion a draft budget for the development plan was prepared. Finally, the development plan of the UP and its budget was discussed in an open meeting, where all UP members, elites of the society and all classes of community people of the union participated. Detailed discussions were held on the development projects that had been implemented in previous financial year on this occasion. Thus with people's participation and through UP's selection process the final development plan and its budget was finalized and it was sent to UNO for approval.

8.3 Allocation and utilization of budget on WASH

For sustainable development of public health and environment, it is very much essential to ensure safe drinking water and sanitation facilities. Upazila Parishad and Public Health Engineering Department (DPHE) undertake necessary steps in supplying safe water to the people of the unions for drinking and other purposes and to motivate them to use hygienic latrine and to provide them with the facilities for hygienic latrines. Upazila Parishad, DPHE and UP jointly and on partnership basis, undertake coordinated programs to install tube wells and to produce and distribute ring slabs to the poor people to install hygienic latrine. In addition, DPHE through UP provides technical assistance to repair non-functional tube wells and arsenic test of water of public tube wells. Budget allocations are kept in the annual and five year plans of UPs for implementing these activities.

8.3.1 Allocation in Wash sector in 2016-2017

Table 8.3.1 presents proportion of union parishads regarding allocation in WASH sector in 2016-17 by types of area (rural WASH and climate resilience areas). Overall in a great majority of UPs (89 percent) allocation for WASH sectors was below 20 percent of the proposed total budget, (91% and 82% respectively in rural WASH and climate resilience areas). Contrary to this, at least 20 percent of the total budget was for WASH for 5 percent cases (4-9% in two areas). However, 6 percent had no allocation in this regard (rural WASH: 6%, climate resilience: 9%).

Table 8.3.1: Allocation in Wash sector in 2016-2017 by types of programme

Allocation in Wash sector in 2016-2017	Type of programme		Both
	Rural WASH	Climate Resilience	
No allocation	5.6	9.1	6.2
Below 20 percent	90.7	81.8	89.2
At least 20 percent	3.7	9.1	4.6
n (number of union parishads)	54	11	65

8.3.2 Allocation in Wash sector in 2015-2016

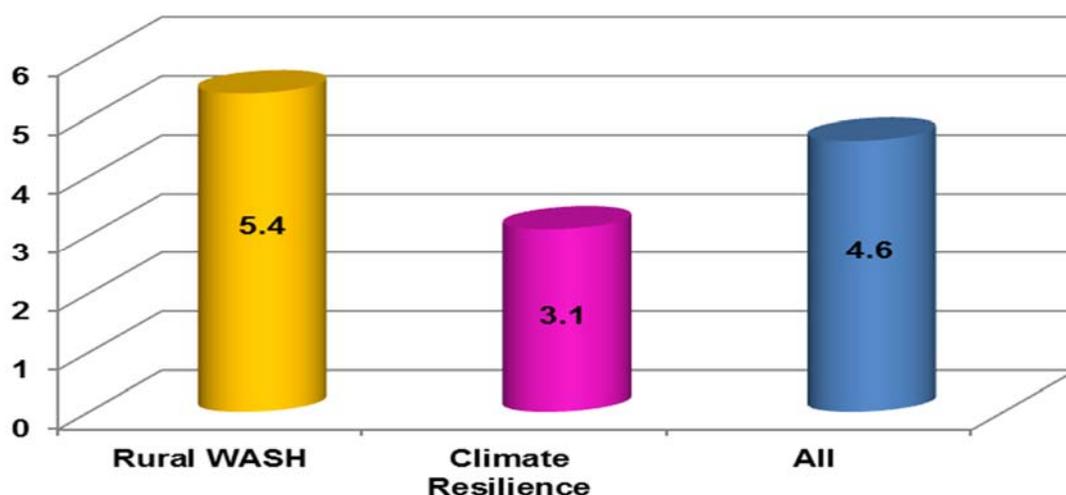
Findings related to proportion of UP's allocation in WASH sector in 2015-16 by types of area are presented in Table 8.5. Table shows that about 19 percent (rural WASH: 14.8% and Climate resilience: 36.4%) of the UP's did not allocate for WASH sector in their proposed budgets. Over three fourth of the UPs (76.9%) allotted below 20 percent of the total budget for WASH sector in 2015-16. Besides, about 5 percent UPs allocated 'at least 20 percent' of the budget, while none of the UPs in Climate Resilience area allocated this percentage for WASH sector.

Table 8.3.2: Allocation in Wash sector in 2015-2016 by types of programme

Allocation in Wash sector in 2015-2016	Type of programme		Both
	Rural WASH	Climate Resilience	
No allocation	14.8	36.4	18.5
Below 20 percent	79.6	63.6	76.9
At least 20 percent	5.6	0.0	4.6
n (number of union parishads)	54	11	65

Figure 8.3.2 presents distribution of UP's overall allocation for WASH in UP budget in 2015-16. Overall 5 percent of them had allocation for WASH in UP budget in 2015-16, which was 5 and 3 percent in rural WASH and climate resilience areas, respectively.

Figure 8.3.2: Overall percentage of allocation for WASH in UP budget in 2015-2016



8.3.3 Utilization on WASH sector in 2015-2016

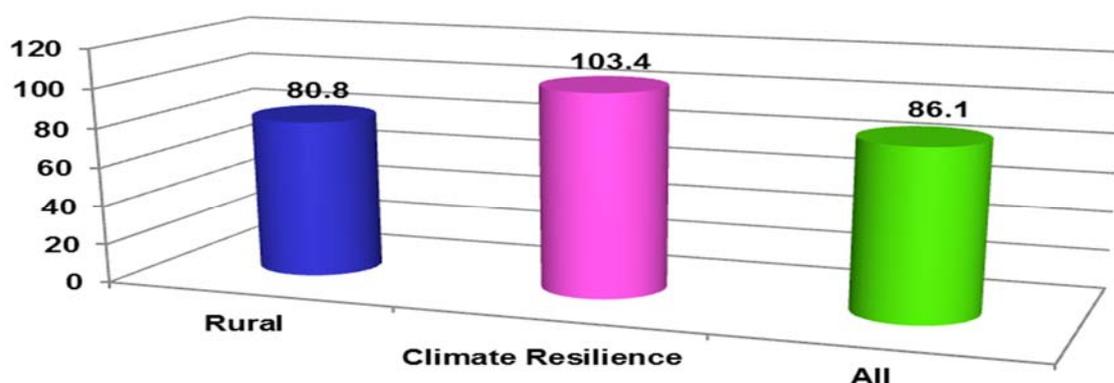
Table 8.3.3 presents proportion of union parishads utilized WASH allocation in 2015-2016 by types of area. About 77 percent of UP's utilization was 'up to 100 percent' (rural WASH: 78 percent, climate resilience: 71 percent). Besides, about 10 percent UPs utilized 'more than 100 percent' of the allocation. On the other hand, about 14 percent of them (higher in climate resilience area: 29 percent) had not utilized the proposed allocation in this regard.

Table 8.3.3: Utilization on Wash sector in 2015-2016 by types of programme

Utilization on Wash sector in 2015-2016	Type of programme		Both
	Rural WASH	Climate Resilience	
No utilization	11.1	28.6	13.5
Up to 100%	77.8	71.4	76.9
More than 100%	11.1	0.0	9.6
n (number of union parishads)	45	7	52

Figure 8.3.3 presents percentage of UP's overall utilization for WASH allocation in total budget in 2015-2016. Figure reveals that overall 86 percent allocation of WASH was utilized (higher in climate resilience area: 103%).

Figure 8.3.3: Percentage of utilization of allocation for WASH in UP budget in 2015-2016



8.4 Role of committees on WASH activities

WASH committee at ward level and standing committee about WASH discussed the related issues, demand in the area. They identified the problem and prepared demand paper for approval in UP development plan. After open meeting of annual budget priority-based activities were finalized. Such activities were implemented, monitored by respective committees and they prepared regulation and report of completion of the task. However, some UP chairman also reported that such committees were not so effective.

8.5 Identification of most health risk area and community

An intimate discussion was conducted with 4 UP Chairmen, 6 UP Members, 1 UP Female Member, and 2 NGO Officials to gather information on access to water and sanitation facilities in households and schools in project areas. As mentioned by the respondents, there are following arrangement for identifying most health risk area and community people in the UPs:

- UP members discuss with the community people in each ward and come to know about most health risk area and most health risk community people there before preparing development plan.
- UP members inform UP Chairman about the problems of respective wards including health problems. In monthly meeting health problems and community people at health risk of each ward is discussed. Thus most health risk area and health risk community people are identified.
- Some of UP chairman have no proper knowledge about mechanism of identifying health risk area or community in rural WASH program area. However, they mentioned that UP members with their experience and regular contact with community members understand who are at health risk in his ward.

CHAPTER NINE

DISCUSSION

9.1 Discussion

The baseline study finds the prevailing water sanitation and hygiene practice situation in intervention areas of WASH project.

Finding shows that about 97 percent of the surveyed households have access to safe drinking water. Main source of water is tubewell of different types - shallow, deep, shallow/deep tubewell with submergible pump. Shallow tubewell predominates in rural WASH area. In climate resilience area PSF and SIDKO plant system are the main source in some households (33 and 9 percent respectively). Rain water harvesting (RWH) is also used as the main water source of water in climate resilience area, mostly in Shaym Nagar sub district in Satkhira district (4 percent). A study conducted by icddr,b found that 91 percent of urban WASH households and 80 percent of rural WASH households used tubewell for improved drinking water⁶.

Although almost all households have access to safe drinking water, only about one third of them (32 percent) have their own source, 7 percent of them shares with the source of other household and the rest use others source or institutional sources. Water is available in the main source throughout the year is 96 percent households. Number of tubewells is few in hillock area (Sreemongal sub district of Moulovibazar district). So people of these areas are to collect drinking water from distant places. During dry season when rain water and also pond water are not available in Shaym Nagar sub district of Satkhira district, people of this area are to collect drinking water from far off places.

Results of arsenic contamination test of water of households main water source conducted by government indicate that water of about 4 percent households is contaminated with arsenic, while that of 56 percent households are free from arsenic contamination.

The drinking water source of about 85 percent households remained useable during the last disaster that happened during five years preceding the survey; this was mainly because of installation of tubewell above flood level.

Overall about 57 percent households had access to improved sanitation facility including water seal slab latrine, water seal pit latrine, etc. in a very negligible number of households there are satopan pit latrine. Higher proportion of households in urban WASH area (71 percent) use improved latrine. However, half of the households share their latrines with 1-5 households. Again icddr,b study found that half of the households had an improved toilet.

Overall 90 percent households have access to latrine throughout the year. Almost all of them have it in climate resilience area (99 percent). A latrine in low-land was inundated during flood, cyclone, water surge. Some of these remained useable but others were unusable. Although latrine facility has improved in Tahirpur sub district of Sunamganj district, majority people there still use hanging latrine. In about two third of the households (overall 64

⁶ ICDDR,B and WaterAid. Bangladesh National Hygiene Baseline Survey. 2014.

percent) have hand washing facility inside or near the latrine, but water and soap is available in one third of those (32 percent). The icddr,b study also found that among households, a location near the toilet for post-defecation hand washing was detected for more than two-thirds of the households; however, only 40% had water and soap available. Almost all household respondents had knowledge of hand washing with soap and water 'after defecation' but such knowledge is not universal for all other critical times.

Almost all schools have functional improved water source (98 percent). An improved functional drinking water source was found in 80% of schools (according to icddr,b study). Result of arsenic contamination test conducted by government indicate that water in the sources of about 4 percent schools is contaminated with arsenic, while that in about 71 percent schools is free from arsenic. Water is collected through rain water harvesting in schools of Shaymgar sub district. There is less number of tubewells in the schools of Sreemongal sub district.

About 90 percent schools had improved latrines and 91 percent of schools latrines were functional and 69 percent of the schools' latrine could be used by disable students. Female students of over 80 percent schools felt comfort is using schools' latrine. But in 12 percent schools there was no separate latrine for female students. In about 21 percent schools, there were adequate and separate place for menstrual hygiene.

In only 3 percent schools there has no hand washing arrangement, while in rest of the schools there were various types of hand washing arrangement. In 75 percent schools hand washing arrangement was inside the latrine, and in 37 percent schools it was beside the latrine. But in only 31 percent schools water and soap was available in the hand washing place.

Over half of the adolescent girl students were aware about menstruation. They acquired this knowledge from various sources, but mainly from mother, sister and friends.

About 80 percent health centres had improved source of drinking water. Higher proportion of rural WASH health centres had it (91 percent); majority of the main sources were functional (71 percent). Result of arsenic contamination test conducted by government indicate that water of about 6 percent of health centres was contaminated with arsenic, while that of about 61 percent health centres was free from arsenic contamination.

About 92 percent health centres had improved latrines. Latrines were located in the health centres and 78 percent of them were functional. In a great majority of health centres (87 percent) latrines always remained open for patients. About 71 percent of the urban WASH health centres had latrines useable by disable person.

In over half of the health centres (55 percent) water and soap were available in hand washing place in the latrine; it was mainly available in urban WASH health centres (81 percent). According to icddr,b study, the most common hand washing agent for hospital staff was bar soap, followed by alcohol hand sanitizer for doctors and nurses (33-52%). But over one third of the health centres (38 percent) female patients felt comfort in using centres' latrine. In over half of health centres (57 percent) there were adequate and separate places for menstrual hygiene.

In about 54 percent health centres hand washing facility was available inside the latrine, and in 23 percent centres it was adjacent to the latrine. But in 20 percent centres there was no hand washing arrangement.

Like common people, most of the health service providers could mention two most common critical times - 'after defecation' (95 percent) and 'before eating' (91 percent) for hand washing, but less proportion of them could mention the critical times relating to health care service like - 'before touching patient' (44 percent), 'before cleaning sore/wound' (26 percent) and 'before touching sore/ wound' (34 percent).

Overall there was 5 percent of allocation for WASH in Union Parishad annual budget in 2015-16, which was 5 and 3 percent in rural WASH and climate resilience areas, respectively. But it is expected that each UP will allocate at least 20 percent of their budget. However, inclusion of WASH sector in annual plan and budget was found increased from previous year from 81.5% to 93.8%. Awareness on importance of WASH activities needs to be increased in program areas.

CHAPTER TEN

CONCLUSION AND RECOMMENDATION

10.1 Conclusion and recommendation

Noticeable overall progress has been observed in water and sanitation in all program areas. Tubewell is the main source of drinking water for households. But still there are many households that have no source of their own. They collect water from other's source; even they are to collect it from quite a distant place. Water is not available in some tubewells in dry season due to fall of ground water level. Appropriate depth tubewell facilities should be provided where necessary. PSF facility should be extended in climate resilience area. Less than half of the households (43 percent) have no access to improved latrine. Hygiene practice is not widely spread among household members. Efforts should be given on providing improved latrine and raising awareness of household members on hygiene practice. Majority schools have improved drinking water source and latrine facility. But in most of the schools there is no separate latrine and menstrual hygiene facility for girl students. More emphasis should be given on this aspect as well as on awareness raising of students on hygiene practice. Hygiene practice is lacking among health service providers. Awareness raising should be given more emphasis. Advocacy at UP level should be conducted so that they keep at least 20 percent of their total budget for WASH purpose.