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WASH Mapping and Participatory WASH Planning for the Host Communities at Cox's Bazar District

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for every child

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List of Acronyms

BDHS	Bangladesh Demographic and Health Survey
CC	Community Clinic
DPHE	Department of Public Health Engineering
DPEO	District Primary Education Officer
E. Coli	*Escherichia Coli*
FGD	Focus Group Discussion
HH	Household
ICA	Institutional Capacity Assessment
ISO	International Organization for Standardization
KAP	Knowledge, Attitude and Practice
KII	Key Informant Interview
LGI	Local Government Institutions
MICS	Multiple Indicator Cluster Survey
MPN	Most Probable Number
NGO	Non Governmental Organization
ODK	Open Data Kit
SDG	Sustainable Development Goals
SI	Sanitary Inspectors
SMC	School Managing Committee
UEO	Upazila Education Officers
UHC	Upazila Health Complex
UHFWC	Union Health and Family Welfare Center
UH&FPO	Upazila Health and Family Planning Officers
UNO	Upazila Nirbahi Officer
UP	Union Parishad
WASH	Water, Sanitation and Hygiene

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Executive Summary

Introduction

The fleeing of approximately 745,000 Rohingya refugees from the face of torture and violence from the western Rakhaine state of Myanmar has left the Cox's Bazar district of Bangladesh with the fastest-growing refugee crisis in the world. The scale of influx into Cox's Bazar district and the scarcity of resources resulted in a critical humanitarian emergency that exceeded the coping capacity of the local communities and systems. Improving the public health situation by providing WASH service to Host Community population throughout the District is critical for WASH Sector at Cox's Bazar. This study was aimed to map the host communities to understand current WASH situation in terms of water supply, sanitation and hygiene practice that will support to develop appropriate intervention and better allocation of the resources by identifying challenges of local government and non-government institutions on implementing effective WASH programs.

Methods

In order to assess the WASH situation, the study was conducted across all 8 Upazilas in the Cox's Bazar district including data collected from Households, Schools, Health Centers and Growth Centers from a representative population. We conducted quantitative survey, water quality test, qualitative exploration, institutional capacity assessment and finally developed WASH plan for each Upazila. Three clusters from each Upazila were selected using stratified random sampling technique for quantitative survey and thus 24 clusters were identified. We collected data from 2,155 households, and 72 schools, 8 Upazila Health Complex (UHC), 14 Union Health and Family Welfare Center (UHFWC), 8 Private hospitals/clinic and 23

Community Clinics and 73 public place/growth centers. Water quality tests were done on samples for faecal coliforms and *E.coli* using IDEXX for 10% of the sub-set of the samples from each group. We interviewed 2,155 respondents from households and 576 students from schools. Spot checks were done for 2,155 households, 72 schools, 52 health centers and 73 growth centers. Structured observation was conducted for 119 households. All data was collected on mobile data collection forms by using Android devices. Water sample collection was done for 220 households, 144 schools and 104 health centers from both water source and storage. We followed WHO and Unicef Joint Monitoring Programme (JMP) definition for analysis and reporting. Qualitative exploration was done at the adjacent union of each quantitative clusters, thus 24 clusters were selected for qualitative exploration. We conducted 24 Key Informant Interviews (KII) with key WASH sector stakeholders, government officials and Union Parishad representative, 48 Focus Group Discussion (FGD) with female group, male group, adolescent boys and adolescent girls separately, 24 qualitative in-depth interviews with female Union Parishad member. We conducted 7 Institutional Capacity Assessment workshops with (i) Department of Public Health Organization (DPHE), (ii) Department of Health, (iii) Department of Health & Family Planning, (iv) Department of Primary Education, (v) Department of Secondary Education, (vi) Local Government Institutes of Upazila & Union Level and (Vii) Private Sector. Planning workshop at the Upazila level included institutional capacity assessment and community level qualitative assessment. We collected Upazila/Union level WASH data from respective government division by using a form from 28 Unions. Participatory WASH Plan was developed after a validation meeting at the Upazila level for sharing the Upazila plan with UNO, Upazila Chairman and UP chairmen and other officials through emails or direct visit.

Results

Households

It was reported that, 4% of households treated source water after collection, although the observed percentage was only 1.3%. The highest percentage of safely managed drinking water was 36% in Ramu and lowest in Teknaf with 0% whereas it had the highest unimproved drinking water with 8%. Access to drinking water was at a basic level for 90% of households in Cox's Bazar Sadar and Ukhiya, followed by Teknaf with 83%. Access to limited water source was 1% in Pekua, Ramu and Ukhiya with an overall seen to be 4%. Cox's Bazar Sadar had the highest percentage of safely managed sanitation access with 51% and lowest limited sanitation access by 8% according to JMP ladder. Kutubdia had basic sanitation access of 47% of households followed by Pekua with 40%. Overall 2% had no facilities, 17% had unimproved and 29% had safely managed sanitation with a staggering 36% of households with basic sanitation. Highest adequate coverage and accessibility of sanitation was seen in Cox's Bazar with 27% and 44% respectively. Hygiene level of population washing both hands was highest in Ukhiya with 45% followed by 44% in Cox's Bazar Sadar and 33% overall. 54% had no handwashing facilities in Chakoria whereas Cox's Bazar Sadar had basic handwashing facilities by 61%. In Cox's Bazar Sadar, the highest percentage (52%) of reproductive-aged women properly managed menstrual care during their cycle. This was followed by Ukhiya with 51% women, and 43% in Maheshkhali and Ramu. Kutubdia had the lowest percentage of reproductive-aged women (19%) who properly managed menstrual care.

Schools

Students used the drinking water source of their schools mostly in Pekua (99%), followed by Chakoria (97%) and Kutubdia (94%). 1% of students reported to not drinking water during school hours in Cox's Bazar, Ramu, Teknaf and overall. Drinking water access was at a basic level for 100% of schools in Ukhiya, followed by 92% in Cox's Bazar Sadar and 63% overall. Advanced drinking water was only 33% in Maheshkhali schools and highest in Teknaf with 83%. Limited service was 11% in Cox's Bazar Sadar only. Schools in Pekua had 90% advanced access to sanitation whereas Kutubdia had only 47% with 50% having limited access. Basic sanitation was seen in only 1% in Teknaf and 6% overall. None of the Upazilas had a complete lack of facilities. 23% of schools in Teknaf and 11% in Ukhiya had basic hygiene facilities with Kutubdia having only 8% and Maheshkhali had a highest of 89% limited hygiene facilities. Overall 14% had basic hygiene and 74% had limited hygiene in the schools. Most students of all the Upazilas reported washing hands before eating and after defecation with 90% in Pekua and Ukhiya. In Chakoria no female students were reported to miss school during menstruation due to inadequate WASH facilities at the school, whereas 27% missed schools in Ukhiya and 10% overall. Sanitary pads were used by 18% of girls during their last menstruation whereas 55% used cloths in Maheshkhali. No girls in Chakoria used sanitary pads; however, use of cloth was seen in all the Upazilas.

Health Care Centers

All of the Upazilas except for Chakoria, had a certain percentage of health care centers that had no drinking water source or an improved source. Cox's Bazar Sadar and Pekua had 14% of health care centers with limited drinking water service and 20% in Maheshkhali. Highest percentage (71%) of health care centers with basic services was seen in Chakoria, followed by 57% in Ramu and Ukhiya. Kutubdia had no health centers with advanced drinking water service whereas Pekua had the highest percentage of advanced services by 43%. Sanitation access was advanced in only Cox's Bazar Sadar by 14% of health care centers and Ukhiya and Pekua had only limited service in all their health centers. There were no sanitation service in some centers in Kutubdia (17%), Chakoria (14%), Maheshkhali (20%) and Ramu (29%). 87% of the health care centers overall had limited service of sanitation access. All of the health centers in Pekua had basic hygiene facilities whereas Kutubdia had only 17% with basic service. Limited hygiene facilities were seen in Kutubdia (17%), Maheshkhali (20%), Ukhiya (14%) and Teknaf (33%). All of the Upazilas except for Pekua and Teknaf had some health centers with no hygiene services.

Growth centers

There were 3 functional water sources in public places of Kutubdia, Pekua, Maheshkhali, Ramu, Ukhiya and Teknaf with 2 in Chakoria and 5 in Cox's Bazar. Public places of all of the Upazilas were mostly seen to have no sanitation service access although Ukhiya and Cox's Bazar Sadar had a 50-50 percentage with limited sanitation service. Chakoria had the lowest percentage (9%) of public places with limited service followed by Ramu with 11%. There were no basic or safely managed sanitation services in any of the Upazilas.

Institutional capacity assessment

Enabling Environment (policy strategy, organizational mandates and framework)

- There was a lack of awareness about the national policies, strategies and frameworks related with water and sanitation among local government, private sectors, WASH service providers and community leaders

Institutional Arrangement (planning, coordination, monitoring and reporting)

- There was no long term or short-term plan among the WASH service providers at Upazila or Union level and practicing project-based planning. DPHE local teams were practicing top-down planning approach. They implement programs in consultation with Upazila Administration and local government as per target plan and allocation that they receive from the Head Office.
- In general, task-based (i.e # of household (HH) visit, # of satellite clinic etc.) year wise plan was prepared by the health workers and result-based planning was not practiced.
- There was a lack of effective coordination among DPHE and other government WASH service providers like Health & Family Planning department and Primary & Secondary Education. Lack of linkage between Upazila and Union WATSAN Committees or Union Standing Committee.
- No systematic monitoring tools and Operations and Monitoring (O&M) mechanism were in practice for infrastructure sustainability.

Resource Management (human and financial resources, available logistics/ equipment)

- Although number of professionals or field staffs was adequate, problem remained with the capacity of the existing human resource. All of the field staff did not have updated knowledge and information. Private sector personnel were also not well trained about the issues related with appropriate technologies, Sustainable Development Goals (SDG) and national targets.
- DPHE local offices did not have adequate vehicles for field movement and monitoring activities.
- Local offices did not have any role in budget preparation (top-down approach). Among the entire budget allocation at Upazila level, 50% had been distributed by the UNO, Upazila and UP Chairman. The rest had been distributed by the MPs. There was lack of participation in budget allocation. 15% of Annual Development Program (ADP) budget was supposed to be used in developing WASH facilities in the School.
- There was a lack of adequate budget as per demand. All Upazilas got equal budgets although population was not the same. For instance, Chakoria was a large Upazila with 18 unions, but it received the same budget as other unions.

Conclusion and Recommendations

Water

- Technologies are expensive and hardly affordable to the community (lack of economic resources to install a deep tube-well); WASH partners and private entrepreneurs could be involved
- Physical barriers such as long distance, topography of the area (hilly area), nature of the roads particularly during rainy season are hindering water access
- Numbers of unprotected spring should be converted to protected spring
- Deep tube well should be set up in water salinity prone area
- Campaigns are required to increase use of safe drinking water
- Overall, inadequate number of improved water sources compare to national average

Sanitation

- Overall, inadequate number of advanced sanitation sources compare to national average
- Due to lack of financial resources people cannot afford an improved toilet, or a child potty, thus infants and young children defecate on the grounds; building improved toilet with community engagement should be prioritized
- Latrines were not well designed and there was lack of maintenance for which private sector should be utilized by DPHE and other stakeholders
- Unavailability of water facilities inside/near the toilet as people require water for anal cleansing as well as to flush the commode/pan
- Inconvenience/physical barrier when latrines are at a distant location that determines night time open defecation
- Fecal sludge management (FSM) facility should be built in Cox's Bazar for proper FSM

Hygiene

- Lack of awareness about the benefits of handwashing with soap and public health implications should be improved by national and local level dissemination
- Habits of handwashing with soap should be improved by ensuring soap and water together at handwashing location

Institutional capacity

Enabling environment

- New or an updated water and sanitation strategy along with an implementation guideline are required to achieve safely managed/advanced water and sanitation in line with the SDG target 6.2.

- Local level WASH service providers including private sectors and respective officials must have clear knowledge on policies and strategies to ensure peoples' rights in WASH and provide quality service for the target people.

- In order for successful installation of tube wells and other water sources especially in the hard to reach areas, an implementation guideline is required for WASH service providers.

- Strategy on O&M for the sustainability of the WASH facilities at public places, schools and community level are also needed.

- A guideline on WASH is needed for the Health Sector to educate the community people as well as adolescent boys and girls at schools.

- A separate guideline for growth centers, hotels and restaurants on proper WASH facilities and food hygiene is needed that would be used by the DPHE, local government and health Inspector.

- Model/slandered of the WASH facilities or WASH block with a guideline is required for the Health Care Centers and family welfare centre.

- Upazila based guideline for coordination among local government, DPHE, education, health and private sector is necessary for smooth implementation of WASH programs.

Institutional Arrangement (planning, coordination, monitoring and reporting)

- Promote bottom-up participatory long-term plan at Union and Upazila level which should be developed by the lead role of DPHE in coordination with the local government, education and health sector.

- Duties and responsibilities of each person/sector may be reviewed by the service providers according to the key functions of the respective organizations and mutual understanding for developing effective mechanism in implementation (such as health & education sector can take responsibilities to educate Menstrual Hygiene Management (MHM) and handwashing to the women and adolescent girls; local government & food inspector can monitor waste management & food hygiene at hotel, restaurant & public places).

- Practice regular monthly meetings of the Union and Upazila level WATSAN committees by the lead role of DPHE for strengthening accountability along with coordination mechanism among all relevant WASH service providers including UPs, health, education and private sector.

- Develop a joint monitoring mechanism at local level. Monitoring report needs to be shared among the relevant stakeholders i.e Union Parishad (UP) Chairmen, Upazila Chairman, Upazila Nirbahi Officer (UNO), District Education and Health Officials for taking further initiative for the sustainability of the WASH facilities.

- In Cox's Bazar it is important to use surface water or natural source of water (spring/rainwater) with pipeline supply network at household, schools and health centers. It is difficult to get enough water from tube wells for handwashing and other cleaning activities of household chores. To ensure proper hygiene practice, latrine, kitchen and handwashing places must have running water supply. In areas such as Maheshkhali (Kalarmarchara union) and Ramu (Joariyanala union), spring layer could be used through pipeline supply network since automatic water supply from ground is available.

- Before providing WASH blocks, DPHE needs to examine the water quality of that particular place (school, public places & cyclone centers) to address this, saline or arsenic problems as well as the requirement of sanitation facilities. Stainless steel should be used in the building materials of WASH blocks, since iron causes rust in the materials. Must consult with Education Engineering Department while setting up WASH facility in the education institutions.

- MHM needs to be considered during construction of WASH blocks in schools as well as disaster period. Emergency sanitary napkins can be promoted by the help of SIPP fund. Teachers, School Management Committee (SMC), Students Cabinet, Scout Group could be trained to aware about WASH.

- As Cox's Bazar is a disaster-prone area (flood, cyclone), community people were facing problems with direct latrine with three rings-one slab latrines. Since it fills up quickly, there remains problem with fecal sludge management. It was seen to break down and pollute the environment often. Considering safely managed sanitation this should not be provided any more. Instead, five-ring pit latrine with *syphon* & ceramic pan need to be promoted. A culture to set up latrines must be promoted above flood level with concrete or tin wall to ensure sustainability.

Management (human and financial resources, available logistics/ equipment)

- Enhance capacity of the mechanics to provide quality service and technical support as required. Must make arrangements of official vehicles or transports to perform routine duties and monitoring activities for DPHE official and other staff

- Need training on WASH, technologies, SDG targets, and WASH policies for all relevant staff/officials to provide effective services. Teachers should be trained on proper use of WASH blocks so they can teach the students. School council should be activated to be more functional to monitor hygiene of WASH blocks. Need a mechanism for union wise training from the DPHE. Raising awareness among traders and companies to produce sustainable WASH products as recommended.

- Planning should be done first at local level and then budgets and targets should be fixed accordingly. Need participation of Education Officer during the allocation of ADP budget. More budgets for cleanliness and maintenance of the WASH facilities of the FWC are required.

- Provision to give loan with less interest rate to the private sector could be practiced. Micro-finance organizations can provide credit to the community people to improve their WASH facilities.

Section 1 | Introduction

1.1 Study background

In Bangladesh, only 4.3% of the population has access to piped water into their dwelling and one in five households have to spend more than 30 minutes to fetch water from outside sources. The statistics suggest a serious gap also in sanitation facilities; about one-third of the households (31%) use unimproved toilet facility; 22% of households use pit latrines without slabs, and 3% use a hanging toilet. According to NIPORT 2016 report, 86% household has a designated place for handwashing.[1]

Nevertheless, there is still a lack of knowledge and practice for handwashing. 29% of households have soap and water in the place where household members wash their hands, 8% have water and other cleansing agents (ash, mud, sand, etc.), and the majority (59%) have water only. Overall, 4% of households do not have water, soap, or any cleansing agent.[1]

In 2017, access to an improved water source was 86% in Cox's Bazar (30th out of 64 districts in Bangladesh), access to improved sanitation was 48% (57th out of 64 districts in Bangladesh) and handwashing knowledge was 80% (57th out of 64 districts in Bangladesh).[2] However,

overall WASH situation in Cox's Bazar district remains currently unknown after the influx of Rohingya refugees from Myanmar Rakhaine state from 2017. It is estimated that 745,000 Rohingya refugees have fled to Cox's Bazar due to extreme violence and persecution in the western Rakhaine state of Myanmar which made the fastest growing refugee crisis in the world and the concentration of refugees in Cox's Bazar is now amongst the densest in the world.[3] Around 1.2 million Rohingya men, women and children are living in 12 camps in Teknaf and Ukhiya in Cox's Bazar district.[4] They have spread to other areas as the 3,000 acres of forest-land allocated by the government was not able to shelter them all. The scale of influx into Cox's Bazar district and the scarcity of resources resulted in a critical humanitarian emergency that exceeded the coping capacity of the local communities and systems.[5]

We aimed to map the host communities to understand current situation in terms of water supply, sanitation and hygiene facilities and practices that will support to develop appropriate intervention and better allocation of the resources. WASH sector at Cox's Bazar might initiate WASH development projects to improve public health situation by providing need-based and demand-responsive WASH service to the Host Community population throughout Cox's Bazar district.

1.2 Study objectives

The purpose of this study is to generate relevant and comprehensive participatory WASH plan after identifying the gap and barriers as well as challenges of local government and non-government institutions on implementing effective WASH programs in Cox's Bazar District. We assessed current situation related to WASH in Cox's Bazar district that can inform DPHE, local and international NGO's, UNICEF and other relevant stakeholders working in WASH sector to support in designing better strategy and direction to improve the situation.

The specific objectives of the current study were:

1. Assessing the current WASH situation (facilities, knowledge and practices) of the host community in households, educational and health institutes and growth centers in Cox's Bazar.

2. Assessing the capacity of the stakeholders (institutional capacity assessment) that includes local government and other stakeholders to implement interventions to ensure water, sanitation and hygiene for the community.

3. Consolidating WASH gaps based on acquired information.

4. Developing WASH plan for the Cox's Bazar district considering short-, mid- and long-term programmatic interventions following a consultative process.

Section 2 | Methodology

2.1 Study design

We adopted a mixed method cross-sectional approach for this assessment, which has the strength of using both quantitative and qualitative data, and also allows the triangulation of different types of data thereby maximizing the validity of the study.

2.1.1 Methodology at a glance

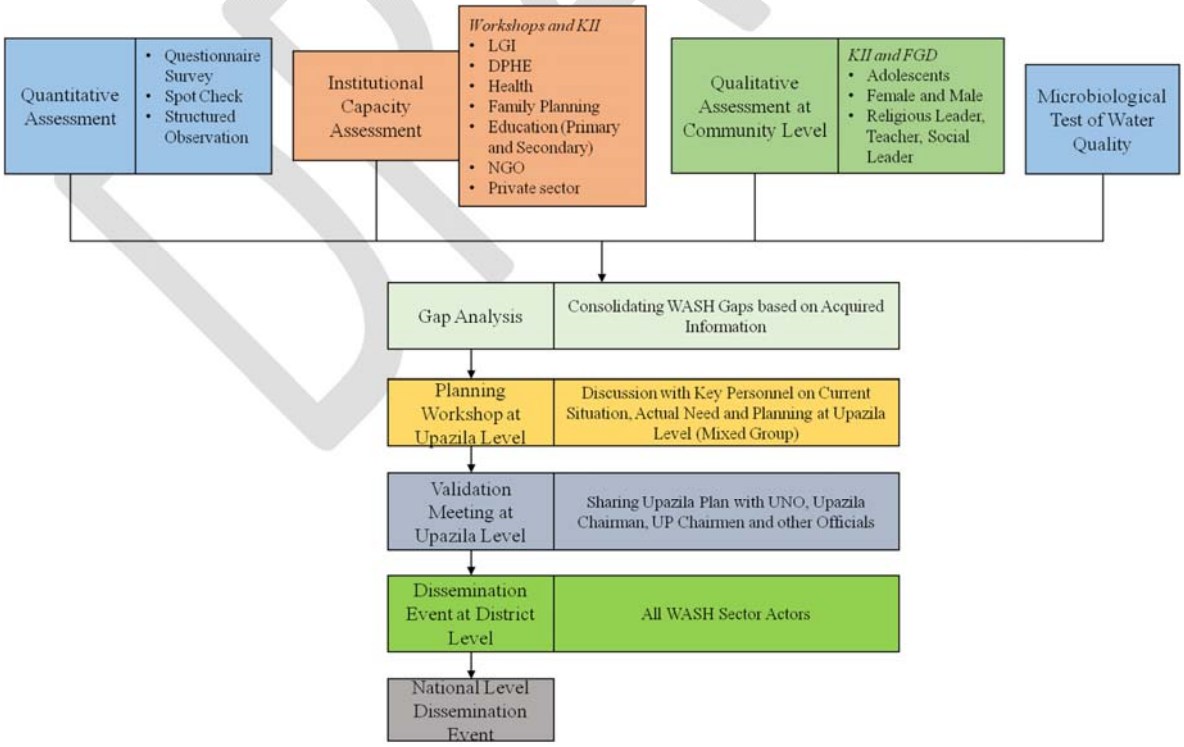


Figure 1: Study flow chart

2.2 Site selection and data collection

To assess current WASH situation, we conducted this study in all 8 Upazilas in Cox's Bazar district. We collected data in the context of a representative population in Cox's Bazar district.

Table 1: Summary of population group eligibility, participants and data collection methods

Population group	Eligibility	Participants	Data collection methods
Households	• Primarily adult women • Adult men, in absence of adult women	• Adult women • Adult men • For menstrual hygiene management less than 49-year-old females with experience of menarche	• Face to face survey • Spot check • Handwashing demonstration
Schools	• One from each cluster: government schools, private schools, and madrasa • Preferably co-education or girls school • Will consider school that is used as cyclone shelter (at least one school from each cluster)	• Adolescent school girls/boys from grade V to X	• Face to face survey • Spot check • Handwashing demonstration
Health centers	• Upazila Health Complex (UHC) • Union Health and Family Welfare Center (UHFWC) • Community Clinic (CC) • Private clinic/hospitals which has in-patient services	• No interview	• Spot check
Growth centers	• Govt. defined growth centers • Market places and Bazars	• No interview	• Spot check

Table 2: Summary of quantitative survey

Data collection method	Households (N=2,155)	Schools (N=72)	Health Centers (N=52)	Growth centers (N=73)
Questionnaire survey	2,155	576 students	-	-
Spot check	2,155	72 schools	52	73
Structured observation	119	-	-	-
Water sample collection (source and storage)	220	144	104	-

2.3 Quantitative Survey

2.3.1 Household Survey

We included all of the 8 Upazilas of Cox's Bazar district for the study. For selecting households/schools we used multi-stage sampling process. We sampled households based on the Population and Housing Census 2011 report conducted by the government of Bangladesh. In detail, the Government of Bangladesh (GoB) has the 'Union' as the lowest political boundary in rural Bangladesh, consisting of 09 wards each. Each ward comprises of multiple villages. In urban Bangladesh, the lowest political boundary is the Pourashava, consisting of

09 wards each. Each ward has multiple mahallas[1]. We selected three random Unions/Pourashavas from each Upazila. We considered each selected Unions/Pourashavas as our clusters. We selected three clusters from each Upazila using a simple random sampling technique and hence 24 clusters were identified.

2.3.2 Household data collection

Once the clusters were selected, we followed a systematic sampling technique to select the sampling units (households) from each of the selected clusters. We identified the geographic middle point of each cluster (Unions/Pourashavas) using available GPS data. We identified the first household from the north side of the geographic middle point. If any of the eligible respondents of the household were not available or refuse to participate, the field team replaced the household with the closest eligible household. We skipped the next two households and selected the third one. The process continued until we attained the required sample size (270 households per cluster). All data were collected on mobile data collection forms by using android devices. The mobile data collection forms were prepared by .xls format and the data collection platform was Open Data Kit (ODK).

Variables and questionnaire/survey instruments

The structured questionnaire captured water, hand hygiene and sanitation indicators, and information related to knowledge and practices needed to interpret findings and to allow comparison with other studies and surveys. The indicators were selected which was aligned with the document of the National Hygiene Promotion Strategy in Bangladesh.

Key outcome variables of the study were-

- ✓ Hygiene knowledge, attitude and practice (KAP) of household members.
- ✓ Handwashing behavior: children and caregivers' hands appeared clean (absence of visible dirt), know how to wash hands after defecation/fecal contamination and washed both hands using soap after fecal contamination (handwashing demonstrations).

[1]*Mahalla* is a Bengali name meaning households clustered in different *mahallas* within the ward of the pourashava.

- ✓ Access to sanitation: access to sanitary latrines, availability of handwashing locations and presence of soap and water before eating and after defecation at handwashing location or anywhere in the household.
- ✓ Use of safe water and storing it in protected covered containers for drinking and cooking purposes.
- ✓ Menstrual hygiene management facilities, knowledge, attitude and practices of female household members.
- ✓ Reported diarrhoea of under-five children of the household.

Figure 2: Data collection team with trainers

icddr,b standard modules that incorporated relevant questions, spot checks and handwashing demonstrations developed in collaboration with international experts on handwashing measurements, international epidemiologists and local qualitative and quantitative researchers was used. The measures included in these instruments have been piloted as part of ongoing research studies, some of which have been validated against health outcomes.[6]

Figure 3: One field enumerator performing spot check of a water source

In addition to questions aimed to capture hand hygiene behavior, we incorporated modules with questions on

household demographics and wealth, home environment, childhood health outcomes (diarrhoea and respiratory symptoms), sanitation and child defecation practices, sources of drinking water and water handling, exposure to hygiene promotion; any and recent history of receiving hygiene messages through visits of facilities and the organization responsible for provision of messages.

Structured observation at households

Structured observation is considered the gold standard method of measuring handwashing behavior compared to other methods including reported behavior, hand hygiene spot check, handwashing demonstrations, microbiological hand rinse collection and use of remote sensor soap technique to date.[7] At icddr,b, structured observation for handwashing has previously been applied in schools (SHEWA-B, data in on the process of publications). However, all of these data were collected before 2012 and representative data from Cox's Bazar are lacking. We conducted Structured Observation in a subset of sample households, 5% of households in each cluster. The length of the structured observation was 120 minutes. The field research assistants observed handwashing, food hygiene, sanitation and water-related behaviors of all present household members. The observation slot was divided in two time periods, which were, morning slot (8.00am-10.00am) and noon slot (11.00am-1.00pm). The rationale of collecting different slot's observation was to observe the behaviors at different times. In the morning slot more defecation and after defecation handwashing behavior are observed, whereas in the noon slot, food preparation and other water-related behavior activities are expected. Observation data were collected using electronic devices with a pre-programmed checklist.

2.3.3 School data collection

From the same 24 clusters, we collected data from randomly selected 72 schools (9 schools per cluster). We selected government schools, non-government schools and madrasa. In case of unavailability of schools in the selected cluster (Union), we approached to the neighboring Union. We interviewed 8 students per school (72 students per cluster). If any of the school authorities refused to participate in the study, we approached the nearest school which was willing to participate. Collecting data from schools located near to the sampled households enabled us to link household characteristics with schools. We adopted questionnaires that were previously used for assessment of the UNICEF/SHEWA-B program with slight modification

to suit the local condition. This included performing environment spot checks and conducting face to face interviews with school students.

Eligibility criteria

Schools were considered eligible for the survey if the following criteria were met.

- Government, non-government, and madrasa
- Co-education or girls school
- Adolescent girls from V-X
- Adolescent boys from V-X (if Co-education school)

Figure 4: Student survey in schools

Our field team conducted spot checks of the available WASH structures in the schools such as –toilet facilities for students including menstrual hygiene management facilities, drinking water availability, and handwashing facilities for students.

Variables and questionnaire/survey instruments

- ✓ Hygiene knowledge, attitude and practice (KAP) of students
- ✓ Reported handwashing practices
- ✓ Access to sanitation: access to sanitary latrines, availability of handwashing locations and presence of soap and water before eating and after defecation at the school compound
- ✓ Use of safe water and storing it in a protected covered container for drinking
- ✓ Menstrual hygiene management facilities, knowledge, attitude and practices of students

2.3.4 Data collection from health centers

We selected 8 Upazila Health Complex (UHC) from all 8 Upazilas, 14 Union Health and Family Welfare Centers (UHFWC), 8 Private hospitals/clinics and 23 Community Clinics (CC) from all selected clusters. We conducted a spot check of WASH facilities to determine existing

water situation, sanitation and hygiene facilities in those health centers. We did not conduct any additional survey or In-depth Interviews (IDI)/ Focus Group Discussion (FGD) with doctors, patients or attendants as we have a recent health care facility survey and satisfactory level of understanding on health facility water, sanitation and hygiene situation. We invited the hospital administrator for a separate institutional capacity assessment workshop.

Eligibility criteria

- Upazila Health Complex (UHC)
- Union Health and Family Welfare Center (UHFWC)
- Community Clinic (CC)
- Private clinic/hospitals which has in-patient services

Variables and questionnaire/survey instruments

- ✓ Access to sanitation: access to sanitary latrines, availability of handwashing locations and presence of soap and water after defecation
- ✓ Use of safer water in the health centers

Quantitative data analysis

All quantitative data were analyzed by using STATA 13.1 and descriptive analysis performed by following key variables.

2.3.5 Water quality test

Water collection

Drinking water and stored water was collected from each selected household where structured observation was conducted. We also collected drinking water and stored water from each selected health centers and schools. The day before fieldwork, the lab technicians cleaned and sterilized all sampling materials and made sure that they had adequate quantity of lab supply ready for the following day. They generated unique sample identification codes (IDs) for labeling the sample collection bags, sample collection and processing form and all other sample collection tubes. All data were collected on mobile data collection forms that were used on Android devices. The mobile data collection forms were built using Open Data Kit (ODK). A daily sampling plan was designed to enable the field team to efficiently collect samples for

laboratory processing. The sampling plan was based on the capacity of the icddr,b laboratory to process samples within eight hours of collection.

For the collection of drinking water, the technician first sanitized the interior and exterior of the mouth of the water source by rubbing with alcohol-based cotton wool. The technician rinsed the water collection tube about 30 seconds before collection. After the collection of each sample, the technician closed the Whirl-Pak bag and placed it immediately into a cold box maintained at < 10°C with ice packs, to prevent bacterial multiplication. The samples were sent within 6 hours of collection to the icddr,b laboratory at Cox's Bazar located within DPHE premises. The laboratory staff member received the sample and stored them in the refrigerator at 4°C until testing.

Laboratory procedures

We tested the samples for fecal coliforms and *E.coli* using IDEXX. Colilert®-18 / Quanti-Tray® (International Organization for Standardization (ISO) standard 9308-2:2012, U.S. EPA-approved Standard Methods for Examination of Water and Wastewater). We did some pretesting to determine the required level of dilution for different type of samples. The collected water sample solution was added to a Whirl-Pak bag pre-filled with the pre-estimated amount of sterile distilled water to prepare the desired dilution. One sachet of Colilert media was then added to the water sample and the bag was shaken to dissolve the media. The prepared solution was poured into the quantitative tray for incubation at 44.5°C for 18-22 hours and one lab blank was run per sample per day. Some piloting was required of initial samples to determine the amount of dilution if any, that needs to be done on the samples to allow the results to be detectable and within the quantification range of IDEXX Quanti-Tray.[8]

One laboratory assistant was responsible for removing the IDEXX trays at a designated time (18 hours) after being placed in the incubator. The trays were counted immediately after their removal from the incubator. The comparator tray was used to assess the number of wells positive for fecal Coliform and *E. coli*. The wells representing yellow color was counted as being positive for the presence of fecal Coliform. Among these yellow wells, some or all can also exhibit fluorescence when viewed in a dark room with UV light. Wells which was yellow and fluorescent was considered positive for the presence of *E. coli*. The number of yellow and

fluorescent large wells was compared against the number of yellow and fluorescent small wells and the most probable number per volume of sample was determined using the MPN table provided by IDEXX.

2.4 Qualitative assessment

A qualitative assessment was performed to understand the knowledge, perceptions related to safe water, safe sanitation and hygienic behavior of the community people, as well as to identify barriers and challenges that exist to access to safe water, sanitation and hygiene. For qualitative exploration, we selected adjacent Unions/Pourashava of the quantitative clusters as a qualitative cluster. This allowed us to capture similar populations from wide geographic distribution.

A team of anthropologists that included one assistant scientist, a senior research officer and 6 research assistants who have qualitative research experiences performed the qualitative assessment. The assistant scientist led to implementing the overall assessment and all were involved in data collection, analysis and interpretation. Having a team of researchers would minimize the possibility of biasness, and such a team would also be able to handle the high volume of data better.

Figure 5: FGD with adolescent girls

The team approached Union Parishad chairman in each of the selected unions at all 8 Uapzilas and discussed the objective of the study and obtained support for arranging focus group discussion in different villages within the union. With the recommendation of the Union Parishad Chairman, the team purposively selected 2-3 villages and invited community

members to attend a focus group discussion at their convenient time and place. The team then conducted FGD with the female group, male group, adolescent boys and adolescent girls separately. In total the team conducted 48 FGDs (12 FGDs with each of the target groups). The team also identified female members of the Union Parishad and conducted one to one interview (Key Informant interview) in each of the Union. The team conducted a total 24 Key informant interviews in 8 Upazilas.

Qualitative data analysis

Audio recordings of the FGDs and KIIs were directly coded and translated into English through listening and summarized into a Microsoft word document depending on the major thematic codes. Due to the time limitations, verbatim transcription and full translations were not done in this study. Individual summaries of FGDs and KIIs were then compiled separately for a particular Upazila to analyze Upazila based situation. Major efforts were made to understand the current practices, knowledge and perception and to identify the barriers around drinking water supply, sanitation and hygiene.

2.5 Institutional capacity assessment

Capacity is the power of something (a system, an organization, a person) to perform or to produce. A capacity assessment is usually the first step in a capacity development program. A full understanding of an organization's current capacities, performance and immediate and future capacity needs is a prerequisite before any capacity development support – with the ultimate aim to improve the capacities of the individuals and organizations to function efficiently and effectively and to attain sustainable results – if provided.

Figure 6: Example of capacity assessment workshop

Every organization goes through periods of difficulty. Sometimes it's just growing with many challenges to serve people effectively with government rules and regulation, sometimes not knowing how to do something innovative, sometimes it is the challenge of insufficient resources and sometimes it's trying to do something new or make a significant change with limited capacity. It is therefore highly beneficial for organizations to have the ability to accurately diagnose their difficulties/gaps in order to be able provide services efficiently and effectively.

Ideally capacity development initiatives should incorporate activities based on the assessment findings related to two levels simultaneously which includes as follows:

At the individual level: *Human Resource Development*, the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.

At the organizational/institutional level: *Organizational/ Institutional Development*, the strengthening of the internal capacity of the organization to (better) enable to achieve its goals and accomplish mission. Organizational development focuses particularly on strengthening systems and work processes. The Institutional development is also about creating an enabling environment with appropriate policy and legal frameworks.

To address the above issues under an institutional assessment, need to review full organizational structure, their plan, budget, procedure, reporting, documentation etc that are huge tasks and time required procedure. However, during this Institutional Capacity Assessment under the assignment, the focus has been given on mainly **individual level and local authority as part of the organizational level** considering time and study design limitation.

Objectives of Institutional Capacity Assessment

In consultation with the respective team of unicef following objectives have been set for conducting Institutional Capacity Assessment of the WASH institutions:

(i) review the enabling environment of the institutions relevant with WASH service i.e policy, rules, regulatory framework;

(ii) assess mechanisms in place to provide WASH service related on planning, decisions, coordination, implementation, performance, reporting and monitoring;

(iii) review human and financial resources involvement of the institutions towards WASH;

(iv) review the ongoing support to strengthen institutions and identify the gaps in capacity building and required support for institutional development based on the findings of the above assessment.

Institutions

The institutional capacity assessment (ICA) has been conducted through workshop with **six responsible government departments** and private sector who are providing WASH services at Cox's Bazar District. The selected departments are (i) Department of Public Health

Organization (DPHE), (ii) Department of Health, (iii) Department of Health and Family Planning, (iv) Department of Primary Education, (v) Department of Secondary Education, (vi) Local Government Institutes of Upazila and Union Level and (Vii) Private Sector.

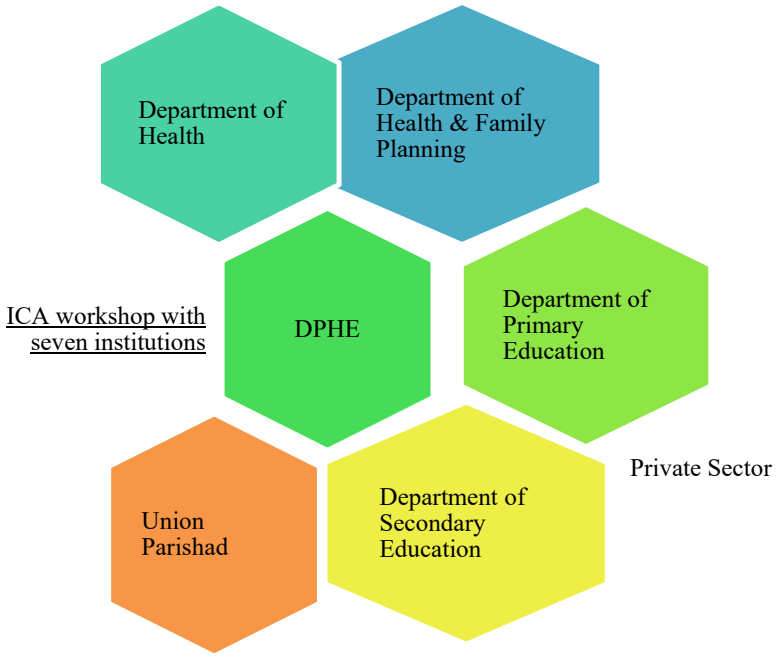


Figure 7: Key stakeholders participated in the Institutional Capacity Assessment

Sampling

We invited participants from all listed departments and the private sector who were mainly responsible for WASH service delivery and decision making for the entire Upazila. Purposive sampling method was applied to identify key participants from each institutions that were fully or partially involved in WASH-related activities in Cox's Bazar district.

Participants

The mix level of representatives from the seven departments at District and Upazila level participated for the assessing of the performance and capacity gaps on WASH services. Selected participants were invited by the District level management of the respective organization and half day-long-workshops were conducted at District level. The following table shows the summary of workshop conducted:

Table 3: Participants of the ICA workshops

Date	Institution	Number of participants	Type of participants
03/08/2019	DPHE	11	Executive Engineer, SAEs from 8 Upazila, Office Assistant, Steno typist
06/08/2019	Primary Education	18	District Primary Education Officer (DPEO) ; Assistant ADPEO; Upazila Education Officers (UEO) and their Assistant Upazila Education Officers (AUEO) from 8 Upazilas
21/08/2019	Health	17	Civil Surgeon, Upazila Health and Family Planning Officers (UH&FPO)s and Sanitary Inspectors (SI)s from 8 Upazilas
26/08/2019	Family Planning	17	Deputy Director Family Planning; Upazila Family Planning Officers (UFPO)s, Medical Officer MCH-FP
28/08/2019	Secondary Education	9	District and Upazila Secondary Education Officer from 8 Upazilas
17/09/2019	UP	12	Union Parishad Chairman, male and female members, Secretary, of Pashcim Bara Bheola Union, Chakaria
07/09/2019	Private Sector	16	Manufacturer, dealer, supplier of water, sanitation products and latrine producer

Tools

The process of the institutional capacity assessment was followed by guided self/group-assessment tools that help the participating organizations to recognize their service in WASH and determine how they address the challenges. The tools and processes provided knowledge, perspectives on their activities, performance and to improve/adapt their capacities according to their purpose, context and resources.

A structured questionnaire has been developed to conduct the workshops considering the objectives of the ICA. Tools have been given in *Annex-8.a* Major contents of the questionnaire were as follows:

- Enabling Environment (policy, strategy, guideline and framework)
- Institutional arrangement (planning, implementation, coordination, reporting and monitoring)
- Resource management (human and financial)
- Need for further development

Through participatory discussion overall strengths and weaknesses were identified, constraints and challenges were determined, gaps between present and desired performance were identified and ideas for addressing them were generated. Based on this, future required

capacity development support was designed that would enable them to provide the WASH services effectively, efficiently and with sustainable results.

Data collection procedure

During the workshop, more flexible approach was applied. At the beginning of the workshop objectives of the ICA have been shared. Then question-answer method was followed for the assessment. Firstly, participants mentioned their current performance roles as given in ***Annex-8.b*** and secondly participants' given opinions as per questionnaire were documented in the flip paper ***(Annex-8.c)*** during the discussion. Since the session was conducted in Bengali, a guideline was prepared in Bengali first to support facilitation, and later translated into English for reporting. The moderator asked questions maintaining the sequence of the guideline, which helped to extract information about policy, strategy, organizational mandates and framework at first. Secondly, the question-answer session facilitated to identify organizational arrangement/structure (planning, coordination, implementation, monitoring, and reporting). At the end, there were questions about resource management (human and financial resources, available logistics/equipment). The participants were given equal opportunities to respond in the entire workshop. The moderator encouraged all participants to talk and tried to bring in people who were not actively participating.

Considering the opinion of the participants, a few questions were skipped which they felt were not/less appropriate for them at that point of time. The workshop opened and closed by the district level officials of the respective organization.

Data analysis

After each group discussion, ICA team summarized the data, prepared transcripts and analyzed the data considering the questions under each specific objective. This data have been displayed in a matrix table using excel sheet.

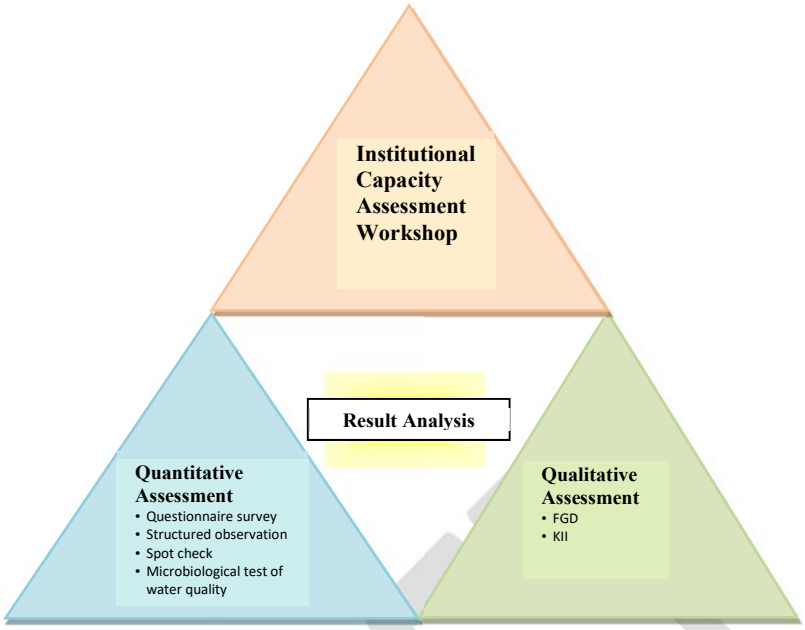


Figure 8: Data analysis and triangulation

2.6 WASH vulnerability assessment

Cox's Bazar district is very prone to flood, cyclone and land collapse. The analysis of both environmental and social vulnerability could support government and other development partners to reduce its effect from the host community of Cox's Bazar district.

To identify the causes of using open source (unsafe) drinking water, unimproved sanitation and practicing poor handwashing practice, we performed vulnerability analysis through the identification of WASH-related factors and other compounding factors.

The WASH vulnerability status for a settlement comprised of two parts:

- WASH-related factors – which includes water resources, infrastructure, awareness and entitlement, sanitation infrastructure and use/practice, and hygiene awareness and practice
- Compounding factors - factors that compound WASH risk and vulnerability, including whether the WASH facility is disaster-prone and the nature of government response to restore water supply and sanitation services after a disaster; its accessibility – in terms of distance; the population prone to water-borne diseases and finally, governance – including responsiveness to WASH problems and adequacy of budget.

Table 4: Vulnerability assessment indicators for households

Indicators	**Sub indicators**		**Related questions**
WASH-related factors *(WASH-related problems)*			**Questions (score)**
Water Supply	1	Water resources	What is the main source of drinking water for the household? - Safe water source is low vulnerable (1) - Basic, limited medium vulnerable (2) - Unimproved high vulnerable (3) - No water source/surface very high vulnerable (4)
	2	Infrastructure	Do you get water from this source whole the year (drinking water)? - Low vulnerable, if yes (1) - High vulnerable, if no (4)
	3	Awareness	Do you know about the use of safe water? - Low vulnerable, if yes (1) - High Vulnerable, if no (4)
			What benefits come from safely storing drinking water? - Mentioned 4 or more benefits come from safely storing DW is low vulnerable (1) - Mentioned 3 benefits come from safely storing DW is medium vulnerable (2) - Mentioned 2 benefits come from safely storing DW is high vulnerable (3) - Mentioned 1 or don't mention any benefits come from safely storing is very high vulnerable (4)
			Do you treat your water in any way to make it safer to drink? - Low vulnerable, if yes (1) - High Vulnerable, if no (4)
	4	Entitlement	The ownership type of drinking water point? - Low vulnerable, if own (1) - Medium vulnerable, if shared (2) - High vulnerable, if public/others (4)
Sanitation	5	Infrastructure	If the HH had a disable person and Is a wheelchair accessible to the toilet? Is there any handle for disable person/pregnant woman to hold inside toilet? - Low vulnerable, if yes (1) - High Vulnerable, if no (4)
	6	Use/practice	What kind of toilet facility do members of your household usually use? - of managed toilet is low vulnerable (1) - Basic, limited medium vulnerable (2) - Unimproved high vulnerable (3) - No toilet facility/open defecation very high vulnerable (4)
			Ownership type of the toilet facility? - Low vulnerable, if own (1) - Medium vulnerable, if shared (2) - High vulnerable, if public/others (4)
Hygiene (handwashing)	7	Awareness	Do you know when do we need to wash hands with water and soap? - Mentioned at least 3 or more HW messages is low vulnerable (1) - Mentioned at least 2 HW messages is medium vulnerable (2) - Mentioned at least 1 HW messages is high vulnerable (3) - Not mentioned any HW messages is very high vulnerable (4)
	8	Practice	Handwashing demo for respondents - Wash both hands with soap and dried properly (1) - Wash both hands with soap but did not dried properly (2) - Wash one hands with soap and did not dried properly (3)

			- Wash with water only (4)
Total WASH related vulnerability score			**Combined score for all Upazilas**
Compounding Factors (WASH infrastructures at risk from natural disasters as well as other compounding factors)			
Disasters and disaster response	9	Whether disaster prone: water supply	During last flood the tube well (Baseplate) could be submerged? - Yes (4) - No (1)
			Is the platform of tube well raised above the flood line? - Yes (1) - No (4)
	10	Whether disaster prone: sanitation	Is the toilet raised above the highest flood line during last flood? - Yes (1) - No (4)
			Is the toilet below the flood line during last flood? - No (1) - Yes (4)
	11	Actual response to disasters: water supply	Do you have safe drinking water supply during post disaster? - Yes (1) - No (4)
Accessibility	12	Distance: Water Supply	How far is the water point from the household (in feet)? - Improved water source and distance <=150 feet from water point to HH (1) - Any water source and distance <=150 feet from water point to HH (2) - Any water source and distance between >150 to 300 feet from water point to HH (3) - Any water source and distance more than 300 feet from water point to HH (4)
			How long does it take to go there and get water and comeback (in minutes)? - Less than 30 minutes (1) - More than 30 minutes to less than 1 hour (3) - More than 1 hour (4)
	13	Distance: Sanitation	What is the distance of toilet (in feet) from the household? - Improve latrine and distance <=20 feet from latrine to HH (1) - Improve latrine share and distance <=20 feet from latrine to HH (2) - Any latrine and distance between >20 to 40 feet from latrine to HH (3) - Any latrine and distance more than 40 feet from latrine to HH/open defecation/no latrine (4)
Governance	14	Responsiveness to WASH problems	Distribution of handwashing materials during/after disaster? - If yes, (1) - If no (4)
Total compounding factors score			**Combining all above, Upazila wise score for all Upazila**
WASH vulnerability			**Grand total of WASH and compounding factors**

…

Table 5 WASH vulnerability matrix

Total score	Category of vulnerability
	Low
	Medium
	High
	Very high

2.7 Key variables for data analysis/statistical analysis

Water

- Access to safe water (coverage)
- Water sources
- Water collection and storing
- Knowledge perception and practice related to safe drinking water
- Barriers to access of safe drinking water
- Water quality

Sanitation

- Knowledge and perceptions regarding safe sanitation
- Defecation practices
- Latrine types they used
- Problems/barriers related to safe sanitation
- Fecal management practices

Hygiene

- Knowledge and perception
- Handwashing practices by family members
- Menstrual hygiene management

2.8 Key definition used in the study

Households

Drinking water ladder according to JMP

- Safely managed: Drinking water from an improved water source which is located on-premises, available when needed and free from fecal and priority chemical contamination
- Basic: Drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing
- Limited: Drinking water from an improved source for which collection time exceeds 30 minutes for a roundtrip including queuing
- Unimproved: Drinking water from an unprotected dug well or unprotected spring

- Surface water: Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal

Drinking water access according to unicef

- Accessibility: Proportion of households with functional and improved water source within the house or within 150 meters/ 492 feet from home
- Utilization: Proportion of households using water (within last two days) from the functional and improved water source located within the house or within 150 meters/ 492 feet from home
- Adequate Coverage: Proportion of households using a minimum of 20 liters/person/day of water round the year from functional and improved water source located within the house or within 150 meters /492 feet from home and collected water within last two days

Sanitation ladder according to JMP

- Safely managed: Use of improved facilities which are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site
- Basic: Use of improved facilities which are not shared with other households
- Limited: Use of improved facilities shared between two or more households
- Unimproved: Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
- Open defecation: Disposal of human faces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste

Sanitation access according to unicef

- Accessibility: Proportion of households which use an improved latrine within 20 meters of the household
- Utilization: Proportion of households which use an improved latrine within 20 meters of the household by all members of the household (over five years of age)
- Adequate Coverage: Proportion of households which use an improved latrine within 20 meters of the household by all members of the household (over five years of age) and which is clean and can be used all year round
- Effective Coverage: Proportion of households which use an improved latrine which is within 20 meters of the household accessible by all members of the household (over five years of age) and which is clean all year round and has handwashing facilities (water and soap) available inside or within 5m of the latrine

Handwashing ladder according to JMP

- Basic: Availability of a handwashing facility on premises with soap and water
- Limited: Availability of a handwashing facility on premises without soap and water
- No facility: No handwashing facility on premises

Handwashing access and coverage according to unicef

- Accessibility: Proportion of mothers/caregivers of children under five who have knowledge of the critical times to wash hands with soap; i) after defecation, ii) before preparing food, iii) before eating, iv) after cleaning a baby's bottom, v) disposing of feces vi) before feeding a child
- Utilization: Proportion of households with soap and water available inside the latrine or within 5 meters of the latrine.

- Adequate Coverage: Proportion of observed latrine visits which were followed by handwashing with soap
- Effective Coverage: Proportion of observed latrine visits which were followed by effective handwashing (with both hands, with soap for at least six seconds)

Schools

Water ladder according to JMP

- Advanced: Water is available from an improved source on the premises and free from fecal and priority chemical contamination
- Basic: Drinking water from an improved source available at the school
- Limited: An improved water source but water not available at the time of survey
- No service: No water source or unimproved source

Sanitation ladder according to JMP

- Advanced: Improved facilities, which are single-sex and usable, with sealed septic tank at the school
- Basic: Improved facilities, which are single-sex and usable at the school
- Limited: There are improved facilities (flush/pour-flush toilets, pit latrine with slab, composting toilet), but not single-sex or not usable at time of survey
- No service: Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility.

Handwashing ladder according to JMP

- Advanced: Availability of a designated handwashing facility on premises with soap and water
- Basic: Availability of a handwashing facility on premises with soap and water
- Limited: Availability of a handwashing facility with water but no soap
- No facility: No handwashing facility at the school or handwashing facility with no water

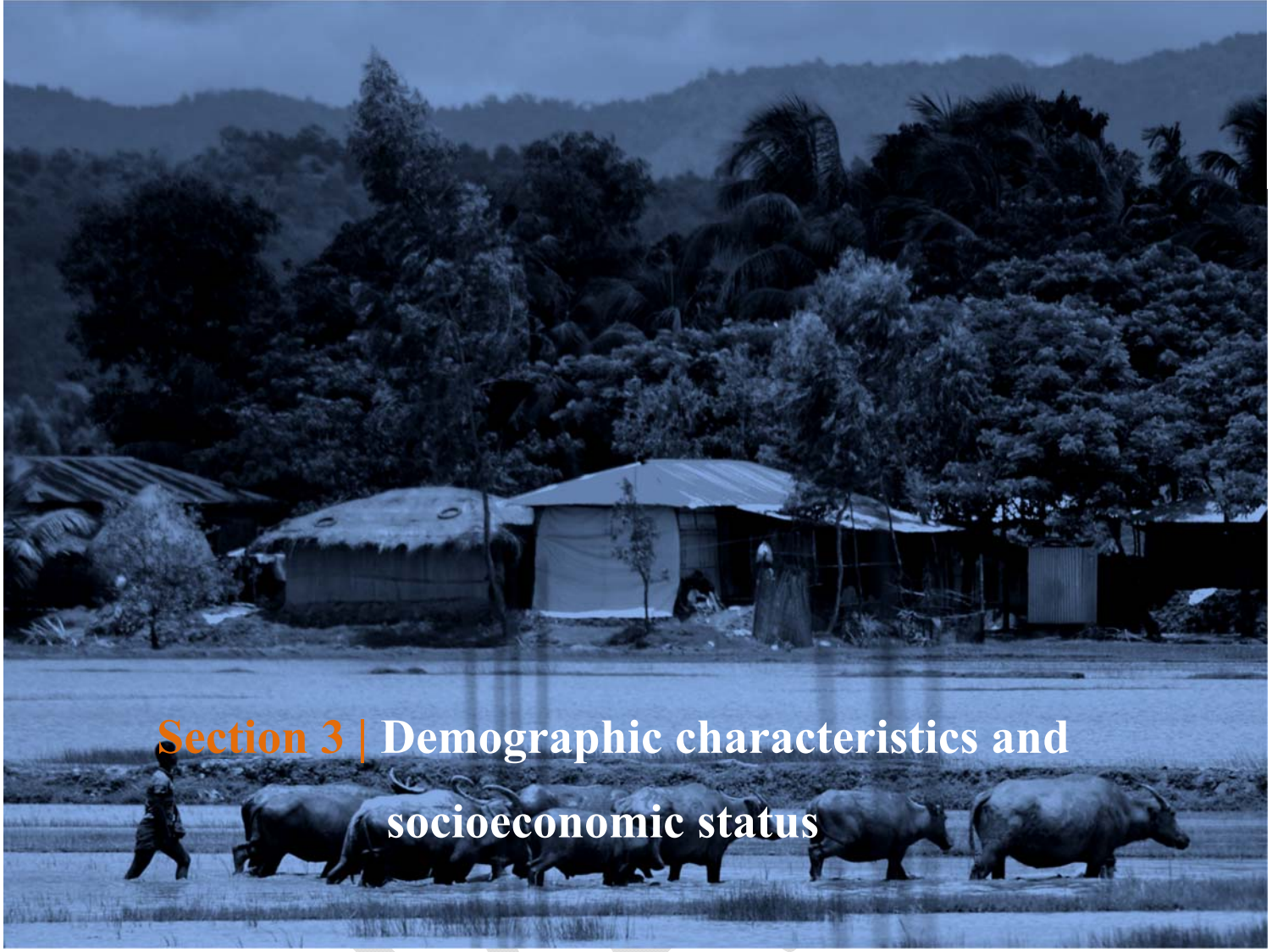
WASH in health centers and growth centers

Water ladder according to JMP

- Advanced: Water is available from an improved source on the premises and free from fecal and priority chemical contamination
- Basic: Water is available from an improved source on the premises
- Limited: An improved water source is within 500 meters of the premises, but not all requirements for basic service are met
- No service: Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 meters from the facility; or the facility has no water source.

Sanitation ladder according to JMP

- Advanced: Improved sanitation facilities are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility and where excreta are safely disposed in situ or transported and treated off-site
- Basic: Improved sanitation facilities are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.
- Limited: At least one improved sanitation facility, but not all requirements for basic service are met
- No service: Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility



Section 3 | Demographic characteristics and socioeconomic status

3.1 Demographic characteristics of households

Table 6: Demographic characteristics and socioeconomic status of households in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=270)	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Sex of respondent (Female)	238 (88)	228 (84)	246 (91)	245 (91)	240 (89)	237 (89)	240 (89)	232 (86)	1,906 (88)
Female-headed households	33 (12)	38 (14)	45 (17)	50 (19)	31 (11)	47 (18)	34 (13)	41 (15)	319 (15)
Education of the respondent:									
No formal education	55 (20)	83 (31)	58 (21)	83 (31)	95 (35)	66 (25)	86 (32)	108 (40)	634 (29)
Completed 1 to 5 years formal education	59 (22)	83 (31)	58 (21)	77 (29)	62 (23)	70 (26)	75 (28)	81 (30)	565 (26)
Completed 6 to below Secondary School Certificate (SSC)	118 (44)	82 (30)	131 (49)	86 (32)	93 (34)	103 (39)	87 (32)	72 (27)	772 (36)
Completed SSC and Higher Secondary Certificate (HSC)	21 (8)	18 (7)	15 (6)	15 (6)	11 (4)	17 (6)	13 (5)	7 (3)	117 (5)
Completed above HSC	17 (6)	4 (1)	8 (3)	9 (3)	9 (3)	9 (3)	9 (3)	2 (1)	67 (3)
Education of the household head:									
No formal education	84 (31)	121 (45)	101 (37)	129 (48)	142 (53)	101 (38)	126 (47)	137 (51)	941 (44)
Completed 1 to 5 years formal education	64 (24)	73 (27)	79 (29)	70 (26)	57 (21)	76 (29)	77 (29)	72 (27)	568 (26)
Completed 6 to below Secondary School Certificate (SSC)	70 (26)	52 (19)	57 (21)	46 (17)	45 (17)	67 (25)	41 (15)	42 (16)	420 (20)

Completed SSC and Higher Secondary Certificate (HSC)	52 (19)	21 (8)	33 (12)	24 (9)	25 (9)	21 (8)	26 (10)	17 (6)	219 (10)
Completed above HSC	0	0	0	0	0	0	0	0	0
Household size (median, IQR)	(5, 3)	(5, 2)	(5, 2)	(5, 3)	(6, 2)	(5, 3)	(5, 3)	(6, 3)	(5, 3)
Occupation of the respondent:									
Homemaker	211 (78)	210 (78)	214 (79)	219 (81)	211 (78)	214 (81)	214 (79)	202 (75)	1,695 (79)
Farmer/Cultivator	8 (3)	11 (4)	5 (2)	10 (4)	7 (3)	10 (4)	9 (3)	10 (4)	70 (3)
Student	8 (3)	13 (5)	19 (7)	9 (3)	11 (4)	3 (1)	12 (4)	12 (4)	87 (4)
Occupation of the household head:									
Farmer/Cultivator	15 (6)	34 (13)	39 (14)	53 (20)	21 (8)	38 (14)	32 (12)	27 (10)	259 (12)
Non-agri labor	25 (9)	37 (14)	19 (7)	23 (9)	40 (15)	31 (12)	37 (14)	19 (7)	231 (11)
Homemaker	25 (9)	28 (10)	30 (11)	36 (13)	25 (9)	28 (11)	25 (9)	25 (9)	222 (10)
Business	36 (13)	14 (5)	27 (10)	9 (3)	32 (12)	14 (5)	17 (6)	26 (10)	175 (8)
Agri-labor	6 (2)	10 (4)	27 (10)	35 (13)	14 (5)	24 (9)	17 (6)	16 (6)	149 (7)
Household had electricity connection	257 (95)	42 (16)	200 (74)	206 (76)	229 (85)	192 (72)	240 (89)	237 (88)	1,603 (74)
Households with one living room	40 (15)	49 (18)	47 (17)	66 (24)	63 (23)	36 (14)	76 (28)	46 (17)	423 (20)
Households with any type of disable member	9 (3)	10 (4)	18 (7)	11 (4)	27 (10)	28 (11)	15 (6)	22 (8)	140 (7)
Households with less than five year old children	135 (50)	134 (50)	119 (44)	126 (47)	147 (54)	128 (48)	135 (50)	152 (56)	1,076 (50)
Socio-economic classification based on wealth index:									
Poorest quintile	15 (6)	80 (30)	45 (17)	62 (23)	82 (30)	38 (14)	57 (21)	52 (19)	431 (20)
2nd	25 (9)	73 (27)	62 (23)	67 (25)	59 (22)	32 (12)	60 (22)	53 (20)	431 (20)
3rd	56 (21)	65 (24)	47 (17)	62 (23)	43 (16)	59 (22)	51 (19)	48 (18)	431 (20)
4th	63 (23)	36 (13)	57 (21)	52 (19)	48 (18)	63 (24)	56 (21)	56 (21)	431 (20)
Wealthiest quintile	111 (41)	16 (6)	59 (22)	27 (10)	38 (14)	73 (28)	46 (17)	61 (22)	431 (20)
Average monthly income in Taka of the household:	20,269	13,219	16,413	13,370	16,751	17,486	13,904	14,034	15,677
Poorest quintile	8,000	8,765	7,467	7,055	8,317	6,453	6,434	7,404	7,595
2nd	10,600	9,990	12,089	10,258	11,051	9,434	8,763	10,265	10,336
3rd	11,584	13,231	11,596	12,295	15,907	14,257	10,118	9,425	12,319
4th	17,971	19,688	18,579	16,171	19,115	17,384	15,839	14,795	17,330
Wealthiest quintile	29,790	35,625	29,525	32,667	41,768	29,459	31,707	25,891	30,803

3.2 Demographic characteristics of schools and students

Table 7: Demographic characteristics of schools in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=9)	Kutubdia (N=9)	Chakoria (N=9)	Pekua (N=9)	Maheshkhali (N=9)	Ramu (N=9)	Ukhiya (N=9)	Teknaf (N=9)	Overall (N=576)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Type of School:									
Government High school	8 (11)	0	0	8 (11)	0	0	8 (11)	9 (13)	33 (6)
Non-government High school	16 (22)	23 (32)	24 (33)	32 (44)	24 (33)	40 (56)	15 (21)	39 (54)	213 (37)
Madrasa	24 (33)	24 (33)	24 (33)	24 (33)	24 (33)	24 (33)	25 (35)	24 (33)	193 (34)
Government Primary School	24 (33)	25 (35)	24 (33)	8 (11)	24 (33)	8 (11)	24 (33)	0	137 (24)
Type of education:									
Only girls	16 (22)	0	0	0	0	16 (22)	0	8 (11)	40 (7)
Co-education	56 (78)	72 (100)	72 (100)	72 (100)	72 (100)	56 (78)	72 (100)	4 (89)	536 (93)
Mean number of teachers (mean, SD)	15 (9)	12 (6)	14 (9)	17 (7)	14 (6)	15 (7)	14 (5)	15 (6)	15 (7)
Mean number of students (mean, SD):									

Girls	435 (375)	312 (231)	361 (192)	529 (284)	422 (292)	421 (395)	442 (302)	406 (148)	416 (280)
Boys	196 (266)	271 (303)	308 (345)	435 (288)	320 (246)	144 (135)	398 (282)	344 (273)	302 (275)

Table 8: Demographic characteristics of school students in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=72)	Kutubdia (N=72)	Chakoria (N=72)	Pekua (N=72)	Maheshkhali N=72)	Ramu (N=72)	Ukhiya (N=72)	Teknaf (N=72)	Overall (N=576)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Mean age of the respondents (mean, SD)	13 (1.9)	14 (2.0)	14 (2.1)	14 (1.8)	14 (2.2)	14 (1.9)	14 (2.0)	15 (1.2)	14 (2.0)
Sex of respondent (Female)	46 (64)	36 (50)	36 (50)	36 (50)	36 (50)	44 (61)	36 (50)	40 (56)	310 (54)
Respondent's education:									
Grade 5-7	44 (61)	38 (53)	36 (50)	27 (38)	38 (53)	30 (42)	36 (50)	18 (25)	267 (46)
Grade 8-10	28 (39)	34 (47)	36 (50)	45 (63)	34 (47)	42 (58)	36 (50)	54 (75)	309 (54)
Education of father of the respondent:									
No formal education	10 (14)	14 (19)	3 (4)	5 (7)	18 (25)	14 (19)	12 (17)	27 (38)	103 (18)
Completed grade 1-5	18 (25)	18 (25)	26 (36)	18 (25)	20 (28)	27 (38)	23 (32)	23 (32)	173 (30)
Completed grade 6-10	27 (38)	33 (46)	26 (36)	32 (44)	25 (35)	25 (35)	28 (39)	19 (26)	215 (37)
Completed above grade 10	8 (11)	6 (8)	13 (18)	12 (17)	1 (2)	4 (6)	6 (8)	2 (3)	52 (9)
Education of mother of the respondent:									
No formal education	14 (19)	14 (19)	8 (11)	6 (8)	20 (28)	21 (29)	17 (24)	21 (29)	121 (21)
Completed grade 1-5	19 (26)	19 (26)	25 (35)	17 (24)	13 (18)	15 (21)	4 (19)	22 (31)	144 (25)
Completed grade 6-10	19 (26)	27 (38)	20 (28)	22 (31)	23 (32)	22 (31)	23 (31)	20 (28)	176 (31)
Completed above grade 10	11 (15)	9 (13)	13 (18)	23 (32)	3 (4)	6 (8)	10 (14)	8 (11)	83 (14)
Main occupation of father of the respondent:									
Farmer/Cultivator	9 (13)	16 (22)	22 "(31)	15 (21)	26 (36)	26 (36)	15 (21)	12 (17)	141 (25)
Business/shopkeeper/ambulant vendor	22 (31)	15 (21)	16 (22)	12 (17)	13 (18)	16 (22)	21 (29)	22 (21)	137 (24)
Salaried job/ Teacher	10 (14)	13 (18)	17 (24)	17 (24)	6 (8)	6 (8)	11 (15)	11 (15)	91 (16)
Mason/carpenter/ Driver/Electrician/Plumber/ Tailor/Garments worker	4 (6)	4 (6)	6 (8)	2 (3)	8 (11)	5 (7)	7 (10)	1 (1)	37 (6)
Van/Rickshaw puller/battery driven auto/Cobbler/maker/fisherman	7 (10)	17 (24)	2 (3)	5 (7)	4 (6)	1 (1)	10 (14)	6 (8)	52 (9)
Unemployed/disabled/Student	5 (7)	4 (6)	3 (4)	8 (11)	3 (4)	5 (7)	2 (3)	5 (7)	35 (6)
Staying abroad	11 (15)	1 (1)	4 (6)	11 (15)	8 (11)	12 (17)	3 (4)	9 (13)	59 (10)
Died/Untraced	2 (3)	2 (3)	1 (1)	1 (1)	4 (6)	1 (1)	2 (3)	4 (6)	17 (3)
Village /Homio pathic doctor	1 (1)	0	0	1 (1)	0	0	0	0	2 (0.4)
Main occupation of mother of the respondent:									
Homemaker/housewife	63 (88)	68 (94)	65 (90)	68 (94)	67 (93)	67 (93)	63 (88)	68 (94)	529 (92)
Salaried job	5 (7)	1 (1)	5 (7)	3 (4)	2 (3)	1 (1)	6 (8)	1 (1)	24 (4)
Shopkeeper/Business/ambulant vendor/tailor/cottage industry	1 (1)	1 (1)	0	0	0	3 (4)	3 (4)	3 (4)	11 (2)
Domestic maid/labor	0	1 (1)	0	0	0	0	0	0	2 (0.4)
Died/untraced	1 (1)	1 (1)	1 (1)	1 (1)	2 (3)	0	0	0	6 (1)

3.3 Characteristics of health centers

Table 9: Demographic characteristics of health centers in Cox's Bazar

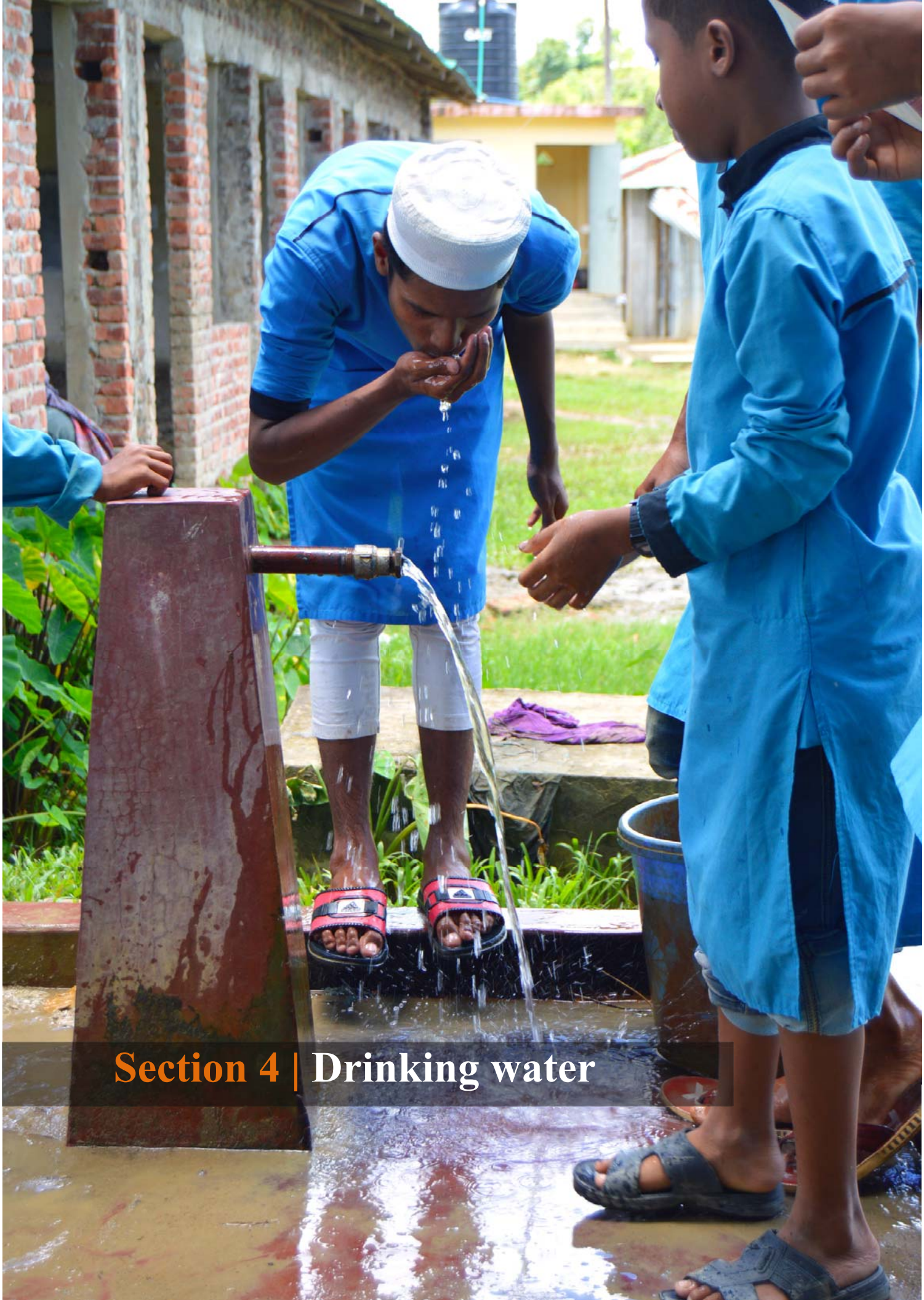
Indicators	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)

Type of health care centers:									
Upazila Health Complex (UHC)	0 (0)	1 (17)	1 (14)	1 (14)	1 (20)	1 (14)	1 (14)	1 (17)	7 (13)
Non-Govt./Private Hospital/Clinic	3 (43)	0 (0)	2 (29)	1 (14)	0 (0)	0 (0)	1 (14)	1 (17)	8 (15)
Community Clinic	2 (29)	3 (50)	2 (29)	3 (43)	3 (60)	5 (71)	3 (43)	2 (33)	23 (44)
Union Health & Family Welfare Center (UH&FWC)	2 (29)	2 (33)	2 (29)	2 (29)	1 (20)	1 (14)	2 (29)	2 (33)	14 (27)
Mean number of Bed:									
Upazila Health Complex (UHC)	-	50	50	31	50	31	50	50	45
Non-Govt./Private Hospital/Clinic	3 (63)	-	2 (50)	1 (25)	-	-	1 (20)	1 (20)	8 (44)
Number of health centre have male ward:	3 (100)	1 (100)	1 (33)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	13 (87)
Mean number of Bed in male ward	11	20	15	13	20	11	10	11	13
Mean number of patient in male ward	11	10	13	9	16	11	8	3	9
Number of health centre have female ward:	3 (100)	0 (0)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	14 (93)
Mean number of Bed in female ward	13	-	16	9	19	17	23	11	15
Mean number of patient in female ward	11	-	11	6	25	8	16	8	11
Number of health centre have pediatric ward:	2 (67)	0 (0)	2 (67)	0 (0)	1 (100)	1 (100)	1 (50)	1 (50)	8 (53)
Mean number of Bed in pediatric ward	8	-	15	-	16	4	24	30	15
Mean number of patient in pediatric ward	7	-	34	-	24	10	31	17	20
Mean number of Doctor:									
Upazila Health Complex (UHC)	-	1 (6)	1 (10)	1 (9)	1 (5)	1 (5)	1 (15)	1 (7)	7 (8)
Non-Govt./Private Hospital/ Clinic	3 (22)	-	2 (20)	1 (6)	-	-	1 (12)	1 (12)	8 (17)
Mean number of Other staff:									
Upazila Health Complex (UHC)	-	1 (17)	1 (28)	1(19)	1(27)	1(21)	1(25)	1(34)	7(24)
Non-Govt./Private Hospital/Clinic	3(75)	-	2(79)	1(23)	-	-	1(14)	1(29)	8(56)
Community Clinic	2 (4)	3(3)	2(2)	3(2)	3(3)	5(2.2)	3(4)	2(2.5)	23(3)
Union Health & Family Welfare Center (UH&FWC)	2 (4)	2(2)	2(3)	2(2)	1(5)	1(1)	2(4)	2(2)	14(3)

3.2 Demographic characteristics of schools and students

Table 10: Characteristics of growth centers of all Upazila in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=10)	Kutubdia (N=8)	Chakoria (N=11)	Pekua (N=8)	Maheshkhali (N=10)	Ramu (N=9)	Ukhiya (N=6)	Teknaf (N=11)	Overall (N=73)
Type of Public place:									
Government defined growth center	4 (40)	2 (25)	4 (36)	2 (25)	5 (50)	5 (56)	3 (50)	5 (45)	30 (41)
Maximum number of people gathers/ regular market	3 (30)	2 (25)	3 (27)	3 (38)	2 (20)	1 (11)	1 (17)	4 (36)	19 (26)
Regular/weekly Hat bazar	3 (30)	4 (50)	4 (36)	3 (38)	3 (30)	3 (33)	2 (33)	2 (18)	24 (33)
The public meeting place within the union	6 (60)	7 (88)	7 (64)	7 (88)	7 (70)	8 (89)	4 (67)	10 (91)	56 (77)
Weekly hats sit in the public meeting place	5 (50)	5 (63)	7 (64)	5 (63)	7 (70)	3 (33)	5 (83)	6 (55)	43 (59)



Section 4 | Drinking water

4.1 Drinking water at households

4.1.1 Drinking water knowledge and practices at households

- Overall in Cox's Bazar, only 4% household reported to treat source water after collection by using different methods, however only 1.3% households observed to treat water by the Enumerator.
- Households in Teknaf and Ukhiya treated water more than other Upazilas in Cox's Bazar.
- Overall, 50% household received safe water message and 31% of them received from relatives/friends/schools followed by media and NGO workers.

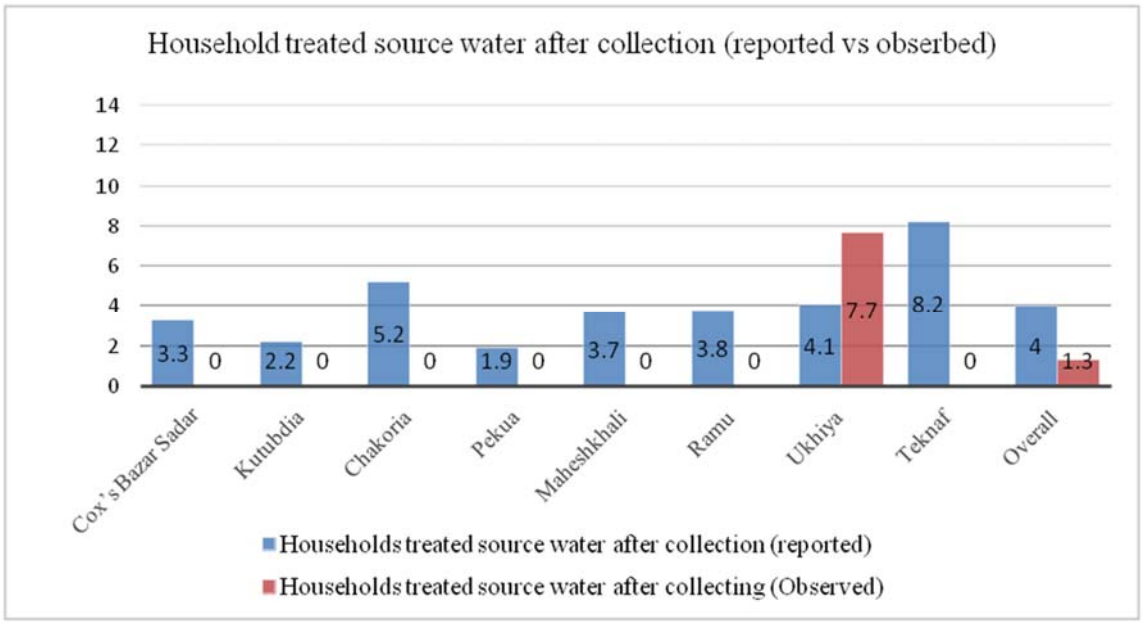


Figure 9: Percent of household treated source water after collection (reported vs observed)

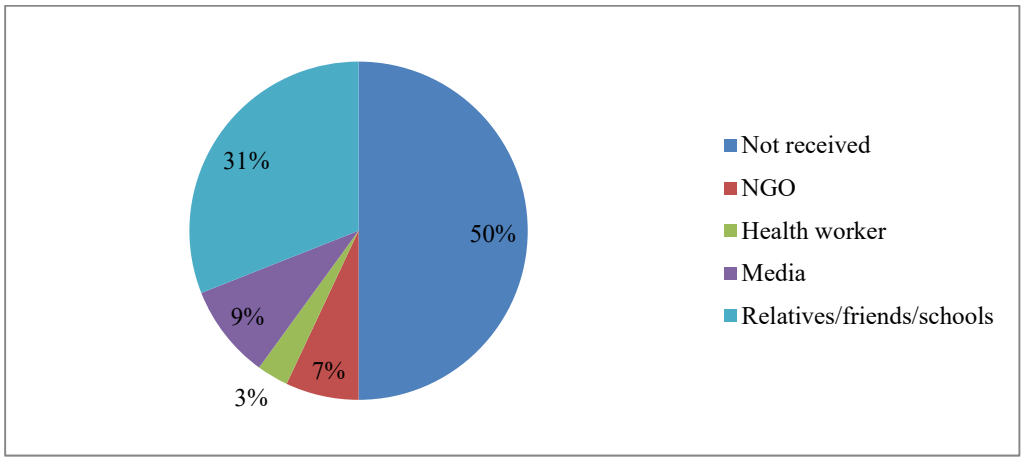


Figure 10: Source of safe water messages of household members in Cox's Bazar

Table 11: Knowledge of household members regarding drinking water by Upazila

Indicator	Cox's Bazar Sadar N=270	Kutubdia N=270	Chakoria N=270	Pekua N=270	Maheshkhali N=270	Ramu N=265	Ukhiya N=270	Teknaf N=270	Overall N=2,155
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Household members received messages on safe water	207 (77)	68 (25)	93 (34)	81 (30)	156 (58)	180 (68)	146 (54)	143 (53)	1074 (50)
Received safe water use messages from (multiple responses):									
NGO	33 (12)	3 (1)	3 (1)	10 (4)	10 (4)	32 (12)	34 (13)	35 (13)	160 (7)
Government health worker	11 (4)	0 (0)	4 (1)	1 (0)	13 (5)	12 (5)	7 (3)	7 (3)	55 (3)
Media (TV, radio, poster, miking, fair, drama, SMS)	52 (19)	4 (1)	19 (7)	11 (4)	22 (8)	43 (16)	22 (8)	11 (4)	184 (9)
Relative/friends/neighbours/parents/religious leader/school/village doctor	108 (40)	60 (22)	67 (25)	58 (22)	108 (40)	89 (34)	83 (31)	87 (33)	660 (31)

4.1.2 Drinking water access

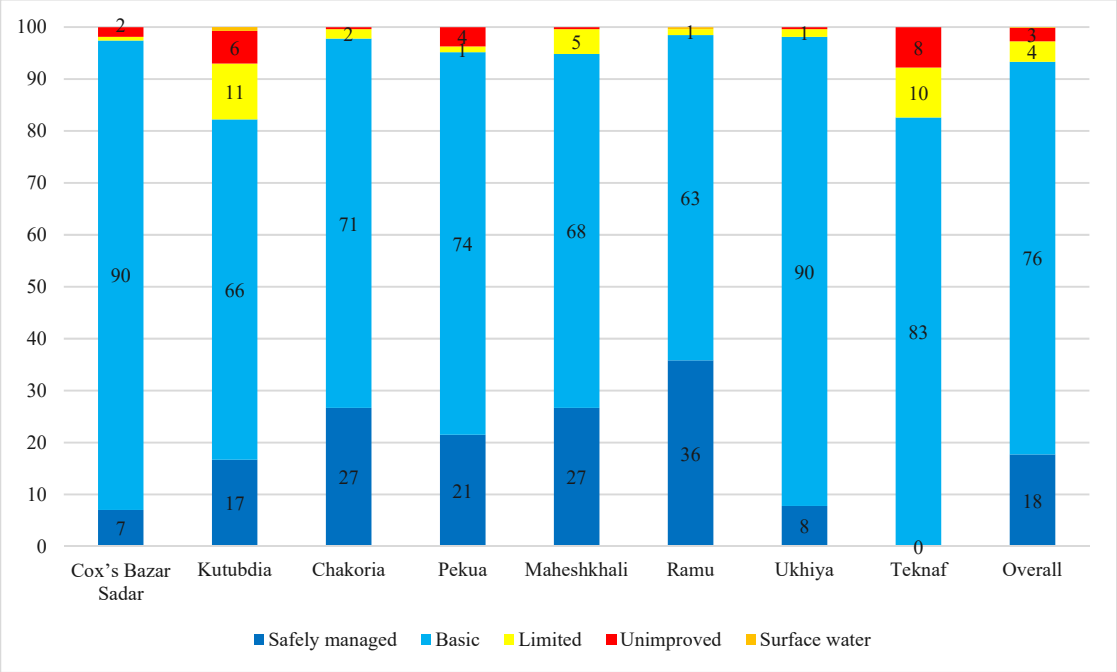


Figure 11: Access to drinking water in Cox's Bazar: % of households by Upazila

Drinking water quality at household level

- Overall there were no high risk areas in terms of drinking water quality. However, Maheshkhali and Teknaf require attention as fecal coliform and *E.coli* contamination was higher in these two Upazilas compared to others.

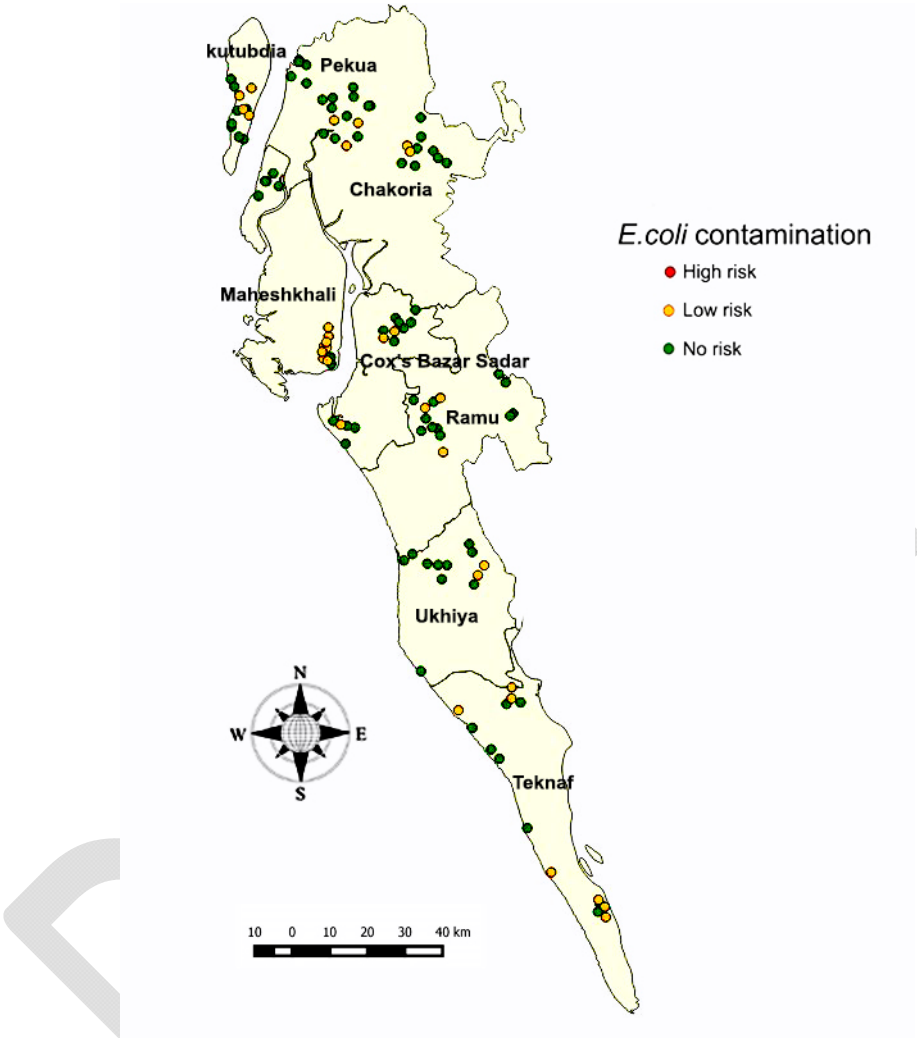


Figure 12: *E.coli* contamination at household drinking water source in Cox's Bazar

***E. coli (WHO disease risk category)*
<1 MPN (no risk)
1-10 MPN (low risk)
>10 MPN (moderate to high risk)

Water coverage vs. water safety plan at household level

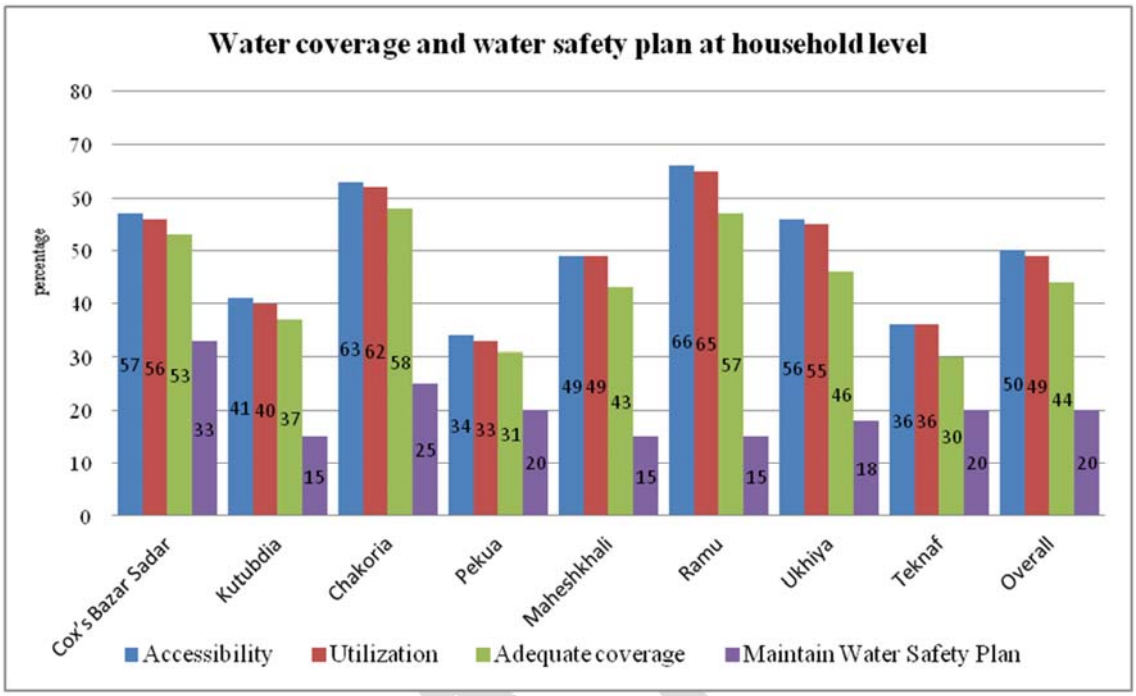


Figure 13: Water coverage and water safety plan at household level

4.1.3 Drinking water technologies by Upazila

- Most households used Bore hole/ Tube-wells with some exception in Ukhiya where 11% used Tap water in the dwelling and in Teknaf 16% household used water from protected well/spring.
- Overall, 93% of the water source were useable for disabled and physically challenged person.

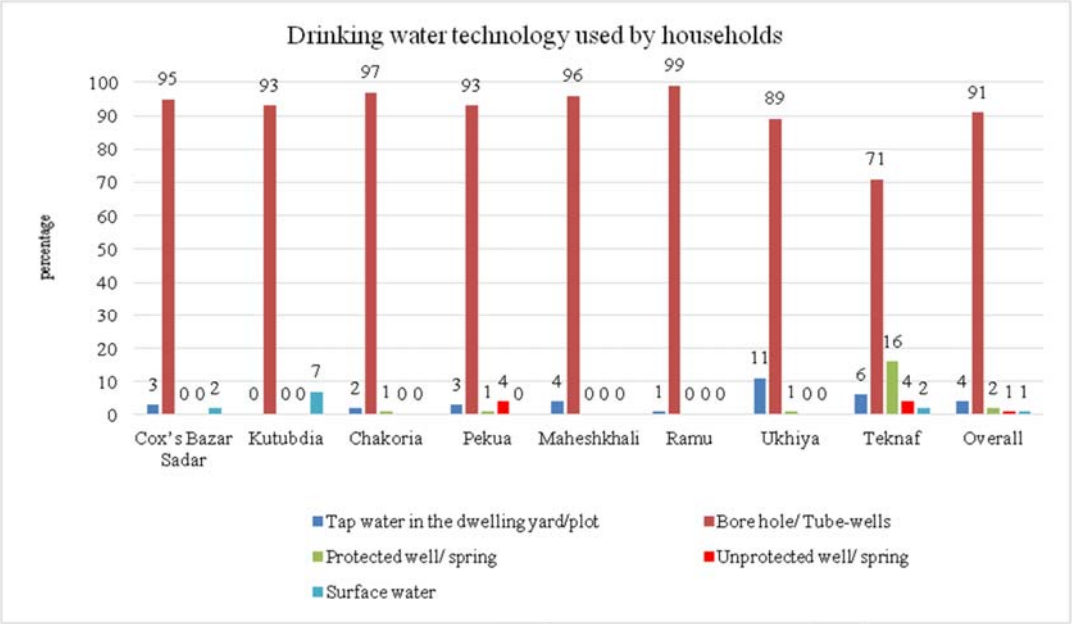


Figure 14: Drinking water technology used by households by Upazila

Table 12: Drinking water technologies and inclusiveness by Upazila (% of households)

Indicator	Cox's Bazar Sadar (N=270)	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Water source technology which is Inclusive†:	265 (98)	262 (97)	268 (99)	267 (99)	249 (92)	248 (94)	218 (81)	222 (82)	1,999 (93)
Tap water in the dwelling yard/plot	7 (3)	0 (0)	6 (2)	7 (3)	10 (4)	1 (0)	25 (9)	15 (6)	71 (3)
Bore hole/ Tube-wells	255 (94)	243 (90)	260 (96)	248 (92)	238 (88)	246 (93)	191 (71)	163 (60)	1844 (86)
Protected well/ spring	0 (0)	0 (0)	2 (1)	2 (1)	0 (0)	0 (0)	2 (1)	33 (12)	39 (2)
Unprotected well/ spring	0 (0)	0 (0)	0 (0)	10 (4)	1 (0)	0 (0)	0 (0)	7 (3)	18 (1)
Surface water	3 (1)	19 (7)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	4 (1)	27 (1)

† *Inclusiveness: disabilities friendly/physically challenged*

Table 13: Drinking water 'accessibility', 'utilization', and 'adequate coverage' by technology (% of households)

Indicator	Cox's Bazar Sadar (N=270)	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Accessible drinking water source:	155 (57)	110 (41)	170 (63)	92 (34)	133 (49)	175 (66)	151 (56)	98 (36)	1,084 (50)
Tap water in the dwelling yard/ plot	8 (3)	0 (0)	4 (1)	3 (1)	9 (3)	2 (1)	16 (6)	10 (4)	52 (2)
Public stand post	146 (54)	110 (41)	165 (61)	89 (33)	124 (46)	173 (65)	133 (49)	76 (28)	1,016 (47)
Bore hole/ Tube-wells	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	2 (1)	11 (4)	14 (1)
Protected well/ spring	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	2 (0)
Rainwater	115 (43)	160 (59)	100 (37)	178 (66)	137 (51)	90 (34)	119 (44)	172 (64)	1,071 (50)
Water technology-No accessible	8 (3)	0 (0)	4 (1)	3 (1)	9 (3)	2 (1)	16 (6)	10 (4)	52 (2)

Utilization:	151 (56)	108 (40)	168 (62)	90 (33)	131 (49)	172 (65)	148 (55)	97 (36)	1,065 (49)
Tap water in the dwelling yard/ plot	6 (2)	0 (0)	4 (1)	3 (1)	9 (3)	2 (1)	16 (6)	10 (4)	50 (2)
Public stand post	144 (53)	108 (40)	163 (60)	87 (32)	122 (45)	170 (64)	130 (48)	76 (28)	1,000 (46)
Bore hole/ Tube-wells	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	2 (1)	11 (4)	14 (1)
Protected well/ spring	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
Rainwater	119 (44)	162 (60)	102 (38)	180 (67)	139 (51)	93 (35)	122 (45)	173 (64)	1,090 (51)
Water technology-No Utilization	6 (2)	0 (0)	4 (1)	3 (1)	9 (3)	2 (1)	16 (6)	10 (4)	50 (2)
Adequate Coverage:	144 (53)	100 (37)	156 (58)	83 (31)	115 (43)	150 (57)	123 (46)	81 (30)	952 (44)
Tap water in the dwelling yard/ plot	103 (72)	84 (84)	108 (69)	31 (37)	83 (72)	116 (77)	89 (72)	61 (75)	675 (71)
Public stand post	34 (24)	16 (16)	43 (28)	49 (59)	23 (20)	33 (22)	18 (15)	4 (5)	220 (23)

4.1.4 Drinking water access: urban vs. rural

Table 14: Drinking water access and coverage- urban vs. rural (% of households)

Indicators	Rural (N=1,705)	Urban (N=450)	Overall (N=2,155)
	n (%)	n (%)	n (%)
Drinking water accessibility	860 (50)	224 (50)	1,084 (50)
Drinking water utilization	844 (50)	221 (49)	1,065 (49)
Adequate coverage of drinking water	749 (44)	203 (45)	952 (44)
Source of drinking water by Technology			
Tap water in the dwelling yard/ plot	47 (3)	31 (7)	78 (4)
Bore hole/ Tube-wells	1,594 (93)	376 (84)	1,970 (91)
Protected well/ spring	29 (2)	20 (4)	49 (2.3)
Rainwater	1 (0)	2 (0)	3 (0)
Unprotected well/ spring	14 (1)	9 (2)	23 (1)
Surface water	20 (1)	12 (3)	32 (1.5)

4.1.5 Challenges to access to safe drinking water for Cox's Bazar

- Overall, major drinking water related challenges were:
  - Inadequate number of improved water sources
  - Technologies are expensive and hardly affordable to the community (lack of economic resources to install a deep tube-well)
  - Physical barriers such as long distance, topography of the area (hilly area), nature of the roads particularly during rainy season hindering water access
- In Cox's Bazar Sadar and Chakaria, high concentration of iron and saline intrusion in surface and ground water is a problem

Table 15: Barriers and challenges to access to safe drinking water

Description of barriers	Cox's Bazar Sadar	Ramu	Ukhiya	Teknaf	Chakoria	Pekua	Maheshkhali	Kutubdia
High concentration of iron and saline intrusion in surface and ground water is the major problem in this area	+++	++	+	+	+++	+	+	++

Technologies are expensive and hardly affordable to the community (lack of economic resources to install a deep tube-well)	+	++	++	+++	+++	+++	+++	+++
Physical barriers such as long distance, topography of the area (hilly area), nature of the roads particularly during rainy season hindering water access	++	+	+	++	++	+++	+	+++
Inadequate number of improved water sources	+	+	+++	++	++	++	+	+++
Participants lack adequate knowledge about the public health importance of safe drinking water	+	+	+	+	+	+	+	+
The concentration of saline in the ground water is increasing due to increased salt cultivation (or may be influenced by climate change) and making fresh water access difficult					+		+	
Seasonal downfall of water layers when most of the tube-well either dry out or become difficult to pump enough water	++		++	+	+		+	+
Flood water affect the tube-wells from where the participants collected water for drinking	+	+	+		+	++	+	

+ Low
++ Moderate
+ + + High

4.1.6 Opportunities to ensure access to safe drinking water

- Numbers of unprotected spring could be converted to protected spring
- Community deep tube well could be set up in water salinity prone areas
- Campaign is required to increase use of safe drinking water
- WASH partners and private entrepreneurs could be involved

4.2 Drinking water at schools

4.2.1 Student's practice regarding use of drinking water source from school premises

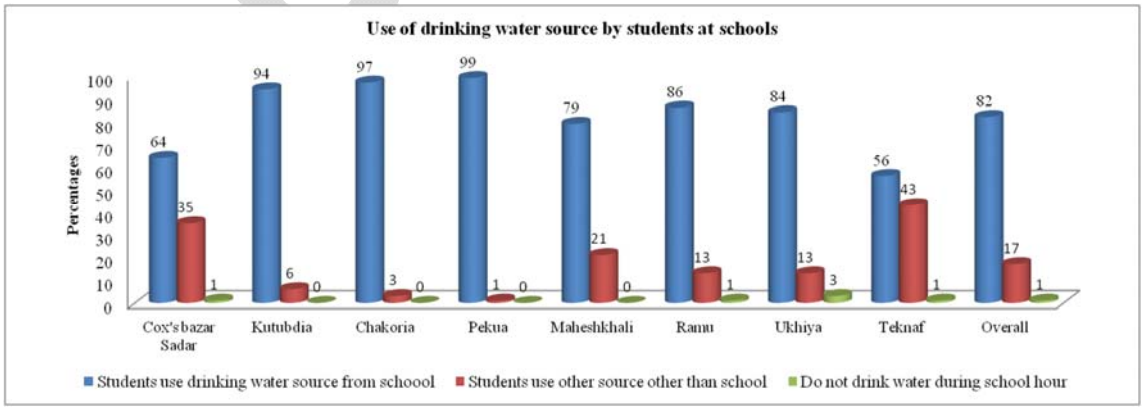


Figure 15: Use of drinking water source by students at school

4.2.2 Drinking water access at schools

- Overall, 35% of the schools had advanced water source whereas there was no advanced water source in Ukhiya and Cox's Bazar Sadar
- Cox's Bazar Sadar needs attention in terms of water source followed by Ukhiya and Ramu

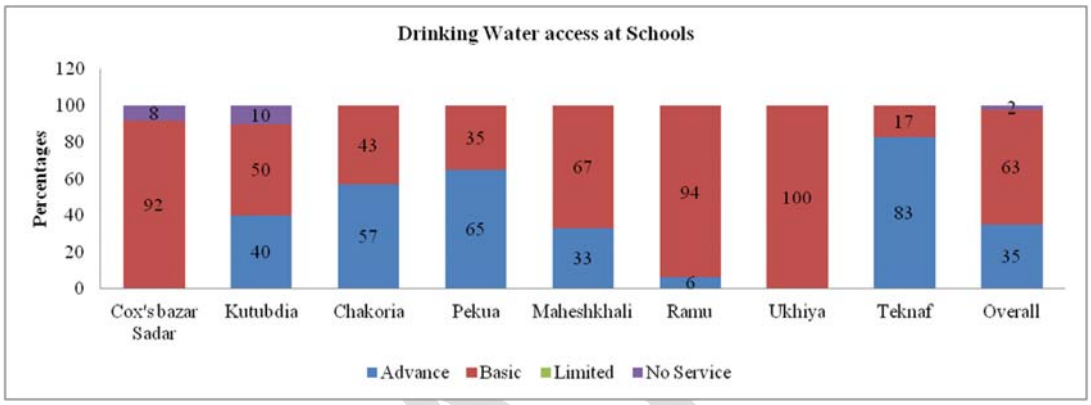


Figure 16: Drinking water access at schools

Students having access to advanced water source

Table 16: Drinking water access by number of students by Upazila

Indicators	Cox's Bazar Sadar n (%)	Kutubdia n (%)	Chakoria n (%)	Pekua n (%)	Maheshkhali n (%)	Ramu n (%)	Ukhiya n (%)	Teknaf n (%)	Overall n (%)
Advanced	0	8728 (40)	42145 (57)	16522 (65)	16693 (33)	2423 (6)	0	25128 (83)	124575 (35)
Basic Service	75564 (92)	10910 (50)	31793 (43)	8896 (35)	33893 (67)	37967 (94)	31367 (100)	5147 (17)	224235 (63)
Limited	0	0	0	0	0	0	0	0	0
No service	6571 (8)	2182 (10)	0	0	0	0	0	0	7119 (2)

Drinking water quality at schools

Cox's Bazar Sadar was the high risk area in terms of drinking water quality. However, some schools from Ramu, Teknaf and Kutubdia were also in high risk category.

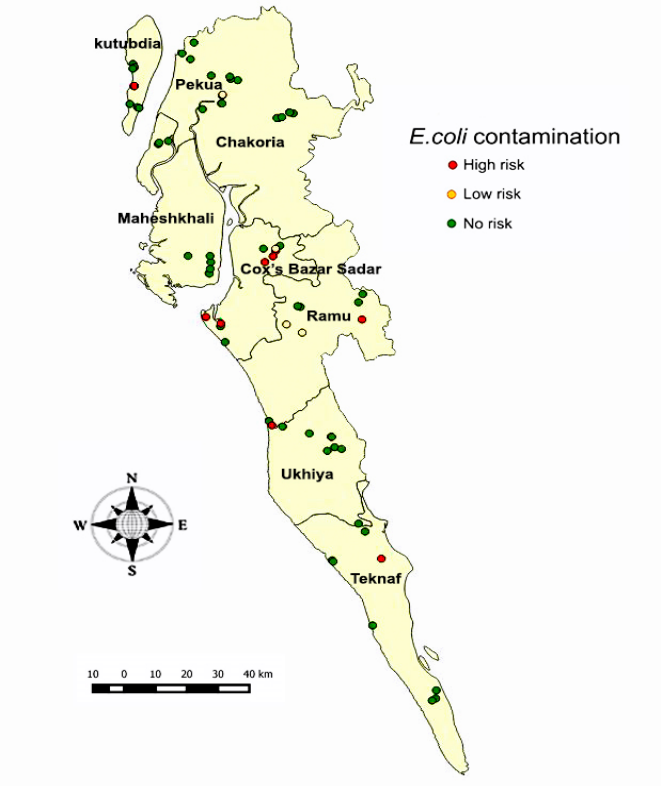


Figure 17: Drinking water quality at schools

***E. coli (WHO disease risk category)*
<1 MPN (no risk)
1-10 MPN (low risk)
>10 MPN (moderate to high risk)

4.2.3 Drinking water technologies at schools by Upazila

Most of the schools used Bore hole/ Tube-wells as water sources however, 46% schools in Ukhiya received tap water followed by Cox's Bazar (33%)

Table 17: Drinking water technologies at schools by Upazila

Indicators	Cox's Bazar Sadar (N=12)	Kutubdia (N=9)	Chakoria (N=14)	Pekua (N=17)	Maheshkhali (N=12)	Ramu (N=16)	Ukhiya (N=13)	Teknaf (N=12)	Overall (N=105)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Source of drinking water by category:									
Tap water in the school compound	4 (33)	0	2 (14)	1 (6)	1 (8)	1 (6)	6 (46)	2 (17)	17 (16)
Public stand post	0	0	0	0	0	0	0	1 (8)	1 (1)
Bore hole/ Tube-wells	8 (67)	8 (89)	12 (86)	15 (88)	8 (67)	15 (94)	7 (54)	8 (67)	81 (77)
Protected well/ spring	0	1 (11)	0	1 (6)	3 (25)	0	0	1 (8)	6 (6)

Table 18: Drinking water technologies at schools by Upazila which were at high risk category

Indicators	Cox's Bazar Sadar (N=12)	Kutubdia (N=9)	Chakoria (N=14)	Pekua (N=17)	Maheshkhali (N=12)	Ramu (N=16)	Ukhiya (N=13)	Teknaf (N=12)	Overall (N=105)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)

Number of drinking water source at high risk in terms of contamination	12	5	6	6	8	15	13	2	67
Source of drinking water by category which are at high risk in terms of contamination:	N=12	N=5	N=6	N=6	N=8	N=15	N=13	N=2	N=67
Tap water in the school compound	4 (33)	0	2 (33)	1 (17)	1 (17)	2 (25)	3 (33)	1 (50)	18 (27)
Public stand post	0	0	0	0	0	0	0	1 (50)	1 (2)
Bore hole/Tube-wells shallow	2 (17)	1 (20)	3 (50)	0	5 (63)	8 (53)	2 (15)	0	21 (31)
Bore hole /Tube-wells deep	6 (50)	4 (80)	1 (17)	5 (83)	2 (25)	6 (40)	5 (39)	0	29 (43)
Protected well/ spring	0	0	0	0	0	0	0	0	0

4.2.4 Drinking water access: urban vs. rural

- Location of drinking water sources were closer from school premises among schools in urban areas than rural areas
- Number of students carrying own water bottle was higher among students in urban areas compared to rural areas

Table 19: Drinking water access at school urban vs. rural

Indicator	Rural (N=70)	Urban (N=35)	Overall (N=105)
	n (%)	n (%)	
Drinking water accessibility	68 (97)	35 (100)	103 (98)
Mean distance of the water source from the school compound (in meters)	18	3	13
Mean number of functional water source at school	2 (0.8)	2 (0.9)	2 (0.8)
Students use others sources when water not available at school:	N=51	N=50	N=101
Carry own house/ personal water pot	25 (49)	38 (76)	63 (62)
Other source	24 (47)	9 (18)	33 (33)
Do not drink water	2 (4)	3 (6)	5 (4.9)

4.2.5 Water safety plan at schools

Table 20: Water safety plan at schools by Upazila

Indicators	Cox's Bazar Sadar (N=6)	Kutubdia (N=8)	Chakoria (N=9)	Pekua (N=7)	Maheshkhali (N=7)	Ramu (N=9)	Ukhiya (N=7)	Teknaf (N=4)	Overall (N=57)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Water safety plan for tube well* according to WHO guidelines	1 (17)	1 (13)	1 (11)	2 (29)	0	1 (11)	3 (43)	1 (25)	10 (18)
Water safety plan for borehole according to WHO guidelines	N=4 0	N=1 0	N=1 0	N=1 0	N=1 0	N=2 0	N=6 0	N=2 0	N=17 0
Water safety plan for water storage reservoirs† according to WHO guidelines	N=1 0	N=0 -	N=0 -	N=0 -	N=0 -	N=2 0	N=2 0	N=0 -	N=6 0
Water safety plan for tap according to WHO guidelines	N=3 2 (67)	N=0 -	N=0 -	N=1 1 (100)	N=0 -	N=2 -	N=4 2 (50)	N=0 -	N=12 5 (42)

*Note: * Water safety plan for tube well: no latrine or other fecal pollution sources within 10m of water source, platform size 5"*5", no crack in the apron, not loose at the point of attachment to apron, no drainage fault allowing ponding within the 2meter of tube well †Water safety plan for water storage reservoirs: no leakage of the pipe between source and storage reservoir, no cracked or leaking in the physical infrastructure of the storage reservoir, the storage reservoir is fully covered, cover is no faulty/ clean /no damaged, cover is on insanitary, if over flow pipe is present then the screen protecting is presence or no damaged, etc.*

4.3 Drinking water at health centers

4.3.1 Drinking water access at health centers in Cox's Bazar

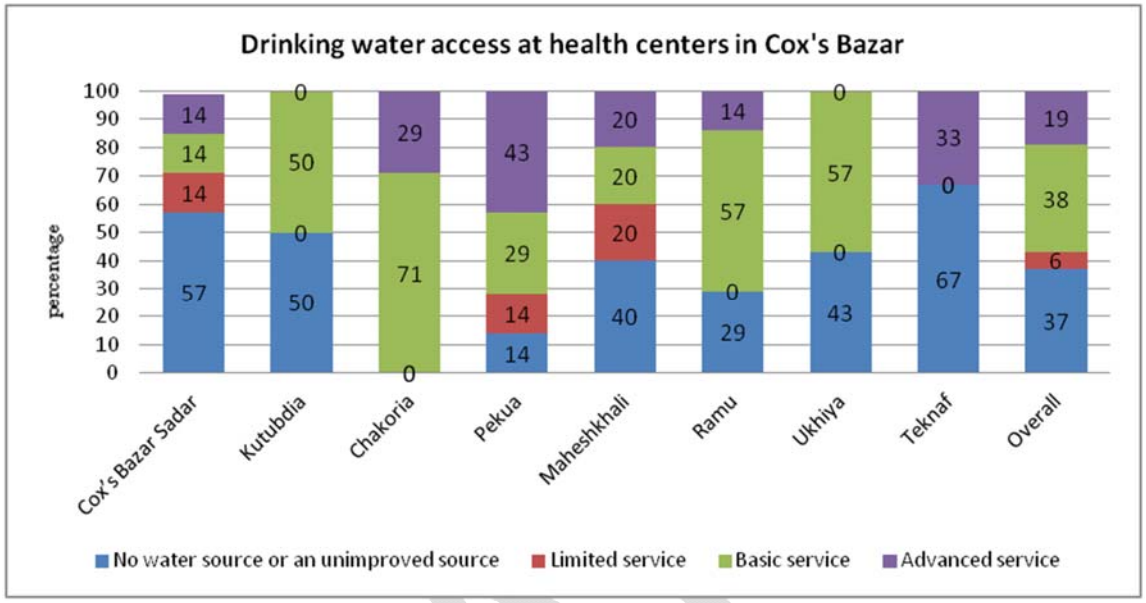


Figure 18: Drinking water access at health centers in Cox's Bazar

4.3.2 Drinking water technologies used at health centers

Table 21: Drinking water technologies used at health centers by Upazila in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Functional Source of drinking water by technology:									
Tap water in the dwelling yard/ plot	1 (14)	0 (0)	1 (14)	1 (14)	1 (20)	1 (14)	1 (14)	0 (0)	6 (12)
Bore hole/ Tube-wells	2 (29)	3 (50)	6 (86)	4 (57)	2 (40)	4 (57)	3 (43)	2 (33)	26 (50)
Protected well/ spring	0 (0)	0 (0)	0 (0)	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)
Surface water	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	2 (33)	5 (10)
No water source	2 (29)	3 (50)	0 (0)	1 (14)	2 (40)	2 (29)	2 (29)	2 (33)	14 (27)

4.4 Drinking water access at public places in Cox's Bazar

Table 22: Drinking water access in public places in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=10)	Kutubdia (N=8)	Chakoria (N=11)	Pekua (N=8)	Maheshkhali (N=10)	Ramu (N=9)	Ukhiya (N=6)	Teknaf (N=11)	Overall (N=73)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Functional water sources in public places	5 (50)	3 (38)	2 (18)	3 (38)	3 (30)	3 (33)	3 (50)	3 (27)	25 (34)
Functional water sources by category in Public place:									

Tap water in the dwelling yard/ plot	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	1 (11)	2 (33)	1 (9)	5 (7)
Bore hole/ Tube-wells	4 (40)	3 (38)	2 (18)	1 (13)	3 (30)	2 (22)	1 (17)	2 (18)	18 (25)
Protected well/ spring	0 (0)	0 (0)	0 (0)	2 (25)	0 (0)	0 (0)	0 (0)	0 (0)	2 (3)
No functional water source	5 (50)	5 (63)	9 (82)	5 (63)	7 (70)	6 (67)	3 (50)	8 (73)	48 (66)
Water source with platform:	3 (30)	3 (38)	2 (18)	1 (13)	2 (20)	2 (22)	0 (0)	2 (18)	15 (21)
Platform broken	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Water logging in the platform	0 (0)	2 (25)	0 (0)	1 (13)	0 (0)	1 (11)	0 (0)	1 (9)	5 (7)
Water source look clean†	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

†*Considering presence of cowdung, solid waste etc*

4.5 Institutional responsibilities on drinking water supply

Table 23: Institutional responsibilities on drinking water supply

Institutions	Key responsibilities
DPHE	• Department of Public Health Engineering (DPHE) is the lead agency for drinking water supply. • DPHE ensures clean water, establishing iron and arsenic removal plant. • DPHE identifies underprivileged population and unsuccessful areas, where safe water layer is not available. • DPHE allocates water sources as per demand and install at community and primary schools. • Coordinate and maintain liaison with the Upazila Administration, Upazila Parishad, Union Parishads and other relevant government and non-government organizations. • Test water quality during installation. • Assist community people/education institutions to repair water sources.
Department of Secondary Education	• Department of Secondary Education guides Head Teacher and Chairman of SMC to ensure safe drinking water for the students.
Department of Primary Education	• Department of Primary Education guides Head Teacher and Chairman of SMC to ensure safe drinking water for the students.
HED	• Health Engineering Department ensure facilities in health centers

Section 5 | Sanitation

3.1.1 Sanitation access at households by Upazila in Cox's Bazar

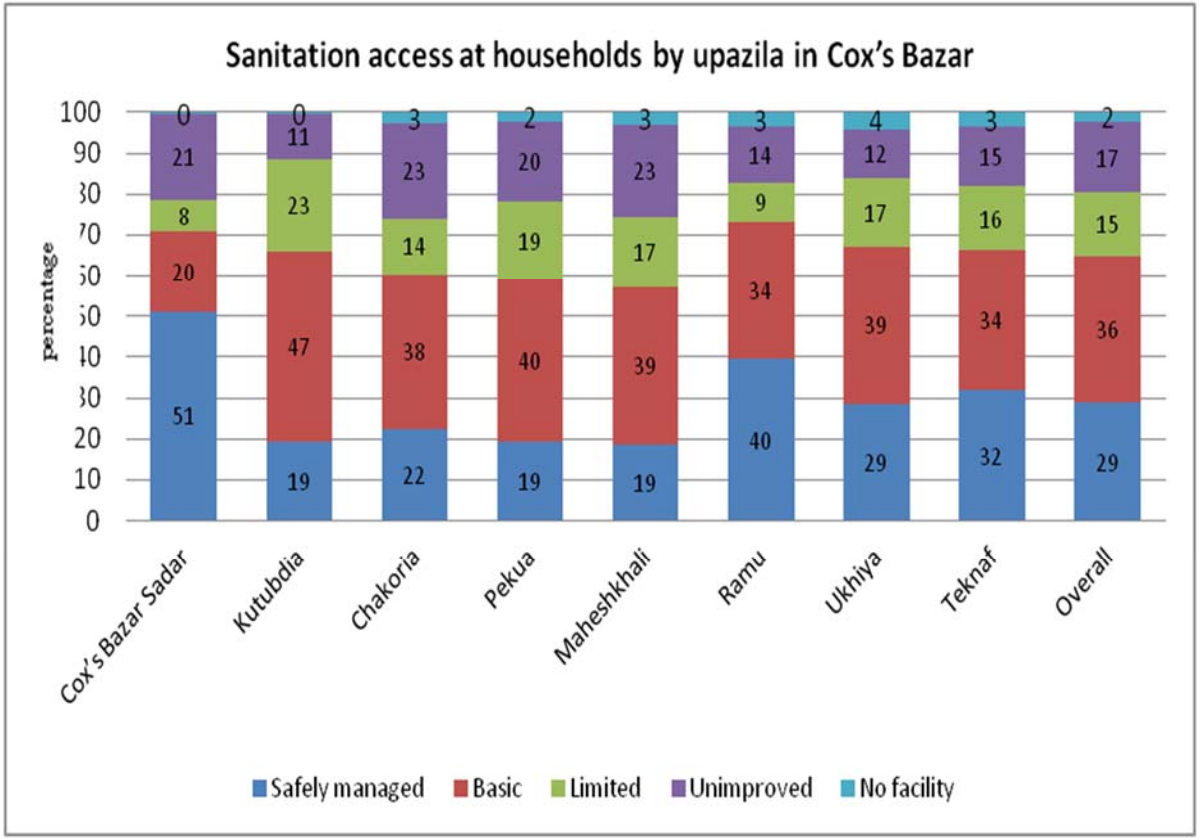


Figure 19: Sanitation access at households by Upazila in Cox's Bazar

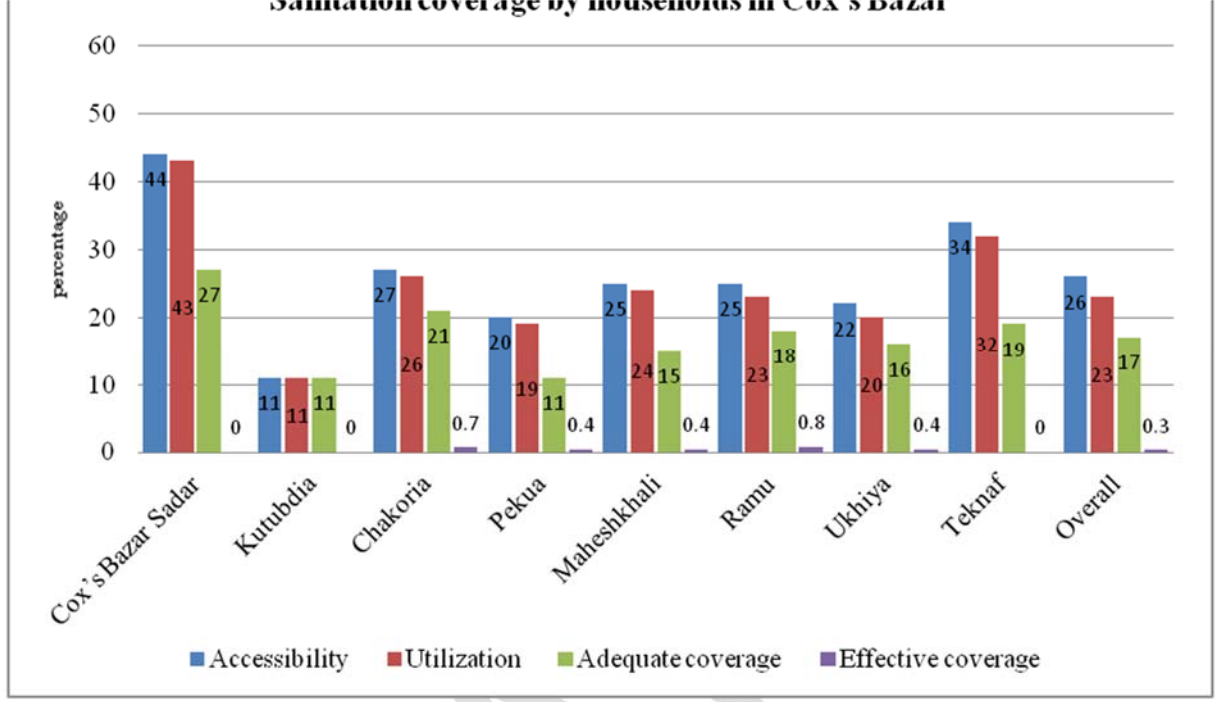


Figure 20: Sanitation coverage by households in Cox's Bazar

Improved sanitation access in Cox's Bazar: comparison with other national survey

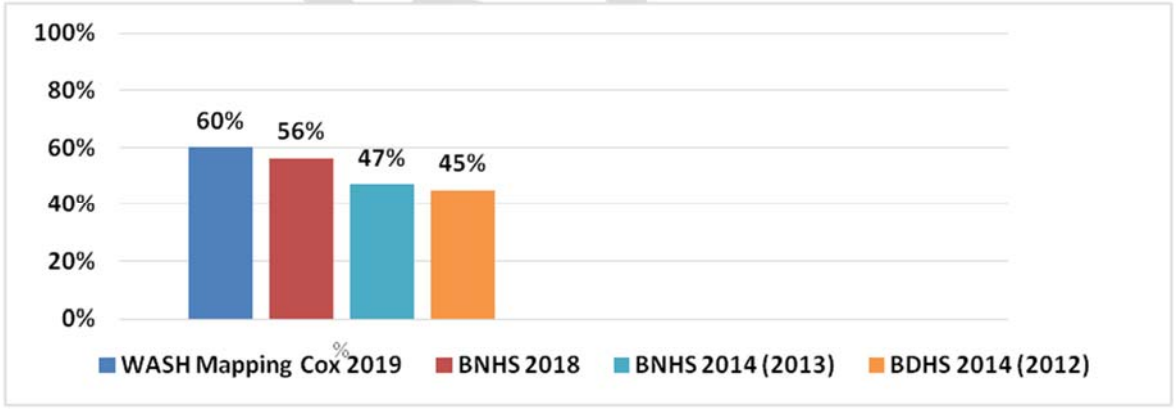


Figure 21: Percentage of household using improved sanitation facilities which were not shared in Cox's Bazar

5.1.2 Sanitation technologies and inclusiveness by Upazila

Table 24: Sanitation technologies by Upazila at household level in Cox's Bazar

Indicators	Cox's Bazar Sadar	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)

Access to latrine by technologies:									
Flush and pour flush toilets or latrines connected to septic tanks or pits	138 (51)	52 (19)	60 (22)	52 (19)	50 (19)	105 (40)	77 (29)	86 (32)	620 (29)
Ventilated Improved Pit (VIP) latrine	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	2 (0.09)
Pit latrine with slab	74 (27)	187 (69)	140 (52)	159 (59)	151 (56)	114 (43)	148 (55)	135 (50)	1108 (51)
Pit latrine without slab	4 (1)	6 (2)	11 (4)	7 (3)	17 (6)	14 (5)	13 (5)	5 (2)	77 (3.6)
Flash to pour flush toilets or latrines connected to somewhere else (drain, canal, ditch, river, etc)	52 (19)	21 (8)	46 (17)	45 (17)	40 (15)	19 (7)	16 (6)	34 (13)	273 (13)
Hanging latrine	1 (0)	3 (1)	5 (2)	1 (0)	4 (1)	3 (1)	3 (1)	1 (0)	21 (0.97)
Open defecation	1 (0)	1 (0)	8 (3)	6 (2)	8 (3)	10 (4)	11 (4)	9 (3)	54 (2.5)
Running water availability inside the toilet:	113 (42)	49 (18)	60 (22)	57 (21)	59 (22)	64 (24)	73 (27)	93 (34)	568 (26)
Flush and pour flush toilets or latrines connected to septic tanks or pits	87 (63)	14 (27)	39 (65)	19 (37)	27 (54)	50 (48)	44 (57)	50 (58)	330 (53)
Ventilated Improved Pit (VIP) latrine	-	-	-	-	-	-	1 (50)	-	1 (50)
Pit latrine with slab	7 (9)	28 (15)	11 (8)	22 (14)	15 (10)	9 (8)	22 (15)	24 (18)	138 (12)
Pit latrine without slab	0 (0)	0 (0)	0 (0)	2 (29)	2 (12)	1 (7)	2 (15)	1 (20)	8 (10)
Flash to pour flush toilets or latrines connected to somewhere else (drain, canal, ditch, river, etc)	19 (37)	7 (33)	10 (22)	13 (29)	12 (30)	4 (21)	4 (25)	16 (47)	85 (31)
Hanging latrine	0 (0)	0 (0)	0 (0)	1 (100)	2 (50)	0 (0)	0 (0)	0 (0)	3 (14)
Open defecation	0 (0)	0 (0)	0 (0)	0 (0)	1 (13)	0 (0)	0 (0)	2 (22)	3 (6)
Households use an improved toilet within 20 meters	79 (44)	18 (11)	42 (27)	29 (20)	37 (25)	44 (25)	37 (22)	55 (34)	341 (26)
Toilet within 50 meter of the household (any type of facilities)	101 (37)	40 (15)	64 (24)	44 (16)	58 (21)	69 (26)	48 (18)	71 (26)	495 (23)
Improved toilet which is inclusive†	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.4)	0 (0)	0 (0)	0 (0)	1 (0.1)

† *Inclusiveness: disabilities friendly/accessible for physically challenged*

Table 25: Sanitation accessibility for disabled people at households in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=270)	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Households with any type of disabled member	9 (3)	10 (4)	18 (7)	11 (4)	27 (10)	28 (11)	15 (6)	22 (8)	140 (7)
Wheelchair accessibility at toilet	9 (3)	10 (4)	15 (6)	7 (3)	15 (6)	28 (11)	14 (5)	21 (8)	119 (6)
Availability of handle for disabled person/pregnant woman to hold inside toilet	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.4)	1 (0.4)	1 (0.4)	1 (0.4)	4 (0.2)

5.1.3 Sanitation (defecation, feces disposal) practices at household level

Table 26: Defecation and fecal sludge disposal practices at household level in Cox's Bazar

Discarded contents openly in nearby bushes, river, pond or any other general water body	24 (24)	41 (20)	25 (18)	38 (23)	31 (18)	12 (8)	3 (2)	10 (7)	184 (15)
Household members (>5 years) defecate outside in open place (reported):									
Daily	7 (3)	12 (4)	16 (6)	18 (7)	14 (5)	20 (8)	19 (7)	14 (5)	120 (6)
At least once a week	1 (0)	2 (1)	2 (1)	0 (0)	1 (0)	4 (2)	5 (2)	8 (3)	23 (1)
Occasionally	10 (4)	15 (6)	15 (6)	13 (5)	27 (10)	25 (9)	28 (10)	17 (6)	150 (7)
Never	252 (93)	241 (89)	236 (87)	238 (88)	228 (84)	215 (81)	218 (81)	231 (86)	1,859 (86)
Household disposed child feces into a pit or toilet (reported) (N=714):	33 (38)	19 (21)	26 (29)	20 (23)	35 (34)	10 (19)	27 (29)	33 (31)	203 (28)
Usually dispose the child feces by using:									
Potty	13 (15)	6 (7)	11 (12)	9 (10)	11 (11)	3 (6)	9 (10)	13 (12)	75 (11)
Scrap material or Sani scoop/agricultural hoe	31 (36)	31 (35)	34 (37)	27 (31)	42 (40)	12 (23)	39 (41)	40 (37)	256 (36)
Hands (bare hands)/Hands and cloth/paper/leaves	45 (52)	55 (62)	56 (62)	56 (64)	59 (57)	42 (79)	51 (54)	56 (52)	420 (59)
Observed feces disposal by household members (SO) (N=32):									
Latrine	1 (20)	2 (29)	1 (17)	1 (25)	0 (0)	0 (0)	0 (0)	1 (14)	6 (19)
Open Pit/ separate pit for child or animal feces	0 (0)	0 (0)	1 (17)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	2 (6)
Bury it/Covered Pit	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	1 (3)
Undefined open site near the courtyard	3 (60)	2 (29)	0 (0)	2 (50)	0 (0)	0 (0)	2 (100)	3 (43)	12 (38)
Garbage disposal sites / dumps	0 (0)	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3.1)
Bush / forest / field	0 (0)	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	3 (9)
Nearby water (pond, canal, river)	1 (20)	1 (14)	4 (67)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	7 (22)

5.1.4 Sanitation related challenges for Cox's Bazar District

Table 27: Factors affecting the adoption of an improved toilet

Description of barriers	Cox's Bazar Sadar	Ramu	Ukhiya	Teknaf	Chakaria	Pekua	Maheshkhali	Kutubdia
Lack of access to an improved latrine	+	+	+	+	++	+	++	+
Latrines were not well designed and lack of maintenance	+	+	+	+	++	++	++	++
Unavailability of water facilities inside/near the toilet as people require water for anal cleansing as well as flash the commode/pan		+		++	+	+		
Having fear to filling up the pit quickly, so only female members are using the toilet	+			+				
Toilets are not child-friendly, as a result children up to 7 years defecate in open	+	+	++	+	++	+	+	+
Lack of awareness about the advantages of sanitary latrines	+	+	+	+	++	++	++	++
Men, who work far away from their home, prefer to defecate in their work place (salt field, farmland) to avoid time required to come back to home	+	++	+	+	+	+	+	+

Disgust feelings and lack of utility to use and maintenance of a shared toilet	+	+	+	++	++	+	+	+
Many toilets are not disaster resilient	+	+	+	+	+	+	+	+
Inadequate number of toilets in a cyclone shelter	+	+	+	+	+	+	+	+
Limited space availability to install a toilet			+	++	+	+	+	+
Convenience/physical barrier/ latrine is in distant place that determine night time open defecation	+	++	++	+	+	+	++	+
Institutional barriers, such as, lack of funding, lack of cooperation between stakeholders/government institutions, lack of maintenance of the existing facilities				+	+	++	+	

+ Low
++ Moderate
+ + + High

5.1.5 Sanitation related opportunities

- Losing dignity and social acceptance in the absence of improved toilet in the HH and also within the neighborhood worked as a big motivator for the participants
- Fecal sludge management facility should be built in Cox's Bazar for proper FSM
- Building improved toilet with community engagement should be prioritized
- Private sector should be utilized by DPHE and other stakeholders

5.2 Sanitation at school level

5.2.1 Access to sanitation at schools in Cox's Bazar by Upazila

- Schools in Kutubdia, Maheshkhali, Ukhiya, and Chakaria need improved, and single sex toilet for students

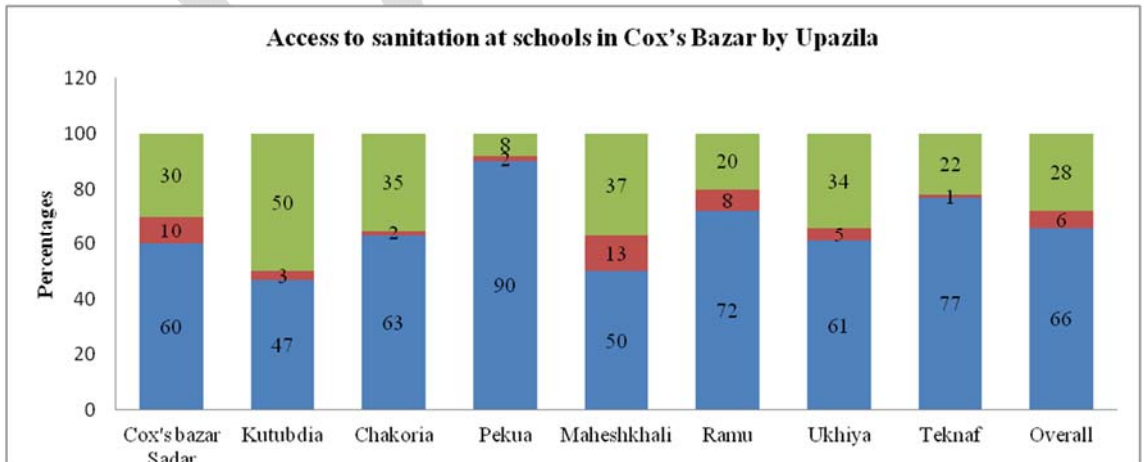


Figure 23: Sanitation facilities in a school ground

Table 28: Sanitation access by number of students by Upazila

Indicators/Number of students	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
Advanced	43314 (53)	12316(56)	48170 (65)	22433 (88)	25399 (50)	27871 (69)	20479 (65)	22857 (75)	237044 (67)
Basic	13956 (17)	3050 (14)	2063 (3)	853 (3)	9113 (18)	3660 (9)	2059 (7)	673 (2)	30762 (9)
Limited	24864 (30)	6457 (30)	23717(32)	2136 (8)	16074 (32)	8859 (22)	8829 (28)	6750 (22)	88149 (25)
No facility	0	0	0	0	0	0	0	0	0

Table 29: Sanitation technology, MHM facilities and student toilet ratio

Indicator	Cox's Bazar Sadar (N=89)	Kutubdia (N=58)	Chakoria (N=48)	Pekua (N=80)	Maheshkhali (N=52)	Ramu (N=50)	Ukhiya (N=76)	Teknaf (N=77)	Overall (N=530)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Access to latrine by technologies:									
Flush and pour flush toilets or latrines connected to septic tanks or pits	64 (72)	39 (67)	38 (79)	75 (94)	39 (75)	44 (88)	53 (70)	60 (78)	412 (78)
Pit latrine with slab	25 (28)	19 (33)	10 (21)	5 (6)	13 (25)	6 (12)	23 (30)	17 (22)	118 (22)
Toilet: student ratio	1:91	1:105	1:152	1:119	1:137	1:139	1:110	1:115	1:121
Toilet: girls student ratio	1: 44	1:54	1:56	1:60	1:76	1:82	1:63	1:48	1:58

separate entry/door	41 (46)	13 (22)	7 (15)	30 (38)	11 (21)	22 (44)	17 (22)	28 (36)	169 (32)
School has separate toilet for girls with separate entry/door with MHM facilities	4 (5)	0	0	4 (5)	0	2 (4)	8 (11)	2 (3)	20 (4)
School has separate toilet for girls with separate entry/door with MHM facilities and disability friendly facilities	0	0	0	0	0	0	0	0	0
School has separate toilet for girls with separate entry/door with MHM facilities and disability friendly facilities and disaster resilience	0	0	0	0	0	0	0	0	0
Latrine always open and accessible for all students during school hours	N=72 66 (92)	N=72 72 (100)	N=72 72 (100)	N=72 70 (97)	N=72 70 (97)	N=72 63 (88)	N=72 70 (97)	N=72 61 (85)	N=576 544 (94)

5.2.2 Running water and handwashing agents available inside schools' toilet

Table 30: Availability of water and handwashing agents inside the toilets

Indicators	Cox's Bazar Sadar (N=66)	Kutubdia (N=39)	Chakoria (N=38)	Pekua (N=75)	Maheshkhali (N=39)	Ramu (N=44)	Ukhiya (N=53)	Teknaf (N=60)	Overall (N=414)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Water is available inside the toilet	62 (94)	39 (100)	38 (100)	70 (93)	35 (90)	37 (84)	53 (100)	60 (100)	394 (95)
Running water is available inside the toilet	62 (94)	32 (82)	30 (79)	70 (93)	26 (67)	29 (66)	49 (93)	52 (87)	350 (85)
Hand cleaning agent (soap and water) available in or near latrine (after defecation)	18 (27)	7 (18)	3 (8)	13 (17)	10 (26)	7 (16)	19 (36)	26 (43)	103 (25)
Available disposal bin with lid	0	0	2 (5)	5 (7)	0	2 (5)	9 (17)	0	18 (4)

5.2.3 Access to sanitation: rural vs. urban

Table 31: Access to sanitation and toilet student ratio: rural vs. urban

Indicators	Rural (N=303) n (%)	Urban (N=227) n (%)	Overall (N=530)
Sanitation ladder:			
Advanced	195 (64)	154 (68)	349 (66)
Basic	26 (9)	4 (2)	30 (6)
Limited	82 (27)	69 (30)	151 (28)
Toilet: student ratio	1:128	1: 106	1: 121
Latrine always open and accessible for all students during school hours	359 (94)	185 (95)	544 (94)

5.3 Sanitation at health centers

5.3.1 Sanitation access at health centers in Cox's Bazar by Upazila

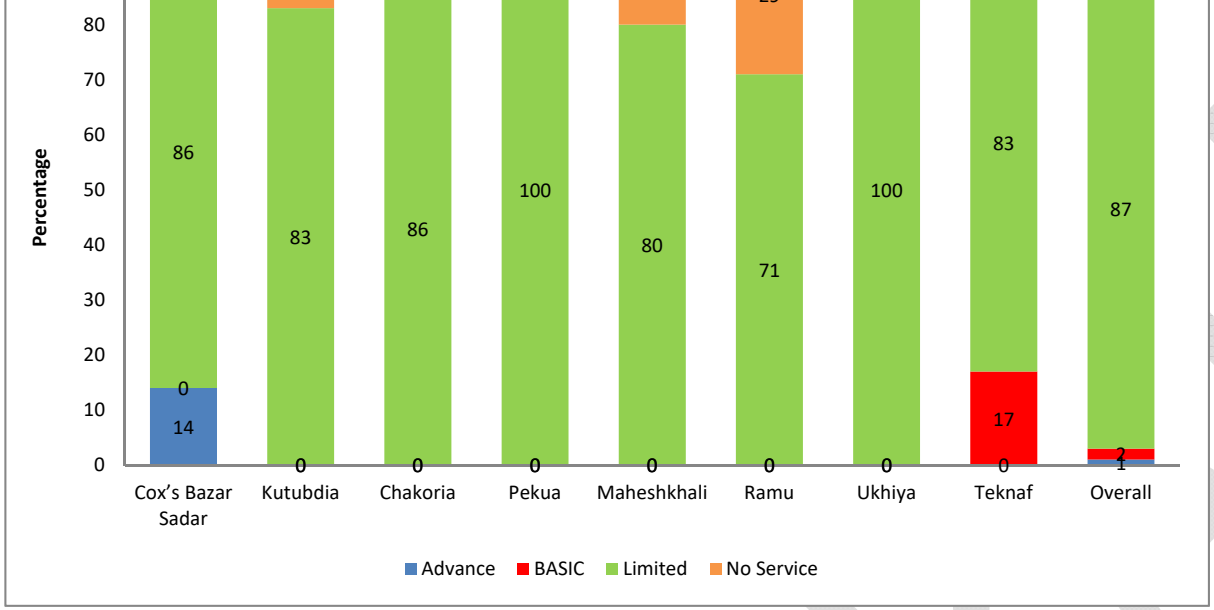


Figure 24: Sanitation access by Upazila at health centers in Cox's Bazar

Table 32: Access to sanitation at health centers by facilities, by Upazila

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Sanitation Ladder:									
Advanced	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.92)
Basic	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	1 (1.92)
Limited	6 (86)	5 (83)	6 (86)	7 (100)	4 (80)	5 (71)	7 (100)	5 (83)	45 (87)
No service	0 (0)	1 (17)	1 (14)	0 (0)	1 (20)	2 (29)	0 (0)	0 (0)	5 (10)
Sanitation at hospitals	N=5	N=3	N=5	N=4	N=2	N=2	N=4	N=4	N=29
Advanced	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)
Basic	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	1 (3)
Limited	4 (80)	3 (100)	5 (100)	4 (100)	2 (100)	1 (50)	4 (100)	3 (75)	26 (90)
No facility	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	1 (3)
Sanitation at community clinic	N=2	N=3	N=2	N=3	N=3	N=5	N=3	N=2	N=23
Advanced									
Basic									
Limited	2 (100)	2 (67)	1 (50)	3 (100)	2 (67)	4 (80)	3 (100)	2 (100)	19 (83)
No facility	0 (0)	1 (33)	1 (50)	0 (0)	1 (33)	1 (20)	0 (0)	0 (0)	4 (17)

Table 33: Access to sanitation at health centers by type, by Upazila

Indicator	Cox's	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall

patients									
Improved sanitation facilities for patients which are disable/pregnant women friendly	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	3 (43)	1 (17)	5 (10)
Improved sanitation facilities for patients which are disable/pregnant women friendly and MHM friendly	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	1 (17)	2 (3.9)
Hospitals:	(N=5)	(N=3)	(N=5)	(N=4)	(N=2)	(N=2)	(N=4)	(N=4)	(N=29)
Improved sanitation facilities for staff/doctors	5 (100)	3 (100)	5 (100)	4 (100)	2 (100)	1 (50)	4 (100)	4 (100)	28 (97)
Improved sanitation facilities for patients	5 (100)	3 (100)	5 (100)	4 (100)	2 (100)	1 (50)	4 (100)	4 (100)	28 (97)
Improved sanitation facilities for patients which are disable/pregnant women friendly	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	1 (3.5)
Improved sanitation facilities for patients which are disable/pregnant women friendly and MHM friendly	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	1 (3.5)
Community clinic:	(N=2)	(N=3)	(N=2)	(N=3)	(N=3)	(N=5)	(N=3)	(N=2)	(N=23)
Improved sanitation facilities for staff/doctors	2 (100)	2 (67)	1 (50)	3 (100)	2 (67)	4 (80)	3 (100)	2 (100)	19 (83)
Improved sanitation facilities for patients	2 (100)	2 (67)	1 (50)	3 (100)	2 (67)	4 (80)	3 (100)	2 (100)	19 (83)
Improved sanitation facilities for patients which are disable/pregnant women friendly	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	3 (100)	0 (0)	4 (17)
Improved sanitation facilities for patients which are disable/pregnant women friendly and MHM friendly	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	0 (0)	1 (4.4)

Figure 25: An unimproved toilet for household

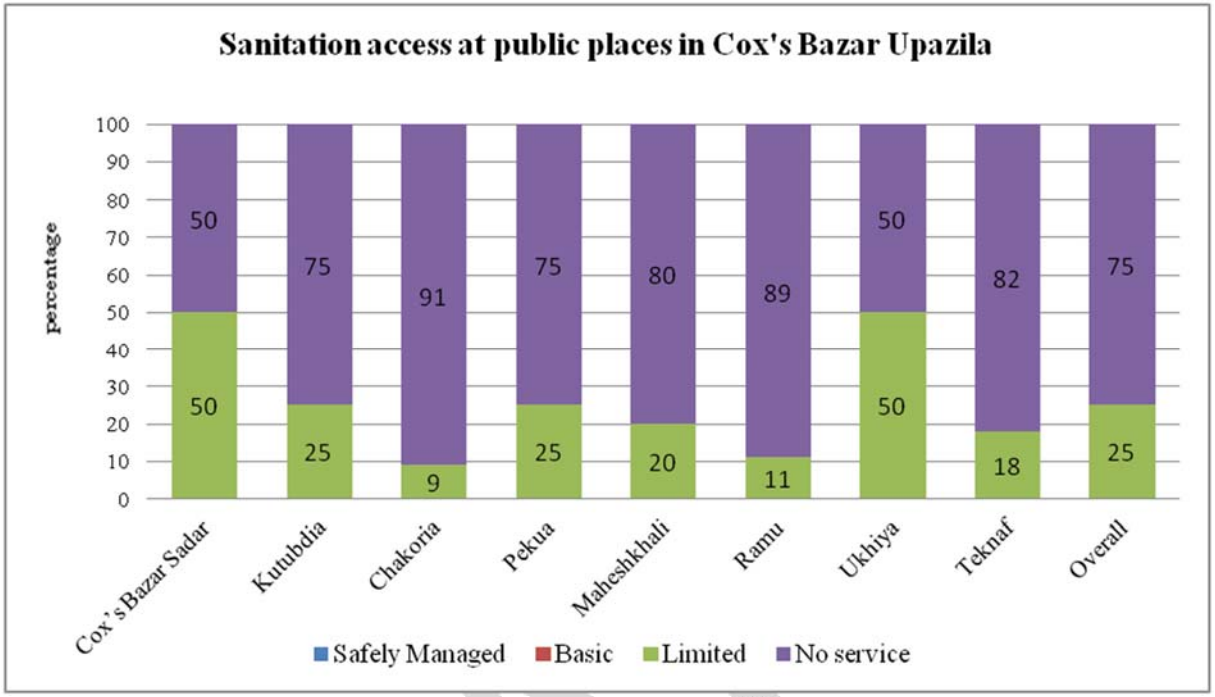


Figure 26: Sanitation access at public places in Cox's Bazar by Upazila

Table 34: Sanitation access in public places by Upazila

Indicators	Cox's Bazar Sadar (N=10)	Kutubdia (N=8)	Chakoria (N=11)	Pekua (N=8)	Maheshkhali (N=10)	Ramu (N=9)	Ukhiya (N=6)	Teknaf (N=11)	Overall (N=73)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Access to toilet in public place	7 (70)	4 (50)	2 (18)	3 (38)	3 (30)	3 (33)	3 (50)	3 (27)	28 (38)
Access to functional and improved toilet in public place	5 (50)	2 (25)	1 (9)	2 (25)	2 (20)	1 (11)	3 (50)	2 (18)	18 (25)
Sanitation Ladder:									
Advanced	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Basic	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Limited	5 (50)	2 (25)	1 (9)	2 (25)	2 (20)	1 (11)	3 (50)	2 (18)	18 (25)
No service	5 (50)	6 (75)	10 (91)	6 (75)	8 (80)	8 (89)	3 (50)	9 (82)	55 (75)
Access to toilet by category:									
Piped sewer system	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (9)	2 (3)
Septic tank	3 (30)	0 (0)	1 (9)	2 (25)	1 (10)	1 (11)	3 (50)	1 (9)	12 (16)
Pit – sanitary	1 (10)	1 (13)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	3 (4)
Flash to open sources	2 (20)	3 (38)	1 (9)	1 (13)	1 (10)	2 (22)	0 (0)	1 (9)	11 (15)
No toilet	3 (30)	4 (50)	9 (82)	5 (63)	7 (70)	6 (67)	3 (50)	8 (73)	45 (62)
Separate toilet for female	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	1 (9)	2 (3)
Presence of a door on the latrine	6 (60)	3 (38)	1 (9)	3 (38)	3 (30)	3 (33)	3 (50)	3 (27)	25 (34)
Latrine is accessible for use	6 (60)	3 (38)	1 (9)	3 (38)	3 (30)	2 (22)	2 (33)	3 (27)	23 (32)
Cleanliness of the toilet:									

				(100)		(100)			
Running water inside the latrine for using after defecation	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	1 (33)	0 (0)	4 (14)
Any odor of urine or stool	5 (71)	4 (100)	2 (100)	3 (100)	3 (100)	2 (67)	2 (67)	3 (100)	24 (86)
Wheelchair accessible toilet	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (33)	2 (7)
Handle for disable person/pregnant woman to hold inside toilet	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
MHM disposal bin located in the toilet	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)

5.5 Institutional responsibilities on sanitation

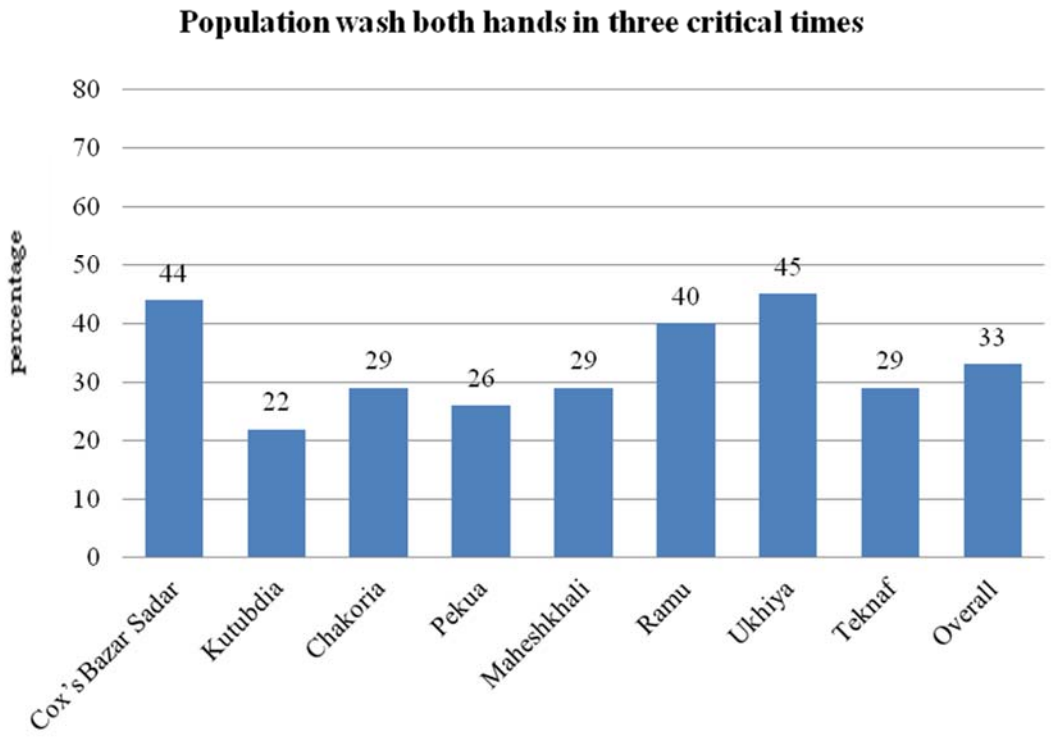
Table 35: Institutional responsibilities on sanitation

Institutions	Key responsibilities
DPHE	• Department of Public Health Engineering (DPHE) is the lead agency for sanitation. • DPHE allocate budget and construct WASH block in Primary Schools under PEDP (Primary school development program)-3 • Facilitate and organize sanitation month observation program with the participation of different organizations.
Department of Primary Education	• Monitor construction work of WASH block, toilets and water supply system in the schools. • Provide budget for WASH block repair and maintenance to the schools. • Monitoring for ensuring cleanliness of school toilets, WASH blocks and availability of soap and water by the school authority.
Department of Secondary Education	• Monitor WASH facilities to keep clean, hygienic and functional and conducts feedback session according to the identified situation. • Follow-up about the raising fund of own institution and it's use in the cleaning of WASH facilities.

Section 6 | Hygiene

6.1 Hygiene at the household level

6.1.1 Hygiene practices at the household level in Cox's Bazar



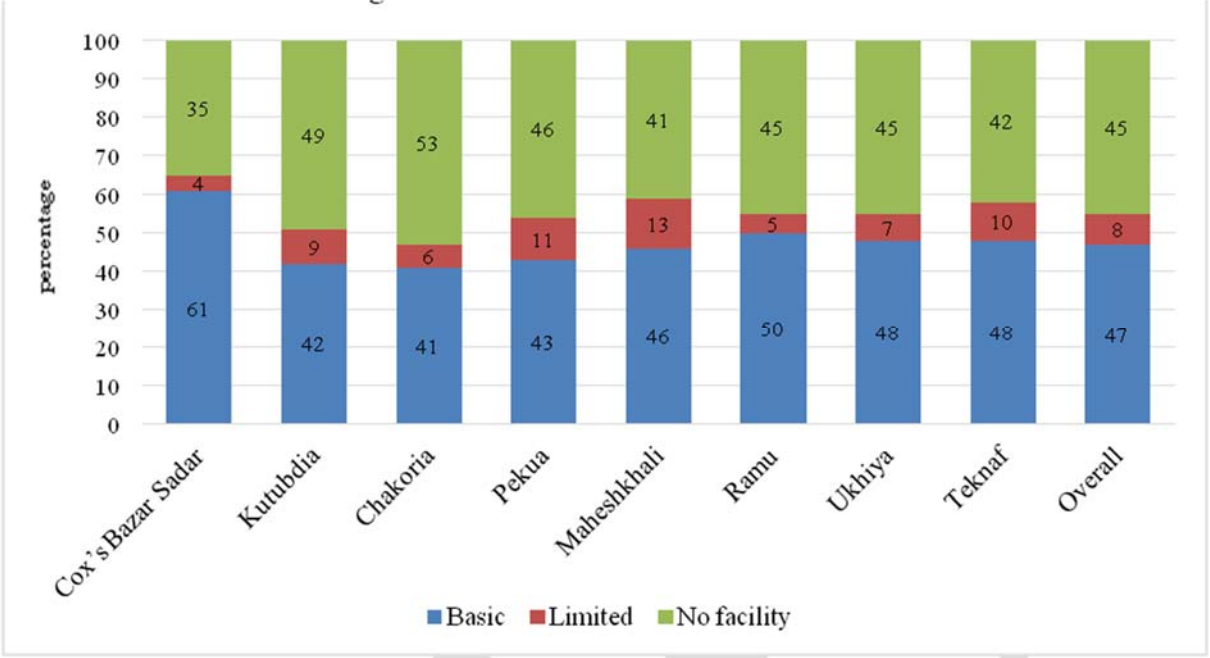


Figure 28: Handwashing facilities available at households in Cox's Bazar

6.1.3 Handwashing practices: rural vs. urban

Table 36: Handwashing practices at household level: rural vs. urban

Indicators	Rural (N=)	Urban (N=)
	n (%)	n (%)
Washed hands, all observed household members:		
Used soap or ash while washing both hands	25 (5.9)	6 (4.9)
After using toilet	7 (13)	1 (9.1)
After cleaning child anus	3 (15)	2 (33)
After contact with feces	1 (5.9)	0 (0)
Before preparing food	4 (4.3)	3 (8.8)
Before eating	7 (3.7)	0 (0)
Before infant/child feeding	3 (6.1)	0 (0)
Demonstrated hand: washed both hands with soap after defecation by respondents:	886 (52)	263 (58)
Poorest quintile	166 (43)	17 (37)
2nd	169 (46)	23 (35)
3rd	192 (53)	33 (50)
4th	181 (56)	66 (62)
Wealthiest quintile	178 (67)	124 (75)
Child hand cleanliness: nails, finger pads and palms appeared clean § (N=1,076):	195 (23)	87 (38)
Poorest quintile	24 (13)	6 (26)
2nd	33 (18)	7 (22)
3rd	32 (19)	6 (21)

4th	126 (39)	41 (39)
Wealthiest quintile	146 (55)	120 (72)
Received Hygiene and safe water use messages from:		
NGO	130 (16)	30 (12)
Government health worker	46 (3)	21 (5)
Media (TV, radio, poster, micking, fair, drama, SMS)	155 (9)	76 (17)
Relative/friends/neighbours/parents/religious leader/school/village doctor	645 (38)	206 (46)
Mentioned at least three of the following eight handwashing messages	550 (32)	160 (36)

§*No visible presence of dirt on nails, palms and finger pads*

6.1.4 KAP on menstrual hygiene

6.1.4.1 Menstrual hygiene practices among females of reproductive age at households in Cox's Bazar

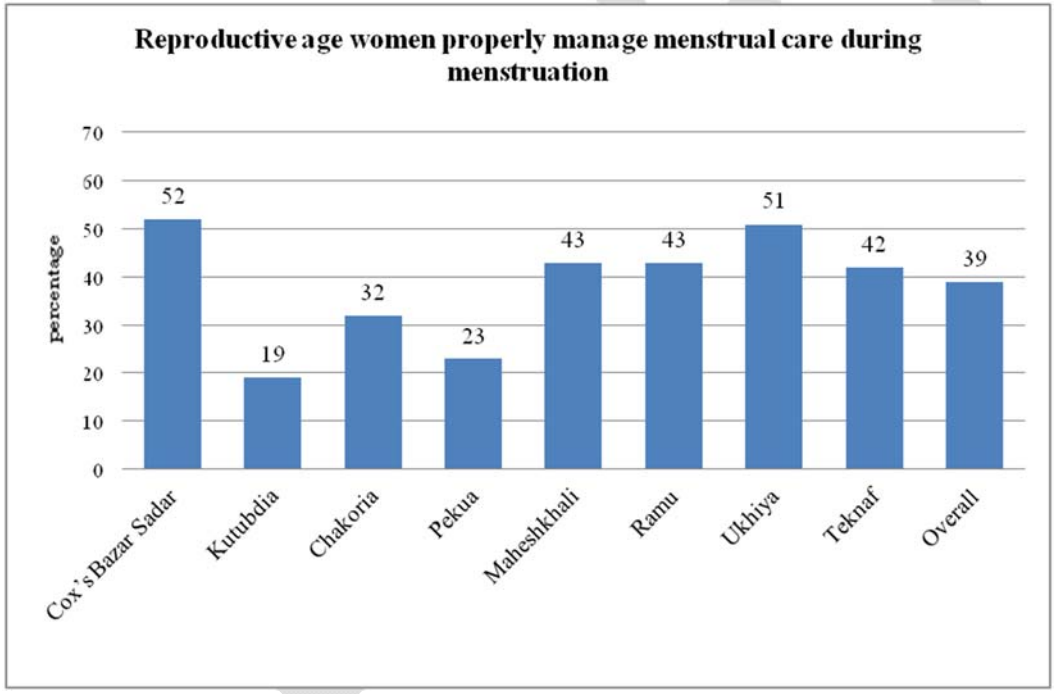


Figure 29: Percentage of women of reproductive age properly managed menstrual hygiene

Note: Properly manage menstrual care during menstruation: Use cloth and wash them properly with water and soap, dried under sunlight and store with other cloth for reuse or use pad and dispose them in dustbin

Table 37: Materials used by reproductive aged women during menstruation

	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
Adolescent girls									
Cloth	83	67	78	100	72	78	64	45	73

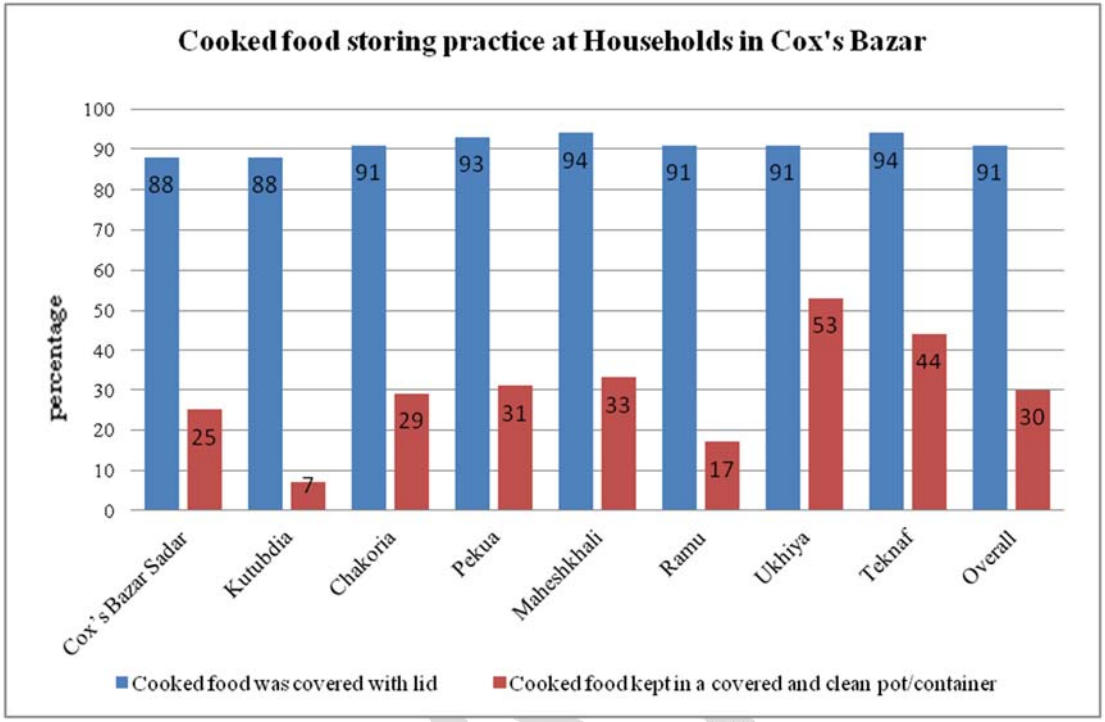


Figure 30: Cooked food storing practice at households in Cox's Bazar

Note: Cooked food kept in a covered and clean pot/container: no visible dirt inside or outside the containers that contained food

6.1.6 Hygiene related challenges

Table 38: Factors affecting the regular handwashing with soap in critical times

Description of barriers	Cox's Bazar Sadar	Ramu	Ukhiya	Teknaf	Chakaria	Pekua	Maheshkhali	Kutubdia
Lack of awareness about the benefits of handwashing with soap and public health implications	+++	++	+++	+++	+++	+++	+++	+++
Perceptions ….								
Habits of not washing hands with soap	+	++	++	+++	++	+++	+	++
Convenience or not getting soap and water together at handwashing location	+	+	+	++	++	+	+	+
Lack of affordability to buy soap regularly for handwashing	++	++	+	+	+		+	+
Lack of awareness program by union parishad or NGOs								

+ Low; ++ Moderate; + + + High

6.1.7 Hygiene related opportunities

- Lack of awareness about the benefits of handwashing with soap and public health implications could be improved by national and local level dissemination
- Habits of handwashing with soap could be improved

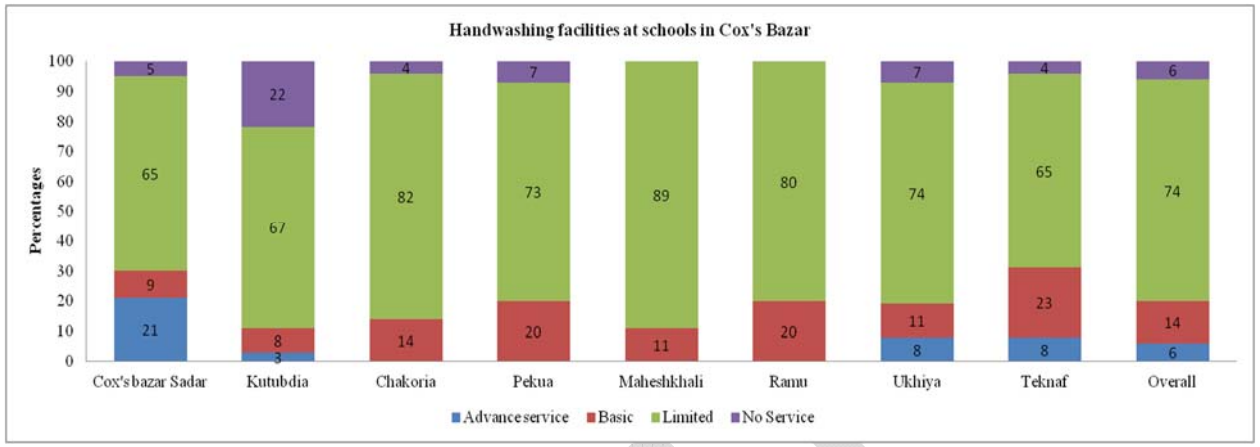


Figure 31: Access to handwashing facilities at schools in Cox's Bazar

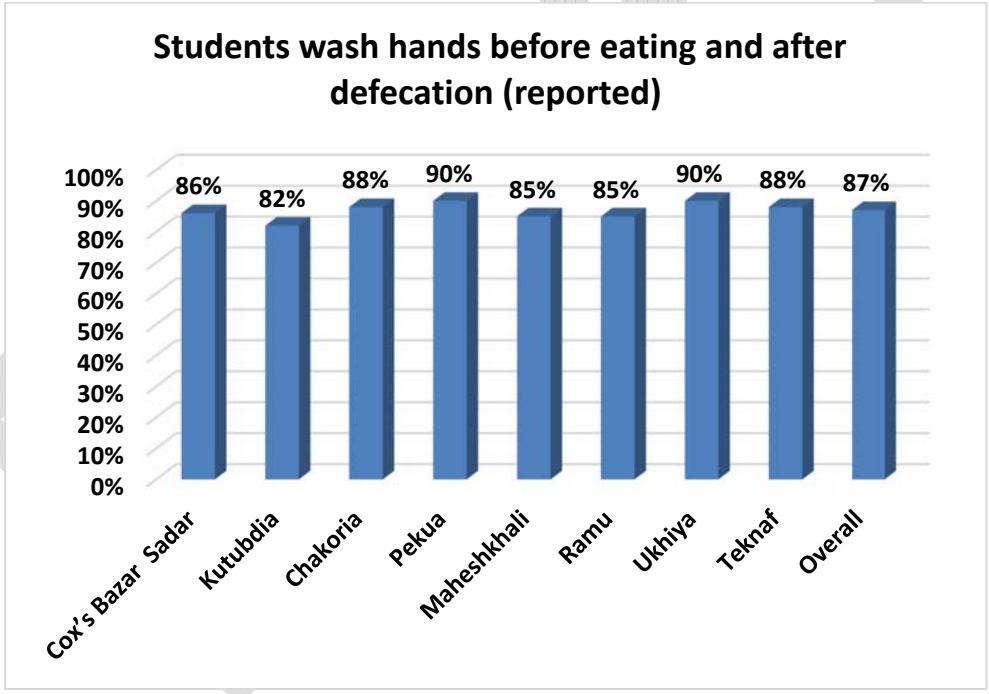


Figure 32: Students wash hands before eating and after defecation (reported)

Table 39: Handwashing facilities at schools in Cox's Bazar

Indicators	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Types of handwashing devices available at school:	N=9	N=9	N=9	N=9	N=9	N=9	N=9	N=9	N=72
Specially designed handwashing system	-	-	-	-	-	-	-	-	-

Soap usually kept:	N=19	N=7	N=7	N=9	N=11	N=6	N=38	N=16	N=113
Inside toilet facility	3 (16)	3 (42)	1 (14)	3 (33)	2 (18)	4 (67)	5 (13)	4 (25)	25 (22)
Outside the toilet	16 (84)	4 (57)	6 (86)	6 (67)	5 (46)	2 (33)	13 (34)	12 (75)	64 (57)
No specific place	0	0	0	0	4 (36)	0	20 (53)	0	24 (21)
During demonstration, students washed both their hands with soap for at least six seconds	N=70 28 (40)	N=72 14 (19)	N=71 10 (14)	N=72 8 (11)	N=72 14 (19)	N=69 12 (17)	N=70 24 (34)	N=67 34 (51)	N=563 144 (26)
Hands dried with:									
Wearing cloth	15 (21)	39 (54)	21 (30)	33 (46)	25 (35)	15 (22)	18 (26)	24 (36)	190 (34)
Dirty cloth	1 (1)	0	0	0	0	3 (4)	1 (1)	0	5 (1)
Clean cloth	4 (6)	1 (1)	2 (3)	2 (3)	4 (6)	1 (2)	0	2 (3)	16 (3)
Air dry	17 (24)	11 (15)	17 (24)	16 (22)	16 (22)	13 (19)	20 (29)	19 (28)	129 (23)
Not dry	33 (47)	21 (29)	31 (44)	21 (29)	27 (38)	38 (55)	32 (46)	22 (33)	225 (40)

6.2.2 Handwashing practices among students at schools in Cox's Bazar

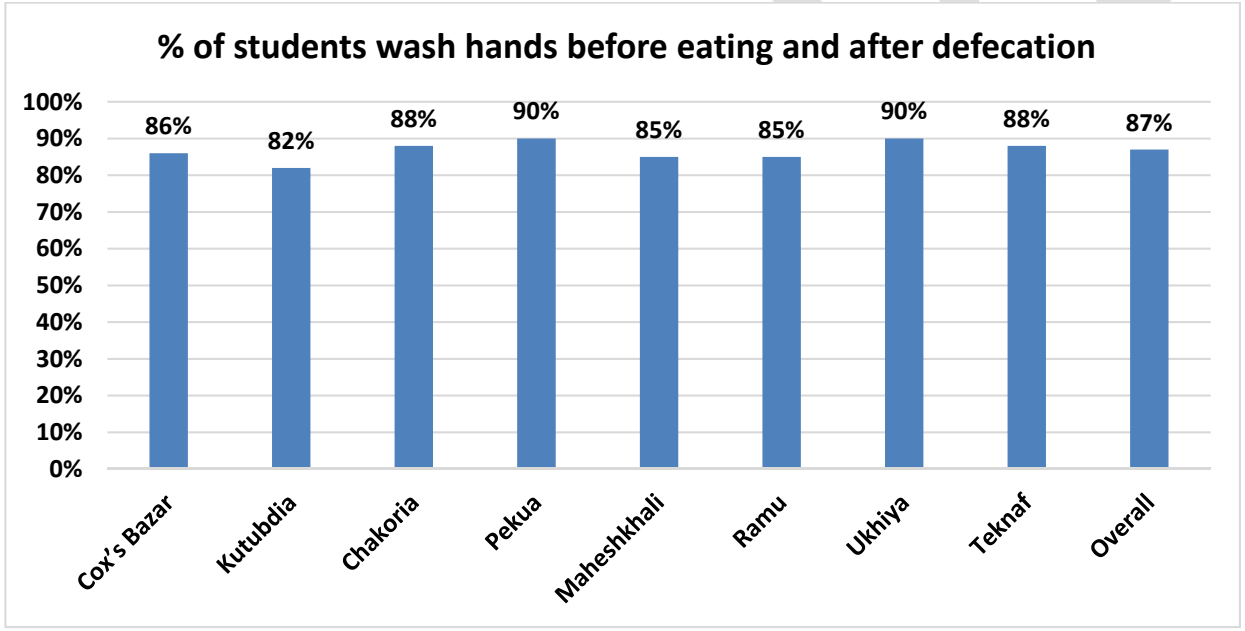


Figure 33: % of students wash hands before eating and after defecation

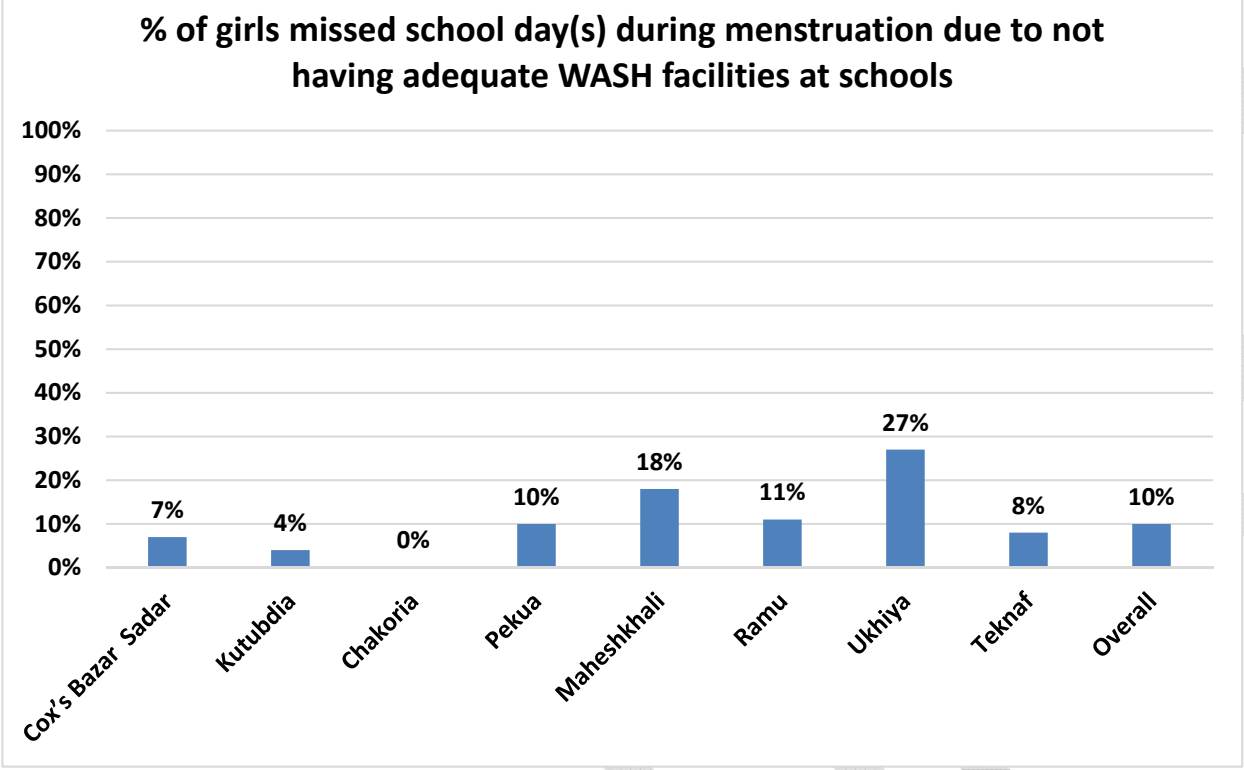


Figure 34: % of girls missed school day(s) during menstruation due to not having adequate WASH facilities at schools

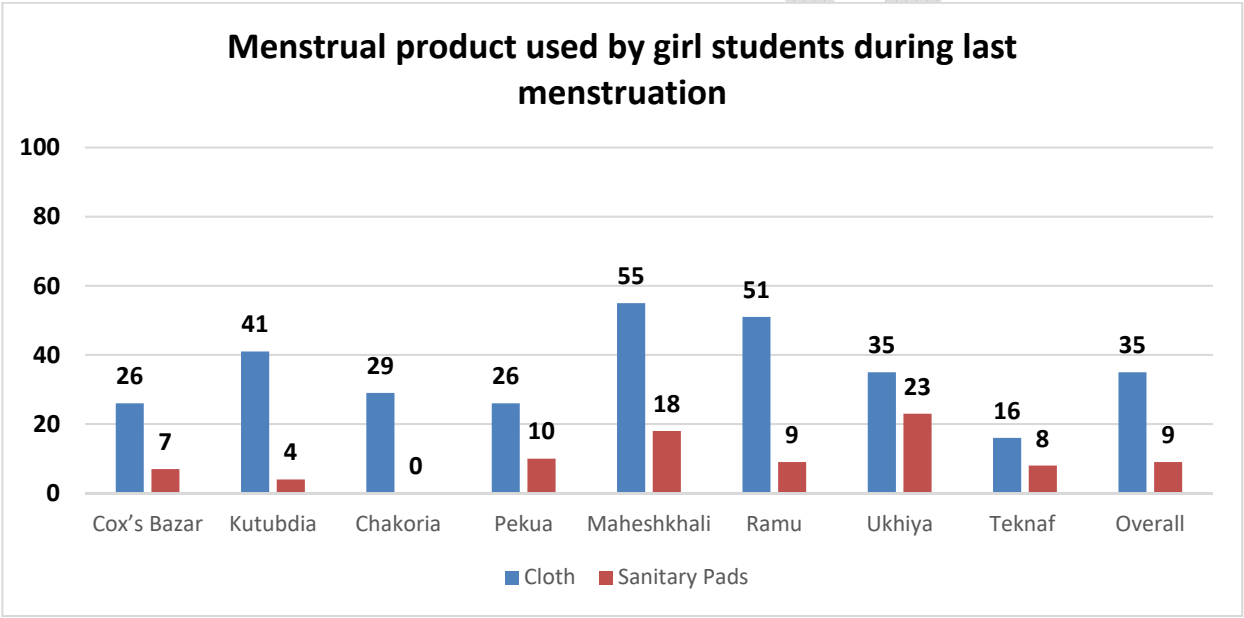


Figure 35: Menstrual product used by girl students during last menstruation

	Sadar (N=72)								
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
School has facilities to manage sudden menstruation	N=26 4 (15)	N=29 0	N=24 4 (17)	N=31 4 (13)	N=22 0	N=33 4 (12)	N=26 0	N=37 4 (11)	N=228 20 (9)
Responsible person to take care of this product	N=4	N=0	N=4	N=4	N=0	N=4	N=0	N=4	N=20
Janitor/ Aya	0	-	0	0	-	1 (25)	-	-	1 (5)
Teacher	4 (100)	-	4 (100)	4 (100)	-	3 (75)	-	4 (100)	19 (95)
Separate functional and accessible adolescent corner is available at school	N=3 0	N=0 -	N=4 0	N=4 0	N=0 -	N=4 0	N=0 -	N=0 -	N=19 0
Average days of missing school due to menstruation	3 (1.8)	3 (0.8)	3 (0.6)	2 (1.1)	2 (1.3)	2 (0.9)	2 (0.9)	3 (1.1)	3 (1.2)
Girls mentioned the reason for not going school during last menstruation	N=31	N=29	N=24	N=31	N=22	N=35	N=26	N=38	N=236
Physical complication	11 (36)	7 (24)	4 (17)	10 (32)	9 (41)	7 (20)	11 (42)	12 (32)	71 (30)
Insufficient facilities	0	1 (4)	0	2 (7)	0	1 (3)	1 (4)	2 (5)	7 (3)
Religious or other barrier	6 (19)	1 (4)	5 (21)	5 (16)	6 (27)	2 (6)	4 (15)	6 (16)	35 (15)

Note: Physical complications including sickness, feeling uncomfortable, excessive bleeding

Table 41: Menstrual hygiene knowledge, attitude and practices among girl students at schools in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=46)	Kutubdia (N=36)	Chakoria (N=36)	Pekua (N=36)	Maheshkhali (N=36)	Ramu (N=44)	Ukhiya (N=36)	Teknaf (N=40)	Overall (N=310)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Girls experienced with menstruation	31 (67)	29 (81)	24 (67)	31 (86)	22 (61)	35 (80)	26 (72)	38 (95)	236 (76)
Get information regarding menstruation:	N=21	N=19	N=14	N=16	N=19	N=23	N=15	N=23	N=150
Mother	11 (52)	14 (74)	7 (50)	9 (56)	7 (37)	16 (70)	9 (60)	13 (57)	86 (57)
Father	0	0	0	0	0	0	0	0	0
Others female	10 (48)	7 (37)	5 (36)	5 (31)	14 (74)	10 (44)	5 (33)	9 (39)	65 (43)
Friends	2 (10)	1 (5)	1 (7)	5 (31)	3 (16)	3 (13)	2 (13)	2 (9)	19 (13)
Teachers	0	1 (5)	0	0	0	2 (9)	1 (7)	0	4 (3)
Media/ Reading	1 (5)	0	1 (7)	1 (6)	1 (5)	5 (22)	3 (20)	2 (9)	14 (9)
Doctor/Nurse	0	0	0	0	0	0	0	0	0
Girls mentioned the reason for monthly bleeding:	N=31	N=29	N=24	N=31	N=22	N=35	N=26	N=38	N=236
To cleanse toxins from the body	23 (4)	26 (90)	17 (71)	27 (87)	21 (96)	27 (77)	20 (77)	31 (82)	192 (81)
To pass the old lining of the uterus from the body so a fresh lining can be formed	14 (45)	5 (17)	4 (17)	7 (23)	5 (23)	14 (40)	8 (31)	10 (26)	67 (28)
To indicate that there is a problem with the girl's reproductive organs	0	0	3 (13)	1 (3)	2 (9)	3 (9)	2 (8)	1 (3)	12 (5)
To indicate that the girl is sick	2 (7)	1 (4)	2 (8)	1 (3)	0	8 (23)	2 (8)	2 (5)	18 (8)
Girls mentioned the implications of inadequate management of menstrual hygiene	N=21	N=19	N=14	N=16	N=19	N=23	N=15	N=23	N=150
Pain lower abdomen /during urination	12 (57)	16 (84)	13 (93)	10 (63)	10 (53)	16 (70)	12 (80)	16 (70)	105 (70)
Anaemia/ tired/feel sleepy	9 (43)	11 (58)	7 (50)	9 (56)	12 (63)	13 (57)	8 (53)	13 (57)	82 (55)
Hampers the regular works	5 (24)	3 (16)	3 (21)	3 (19)	6 (32)	2 (9)	2 (13)	4 (17)	28 (19)
Itching/ Lumps and blister/ Redness and swelling	1 (5)	3 (16)	0	4 (25)	1 (5)	1 (4)	0	4 (17)	14 (9)
Girls used the menstrual product during	N=21	N=19	N=14	N=16	N=19	N=23	N=15	N=23	N=150

Girls washed their genital area thoroughly during menstruation	N=31	N=29	N=24	N=31	N=22	N=35	N=26	N=38	N=236
Once per day	0	0	0	0	0	0	0	0	0
More than one per day	30 (97)	29 (100)	24 (100)	31 (100)	21 (96)	34 (97)	25 (96)	35 (92)	229 (97)
Average changing time of their menstrual product per day	2	2	2	2	2	2	2	2	2
Girls dispose their menstrual product-									
Open (open means open, bush. drain, canal)	4 (13)	2 (7)	3 (13)	5 (16)	3 (14)	3 (9)	1 (4)	3 (8)	24 (10)
In toilet	1 (3)	1 (4)	5 (21)	4 (13)	2 (9)	0	4 (15)	5 (13)	22 (9)
Waste bin	11 (36)	8 (28)	4 (17)	6 (19)	2 (9)	6 (17)	5 (19)	4 (11)	46 (20)
Burned/incinerate/ Buried	8 (26)	6 (21)	8 (33)	10 (32)	3 (14)	13 (37)	12 (46)	23 (61)	83 (35)
Practice to clean/wash their menstrual product with-									
Soap	7 (23)	12 (41)	7 (29)	7 (23)	11 (50)	20 (57)	8 (31)	5 (13)	77 (33)
Only water	1 (3)	0	0	1 (3)	1 (5)	1 (3)	1 (4)	0	5 (2)
Don't clean	23 (74)	17 (59)	17 (71)	23 (74)	10 (46)	14 (40)	17 (65)	33 (87)	154 (87)
Cleaned their menstrual product at-									
Toilet/ bathroom	3 (38)	0	1 (14)	2 (25)	0	7 (33)	4 (44)	3 (60)	20 (24)
Public tap	0	0	0	0	0	0	0	0	0
Tube well	3 (38)	7 (58)	2 (29)	3 (38)	11 (92)	10 (48)	3 (33)	2 (40)	41 (50)
Pond/river	3 (8)	0	1 (14)	2 (25)	0 (0)	7 (33)	4 (44)	3 (60)	20 (24)
Separate place	0	0	0	0	0	0	2 (10)	0	2 (2)
Dried the menstrual product	N=8	N=6	N=4	N=7	N=11	N=19	N=8	N=5	N=68
Hidden place	8 (100)	5 (83)	3 (75)	5 (71)	7 (64)	14 (74)	4 (50)	1 (20)	47 (69)
Outside the house in sun light	0	2 (33)	1 (25)	3 (43)	4 (36)	7 (37)	4 (50)	4 (80)	25 (37)
Kept the menstrual product for repeated use									
Normally like other clothes	0	0	0	0	0	1 (5)	1 (13)	1 (20)	3 (4)
Hidden place	8 (100)	6 (100)	4 (100)	7 (100)	11 (100)	18 (95)	7 (88)	4 (80)	65 (96)
Girls reported feeling worried to see the used menstrual product during cleaning	N=8 1 (13)	N=12 3 (25)	N=7 2 (29)	N=8 4 (50)	N=12 2 (17)	N=21 5 (24)	N=9 3 (33)	N=5 2 (40)	N=82 22 (27)

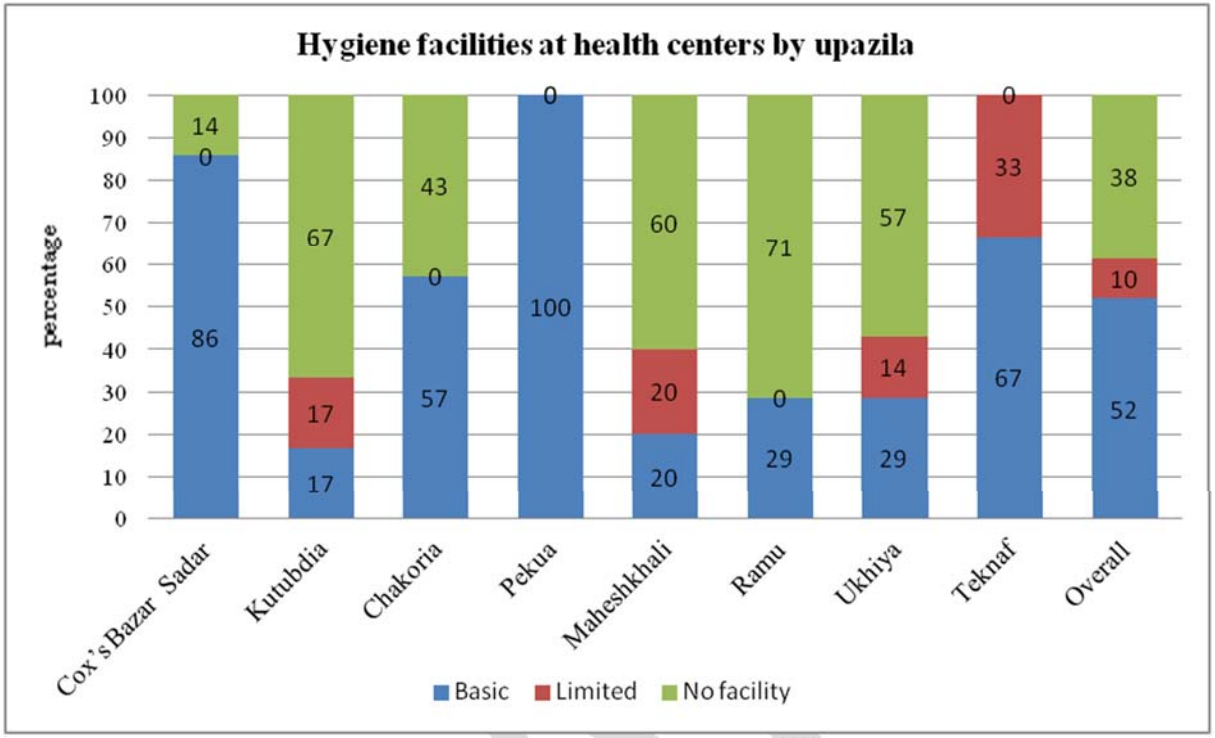


Figure 36: Hygiene facilities at health centers by Upazila

Table 42: Hygiene facilities at hospital by Upazila

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Handwashing agent provided for all									
Any bar soap	6 (86)	5 (83)	4 (57)	6 (86)	5 (100)	1 (14)	2 (29)	5 (83)	34 (65)
Any liquid soap	3 (43)	0 (0)	3 (43)	3 (43)	3 (60)	1 (14)	2 (29)	5 (83)	20 (38)
Any powder/detergent	2 (29)	0 (0)	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	2 (33)	6 (12)
Any hand sanitizer	4 (57)	2 (33)	2 (29)	2 (29)	3 (60)	1 (14)	2 (29)	3 (50)	19 (37)
Handwashing stations for Doctor/Officer after toileting	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Mean number of handwashing station	16	10	14	4	9	2	8	12	10
Location of handwashing station									
Basin beside the latrine	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Tap beside the latrine	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)
Water available at any station	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Soap available at any station	3 (100)	0 (0)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	14 (93)
Mean distance HW location from toilet	0	6	0	3	0	0	1	0	0.93
Handwashing stations for Nurse/Staff's after toileting	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	1 (50)	14 (93)
Mean number of handwashing station	4	2	2	1	3	1	2	3	2
Location of handwashing station									
Basin beside the latrine	3 (100)	1 (100)	3 (100)	1 (50)	1 (100)	1 (100)	2 (100)	1 (100)	13 (93)

toileting									
Mean number of handwashing station	-	-	-	-	-	-	-	-	-
Location of handwashing station									
No location	-	-	-	-	-	-	-	-	-
Basin beside the latrine	-	-	-	-	-	-	-	-	-
Tap beside the latrine	-	-	-	-	-	-	-	-	-
Tube well	-	-	-	-	-	-	-	-	-
Water available at any station	-	-	-	-	-	-	-	-	-
Soap available at any station	-	-	-	-	-	-	-	-	-
Mean distance HW location from toilet	-	-	-	-	-	-	-	-	-
Handwashing stations for Male Ward after toileting	3 (100)	1 (100)	1 (33)	0 (0)	0 (0)	1 (100)	2 (100)	1 (50)	9 (60)
Mean number of handwashing station	1	2	1	0	0	2	2	2	2
Location of handwashing station									
No location	0 (0)	0 (0)	2 (67)	2 (100)	1 (100)	0 (0)	0 (0)	1 (50)	6 (40)
Basin beside the latrine	3 (100)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	1 (50)	7 (47)
Tap beside the latrine	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	2 (13)
Water available at any station	2 (67)	0 (0)	1 (33)	0 (0)	0 (0)	1 (100)	2 (100)	1 (50)	7 (47)
Soap available at any station	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)
Mean distance HW location from toilet	7	7	4	0	0	4	5	7	6
Handwashing stations for Female Ward after toileting	3 (100)	0 (0)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	1 (50)	13 (87)
Mean number of handwashing station	2	0	1	1	1	2	3	2	2
Location of handwashing station									
No location	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	2 (13)
Basin beside the latrine	3 (100)	0 (0)	2 (67)	1 (50)	0 (0)	0 (0)	2 (100)	1 (50)	9 (60)
Tap beside the latrine	0 (0)	0 (0)	1 (33)	1 (50)	1 (100)	1 (100)	0 (0)	0 (0)	4 (27)
Water available at any station	3 (100)	0 (0)	3 (100)	1 (50)	1 (100)	1 (100)	2 (100)	1 (50)	12 (80)
Soap available at any station	1 (33)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	1 (50)	0 (0)	3 (20)
Mean distance HW location from toilet	2	0	4	2	6	4	5	7	4
Handwashing stations for Pediatric Ward after toileting	2 (67)	0 (0)	2 (67)	0 (0)	1 (100)	0 (0)	1 (50)	1 (50)	7 (47)
Mean number of handwashing station	1	0	2	0	2	0	4	4	2
Location of handwashing station									
No location	1 (33)	1 (100)	1 (33)	2 (100)	0 (0)	1 (100)	1 (50)	1 (50)	8 (53)
Basin beside the latrine	2 (67)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	1 (50)	1 (50)	5 (33)
Tap beside the latrine	0 (0)	0 (0)	1 (33)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	2 (13)
Water available at any station	2 (67)	0 (0)	2 (67)	0 (0)	0 (0)	0 (0)	1 (50)	1 (50)	6 (40)
Soap available at any station	1 (33)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	3 (20)
Mean distance HW location from toilet	4	0	6	0	7	0	7	7	6
Handwashing stations for For All after toileting	0 (0)	1 (100)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (20)
Mean number of handwashing station	-	2	2	-	-	-	-	-	2
Location of handwashing station									
No location	3 (100)	0 (0)	1 (33)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	12 (80)
Basin beside the latrine	0 (0)	1 (100)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (20)
Water available at any station	0 (0)	0 (0)	2 (67)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (13)

Table 43: Environmental hygiene of health facilities in Cox's Bazar

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Hospital environment spot check									
Visible in hospital wards and rooms:									
Paper or food waste	2 (40)	1 (100)	1 (33)	1 (50)	1 (100)	3 (43)	1 (50)	1 (50)	11 (48)
Sputum or betel-nut waste	0 (0)	1 (100)	1 (33)	1 (50)	1 (100)	1 (14)	0 (0)	0 (0)	5 (22)
Human or animal feces	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	0 (0)	0 (0)	1 (4)
Animals or insects, live or dead	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Visible in verandas and passages:									
Paper or food waste	2 (40)	1 (100)	2 (67)	1 (50)	1 (100)	2 (29)	1 (50)	1 (50)	11 (48)
Sputum or betel-nut waste	0 (0)	1 (100)	1 (33)	1 (50)	1 (100)	0 (0)	0 (0)	0 (0)	4 (17)
Human or animal feces	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (4)
Animals or insects, live or dead	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Visible in hospital compound (outside the building):									
Paper or food waste	2 (40)	1 (100)	3 (100)	2 (100)	1 (100)	5 (71)	2 (100)	2 (100)	18 (78)
Sputum or betel-nut waste	0 (0)	1 (100)	1 (33)	1 (50)	1 (100)	1 (14)	1 (50)	1 (50)	7 (30)
Human or animal feces	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	2 (29)	1 (50)	0 (0)	4 (17)
Medical waste-clinical needle, cotton, medicine foil, etc.	0 (0)	1 (100)	0 (0)	1 (50)	0 (0)	2 (29)	0 (0)	1 (50)	5 (22)
Animals or insects, live or dead									
Hospital Laboratory environment spot check									
Clinical needles									
Kept separately for disposal	3 (100)	(0)	1 (33)	2 (100)	1 (100)	0 (0)	0 (0)	1 (50)	8 (57)
Kept inside a bin with other disposals	0 (0)	(0)	2 (67)	0 (0)	0 (0)	1 (100)	1 (50)	1 (50)	5 (36)
Nothing seen	0 (0)	(0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	1 (7)
Clinical syringes (plastic)									
Kept separately for disposal	3 (100)	1 (33)	2 (100)	1 (100)	0 (0)	0 (0)	1 (50)	8 (57)	5 (36)
Kept inside a bin with other disposals	0 (0)	2 (67)	0 (0)	0 (0)	1 (100)	1 (50)	1 (50)	5 (36)	1 (7)
Nothing seen	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	1 (7)	8 (57)
Clinical: cotton, gauze, medicine covers									
Kept separately for disposal	1 (33)	(0)	1 (33)	2 (100)	1 (100)	0 (0)	0 (0)	1 (50)	6 (43)
Kept inside a bin with other disposals	0 (0)	(0)	2 (67)	0 (0)	0 (0)	1 (100)	2 (100)	1 (50)	6 (43)
Nothing seen	2 (67)	(0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (14)
Clinical Bottles (made of glasses)									
Kept separately for disposal	3 (100)	(0)	1 (33)	2 (100)	0 (0)	0 (0)	0 (0)	1 (50)	7 (50)
Kept inside a bin with other disposals	0 (0)	(0)	2 (67)	0 (0)	0 (0)	1 (100)	1 (50)	1 (50)	5 (36)
Nothing seen	0 (0)	(0)	0 (0)	0 (0)	1 (100)	0 (0)	1 (50)	0 (0)	2 (14)

6.4 Hygiene at public place

Table 44: Hygiene facilities at public places in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=10)	Kutubdia (N=8)	Chakoria (N=11)	Pekua (N=8)	Maheshkhali (N=10)	Ramu (N=9)	Ukhiya (N=6)	Teknaf (N=11)	Overall (N=73)

Handwashing stations with water alone	3 (38)	2 (25)	1 (5)	1 (13)	3 (30)	3 (33)	2 (33)	2 (18)	17 (25)
Soap for handwashing usually located									
Inside toilet facility Outside the toilet No specific place No permission to see	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	2 (100)
Presence of cleaning agent in the toilet	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	1 (33)	1 (33)	6 (21)
Presence of cleaning materials (brush, broom etc.) in the toilet	2 (29)	0 (0)	0 (0)	1 (33)	2 (67)	2 (67)	1 (33)	1 (33)	9 (32)
Presence of caretaker of public toilets	2 (20)	1 (13)	0 (0)	0 (0)	1 (10)	2 (22)	2 (33)	3 (27)	11 (15)
Responsible for ensuring that the toilet is regularly cleaned									
Currently not found any person/organization for regular cleaning	8 (80)	7 (88)	11 (100)	8 (100)	9 (90)	7 (78)	4 (67)	8 (73)	62 (85)
Residents rotate responsibility to clean	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
Residents pay a caretaker to clean	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	2 (22)	0 (0)	0 (0)	3 (4)
Landlord or compound manager pays a caretaker to clean	0 (0)	1 (13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (9)	2 (3)
Maintenance committee/ CBO selects a rotation of users to clean	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (17)	0 (0)	1 (1)
Maintenance committee collects funds to pay a caretaker to clean	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	1 (17)	2 (18)	4 (5)
Toilet last cleaned									
Today	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	2 (67)	0 (0)	1 (33)	4 (14)
1-3 days ago	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	0 (0)	4 (14)
4-6 days ago	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (4)
More than 1 week ago	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (4)
Never cleaned	5 (71)	4 (100)	2 (100)	3 (100)	2 (67)	1 (33)	1 (33)	0 (0)	18 (64)
Frequence of the toilet cleaning									
Daily (or every weekday)	1 (14)	0 (0)	0 (0)	0 (0)	1 (33)	2 (67)	0 (0)	1 (33)	5 (18)
At least 2-3 times per week	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (67)	0 (0)	3 (11)
Once per week	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (4)
Less than once per week	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	1 (4)
A waste bin/ an arrangement to dispose waste in or used for latrine	1 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33)	2 (7)

6.5 Institutional responsibilities on hygiene

Table 45: Institutional responsibilities on hygiene in Cox's Bazar

Institutions	Key responsibilities
Department of Primary Education	• Department of Primary Education (i.e. Upazila Education Officers and Upazila Assistant Education Officers) guide Head Teacher and SMC about WASH activities along with other hygiene issues. • Support to organize day observations event at schools.
Department of Secondary Education Office	• Ensure disseminating WASH related message during assembly session. • Ensure cleaning of school premises every Thursday at every school. • WASH issues are discussed during meetings of school management committees.
Department of Health	• Sanitation Inspectors motivates community people about hygiene and conducts regular meeting on hygiene issues at the growth centers. • Monitor waste management at growth centers, slaughterhouse and fish markets. In addition, they monitor food safety and hygiene of food court and food shops. • Health staff supposed to discuss WASH issues during routine Expanded Program on Immunization (EPI)

Section 7 | WASH vulnerabilities

7.1 Disaster preparedness by Upazila

7.1.1 Disaster preparedness at household level

Table 46: Disaster preparedness of drinking water technologies/sources at household level in Cox's Bazar

Indicator	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
Households use tube well as drinking water source	256 (95)	250 (93)	261 (97)	251 (93)	259 (96)	262 (99)	239 (89)	192 (71)	1,970 (91)
Drinking water source (Tub well baseplate) Submerged during last flood by category:									
Shallow tube well (N=1,247)	20 (13)	67 (47)	89 (56)	17 (27)	27 (16)	95 (50)	29 (15)	11 (6)	355 (28)
Deep tube well (N=723)	21 (20)	24 (22)	62 (61)	88 (47)	37 (43)	51 (72)	12 (26)	4 (20)	299 (41)
Tub well baseplate raised form above the flood line:									
Shallow tube well	85 (56)	73 (51)	68 (43)	45 (71)	121 (70)	67 (35)	160 (83)	155 (90)	774 (62)
Deep tube well	67 (65)	83 (77)	36 (36)	96 (51)	44 (51)	11 (15)	28 (61)	13 (65)	378 (52)

Table 47: Disaster preparedness of sanitation technologies at household level in Cox's Bazar

Indicator	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
Toilet raised above the highest flood line during last flood	108 (40)	107 (40)	74 (27)	90 (33)	109 (40)	60 (23)	140 (52)	148 (55)	836 (39)

latrines connected to septic tanks or pits						(37)			(18)
Pit latrine with slab	20 (27)	47 (25)	59 (42)	49 (31)	21 (14)	66 (58)	23 (16)	10 (7)	295 (27)

7.1.2 Disaster preparedness at school level

Table 48: Disaster preparedness of drinking water technologies at schools in Cox's Bazar

Indicator	Cox's Bazar Sadar (N=12)	Kutubdia (N=9)	Chakoria (N=14)	Pekua (N=17)	Maheshkhali (N=12)	Ramu (N=16)	Ukhiya (N=13)	Teknaf (N=10)	Overall (N=103)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Drinking water source (Tub well base-plate) submerged during last flood by category:	N=12 1 (8)	N=9 1 (11)	N=14 6 (43)	N=17 6 (35)	N=12 3 (25)	N=16 8 (50)	N=13 2 (15)	N=10 0	N=103 27 (26)
Shallow tube well	0	1 (100)	1 (17)	0	0	5 (62)	1 (50)	-	8 (30)
Deep tube well	0	0	5 (83)	6 (100)	0	3 (38)	0	-	14 (52)
Piped water into school	1 (100)	0	0	0	0	0	1 (50)	-	2 (7)
Water from protected spring	0	0	0	0	3 (100)	0	0	-	3 (11)
Tub well base-plate/platform raised form above the flood line:	N=12 0	N=7 1 (14)	N=12 8 (67)	N=17 10 (59)	N=12 3 (25)	N=16 9 (56)	N=11 2 (18)	N=9 0	N=96 33 (34)
Shallow tube well	-	1 (100)	3 (38)	2 (20)	0	6 (67)	1 (50)	-	13 (39)
Deep tube well	-	0	5 (63)	8 (80)	0	3 (33)	0	-	16 (49)
Piped water into school	-	0	0	0	0	0	1 (50)	-	1 (3)
Water from protected spring	-	0	0	0	3 (100)	0	0	-	3 (9)

Table 49: Disaster preparedness of sanitation technologies at schools in Cox's Bazar

Indicator	Cox's Bazar Sadar (N=66)	Kutubdia (N=39)	Chakoria (N=38)	Pekua (N=75)	Maheshkhali (N=39)	Ramu (N=44)	Ukhiya (N=53)	Teknaf (N=60)	Overall (N=414)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Toilet raised above the highest flood line	66 (100)	338 (97)	24 (63)	69 (92)	32 (82)	30 (68)	46 (87)	59 (98)	364 (88)

7.1.3 Disaster preparedness at health centers

Table 50: Disaster preparedness of drinking water technologies at health centers in Cox's Bazar

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
Tubewell submerged during the flood (Up to base-plate)	0 (0)	0 (0)	3 (43)	1 (14)	0 (0)	2 (29)	0 (0)	0 (0)	6 (12)
Drinking water source (Tub well base-plate) Submerged during last flood by category:									
Bore hole/ Tube-wells (N=25)	0 (0)	0 (0)	3 (50)	0 (0)	0 (0)	2 (50)	0 (0)	0 (0)	5 (20)
Protected well/ spring (N=1)	(0)	(0)	(0)	1 (100)	(0)	(0)	(0)	(0)	1 (100)

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
Toilet raised above the highest flood line	4 (67)	4 (67)	4 (57)	7 (100)	4 (80)	5 (71)	7 (100)	6 (100)	41 (80)
Flush and pour flush toilets or latrines connected to septic tanks or pits (N=35)	3 (60)	3 (75)	4 (80)	5 (100)	3 (100)	3 (100)	5 (100)	5 (100)	31 (89)
Pour flush toilets or latrines connected to pits (N=12)	1 (100)	1 (100)	0 (0)	2 (100)	1 (100)	2 (67)	2 (100)	1 (100)	10 (83)
Pour-flush toilet connected to open sources (N=1)	-	-	0(0)	-	-	-	-	-	0(0)

7.1.4 Disaster preparedness in public places

Table 52: Disaster preparedness of drinking water technologies at public places in Cox's Bazar

Indicators	Cox's Bazar Sadar (N=10)	Kutubdia (N=8)	Chakoria (N=11)	Pekua (N=8)	Maheshkhali (N=10)	Ramu (N=9)	Ukhiya (N=6)	Teknaf (N=11)	Overall (N=73)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Water source (Tub well base-plate) Submerged during last flood by category									
Shallowtube well/tara pump	0 (0)	-	1 (100)	-	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)
Deep tube well/tara pump	0 (0)	-	0 (0)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tub well base-plate raised form above the floodline									
Shallow tube well/tara pump	3 (75)	-	0 (0)	-	2 (100)	0 (0)	1 (100)	1 (100)	7 (70)
Deep tube well/tara pump	3 (100)	-	0 (0)	-	1 (100)	1 (100)	1 (100)	1 (100)	7 (88)
Toilet raised above the highest flood line	5 (71)	4 (100)	2 (100)	1 (33)	3 (100)	1 (33)	3 (100)	3 (100)	22 (79)
No water seal in Latrine	4 (57)	1 (25)	1 (50)	2 (67)	1 (33)	2 (67)	1 (33)	1 (33)	13 (46)

7.2 WASH vulnerabilities by Upazila

Table 53: WASH related vulnerability scores at household level in Cox's Bazar

Upazila Name	Water					Sanitation					Hygiene					WASH related vulnerability				
	mean	min	max	sd	p50	mean	min	max	sd	p50	mean	min	max	sd	p50	mean	min	max	sd	p50
Cox's Bazar Sadar	14.1	8	19	±2.2	14	9.4	8	17	±1.8	9	4.3	2	8	±1.5	4	27.9	19	40	±3.8	28
Kutubdia	16.9	11	22	±2.4	17	9.7	8	17	±1.5	9	4.9	2	8	±1.5	5	31.5	22	40	±3.7	32
Chakoria	15.4	8	19	±2.6	16	10.0	8	17	±2.0	9	4.7	2	8	±1.7	5	30.2	19	44	±4.8	30
Pekua	16.6	10	22	±2.2	17	9.9	8	17	±1.7	9	4.9	2	8	±1.6	5	31.4	21	44	±3.9	32
Maheshkhali	15.4	8	22	±2.7	16	10.2	7	19	±2.1	10	4.8	2	8	±1.5	5	30.3	20	44	±4.7	30
Ramu	13.9	7	22	±2.5	13	9.7	5	19	±2.2	9	4.5	2	8	±1.5	4	28.2	18	46	±4.2	28
Ukhiya	15.5	8	23	±2.8	16	9.9	6	17	±2.2	9	4.4	2	8	±1.5	4	29.9	19	45	±4.5	30
Teknaf	16.1	8	23	±3.1	16	9.8	5	20	±2.1	9	4.7	2	8	±1.6	4	30.5	18	47	±4.6	31
	15.5	7	23	±2.8	16	9.8	5	20	±2.0	9	4.6	2	8	±1.6	5	30.0	18	47	±4.5	30

households by Upazila

Upazila Name	Disasters					Accessibility and Governance					Compounding factors vulnerability					Total WASH vulnerability					Priority Upazila
	mean	min	max	sd	p50	mean	min	max	sd	p50	mean	min	max	sd	p50	mean	min	max	sd	p50	
Cox's Bazar Sadar	11.2	5	20	±3.7	11	10.0	7	16	±2.1	10	21.2	12	33	±4.5	21	49.1	33	68	±6.5	49	8
Kutubdia	12.5	8	20	±5.2	8	11.8	7	16	±2.4	12	24.3	15	34	±5.6	24	55.8	38	73	±7.5	56	3
Chakoria	15.0	8	20	±5.1	14	10.3	4	16	±2.0	10	25.3	15	36	±5.4	27	55.5	36	76	±8.5	56	2
Pekua	13.5	8	20	±5.1	14	11.3	6	16	±1.8	12	24.8	15	35	±5.5	24	56.2	39	76	±7.5	57	1
Maheshkhali	11.8	5	20	±4.8	8	11.0	7	16	±2.2	10	22.7	13	36	±5.6	21	53.1	36	76	±8.6	52	5
Ramu	14.8	5	20	±4.4	14	10.1	4	15	±1.9	10	25.0	12	33	±5.0	26	53.2	34	72	±7.2	53	4
Ukhiya	10.5	5	20	±4.1	8	10.6	7	15	±1.9	10	21.1	12	34	±4.5	20	51.0	36	75	±7.0	51	6
Teknaf	10.0	5	20	±2.9	8	11.2	4	16	±2.3	11	21.2	13	35	±4.0	21	51.8	33	77	±7.2	51	7
Overall	12.4	5	20	±4.8	11	10.8	4	16	±2.2	10	23.2	12	36	±5.3	22	53.2	33	77	±7.9	53	

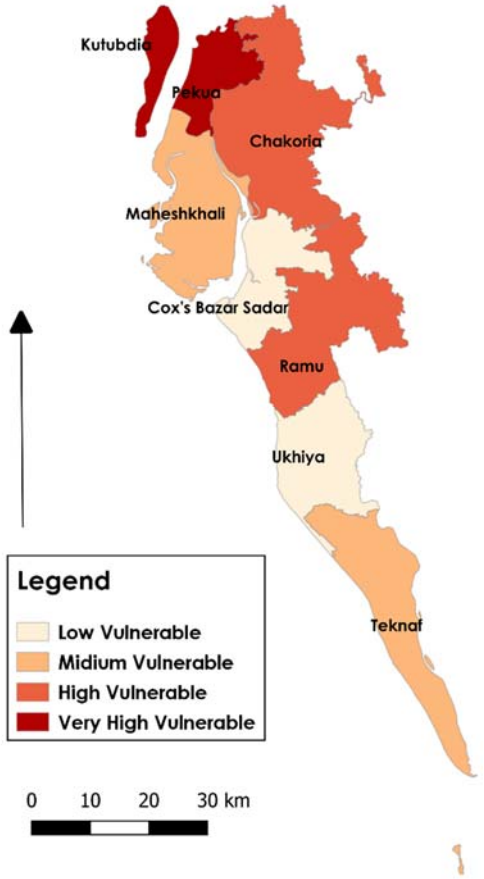


Figure 37: Total WASH vulnerabilities at household level by Upazila in Cox's Bazar District

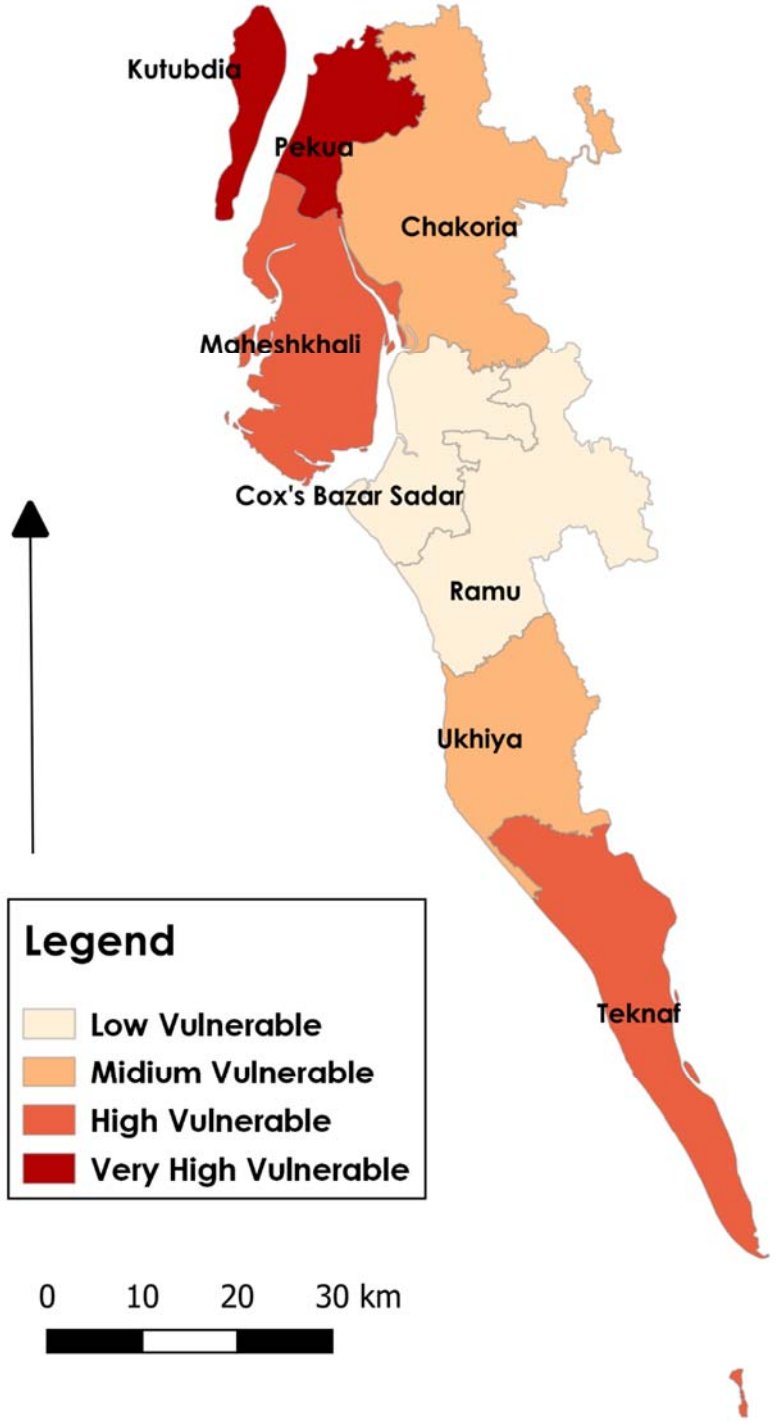


Figure 38 Water related vulnerabilities

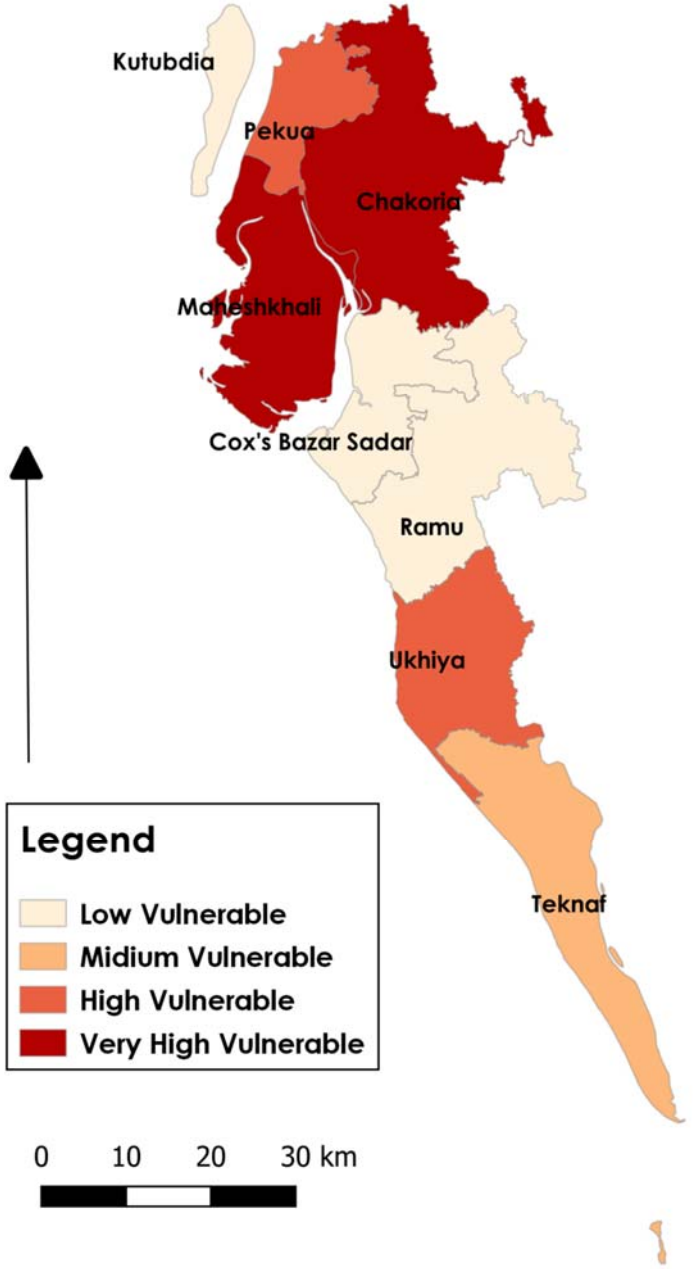


Figure 39 Sanitation related vulnerabilities

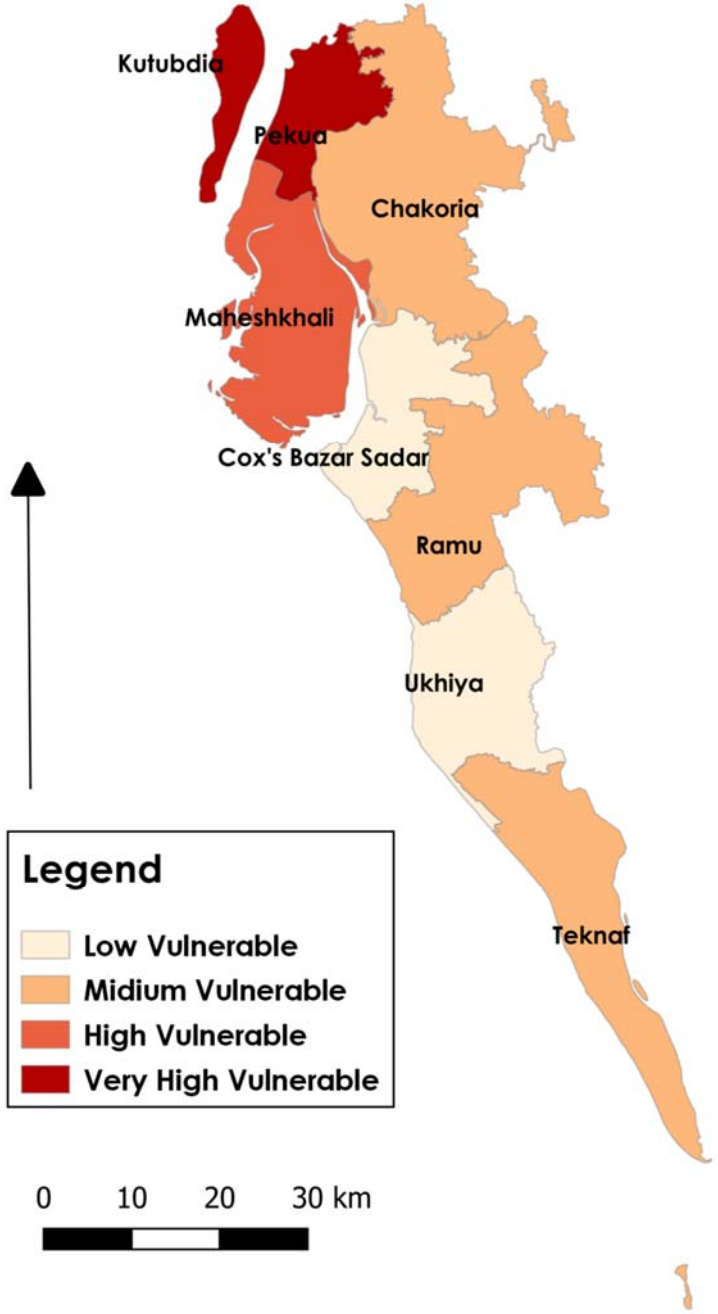


Figure 40 Hygiene related vulnerabilities

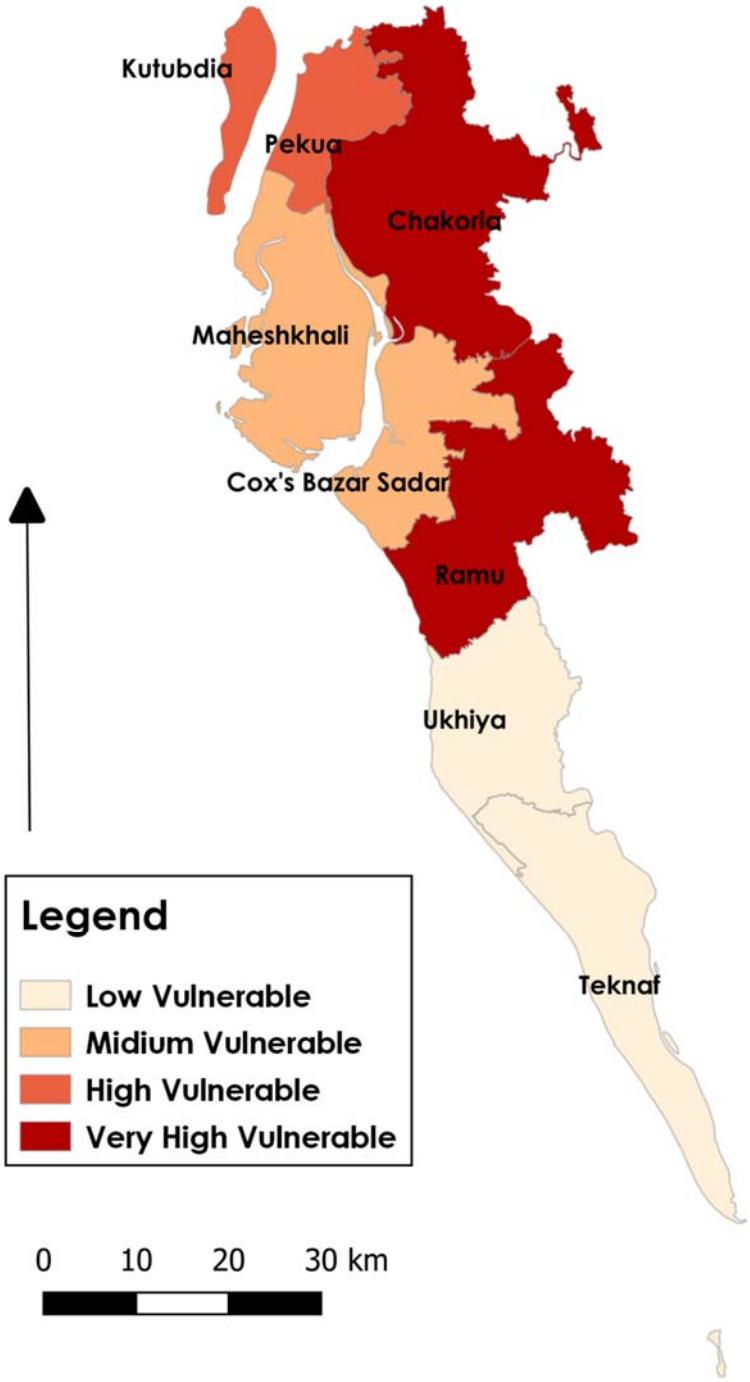


Figure 41 Disater related vulnerabilities

Section 8 | Institutional capacity for WASH services

8.1 Introduction to institutional capacity assessment

Capacity is the power of something (a system, an organization, a person) to perform or to produce. A capacity assessment is usually the first step in a capacity development program. To address the issues under an institutional assessment, need to review full organizational structure, their plan, budget, procedure, reporting, documentation etc that involves elaborate procedures. Considering time and study design limitation, we assessed the capacity at the individual level and local authorities (as part of the organizational level) in providing WASH services.

8.2 Analysis of the institutional capacity of the local authorities (Upazila level) related with WASH

Bangladesh has a number of national policies, plans and strategies related to water supply, sanitation and hygiene (Box 8.1), which are deemed adequate in providing WASH services at the sub-national level.

- Majority of the participants of the different organizations including local government and private sectors were not aware about the national policies, strategies and frameworks related with water and sanitation. Mainly they work as per instruction of higher authorities and suggestion of Upazila Administration and different local level committees.
- Consequently, other WASH service providers and community leaders had lack of knowledge on the national WASH policies, strategies and regulatory frameworks and lack of implications of these as well.

- Local level WASH service providers including private sectors have to commit to reach the SDG target 6.2 through which safely managed or advanced water and safely managed or advanced sanitation facilities are to be ensured. In this regard, the service providers and respective officials must have clear knowledge on policies and strategies to ensure peoples' rights in WASH and provide quality service for the target people as per policies and strategies as mentioned in the box.

- New or an updated water and sanitation strategy along with an implementation guideline are required to achieve safely managed or advanced water and sanitation in line with the SDG target 6.2.

- In order for successful installation of tube wells and other water sources, an implementation guideline is required for WASH service providers, including the private mechanics and entrepreneurs. An implementation guideline is also required for the hard to reach areas.

- Strategy on Operations and Monitoring (O&M) for sustainability of the WASH facilities at public places, schools and community level also needed.

Box 8.1: WASH policies and strategies

- The National Policy for Safe Water Supply and Sanitation 1998 was to improve public health and the environment.
- The National Sanitation Strategy 2005 was intend to reduce child mortality and ensure environmental sustainability.
- The Pro-Poor Strategy for Water and Sanitation, 2005 to reduce poverty by 'putting the last one first'.
- The Sector Development Plan 2011-25 is to achieve a framework for planning, implementing, coordinating and monitoring all activities in the water supply and sanitation (WSS) sector.
- The National Strategy for Water and Sanitation in Hard to Reach (HtR) Areas of Bangladesh 2012 is defined HtR, developed criteria and strategies for improving WSS services in HtR areas.
- The National Hygiene Promotion Strategy for WSS sector in Bangladesh 2012 to promote hygiene and practices to mitigate water and sanitation-related diseases.
- The National Cost-Sharing Strategy for Water Supply and Sanitation in Bangladesh 2012 aimed to provide water supply and sanitation services at low cost, decent and sustainable way.
- National Strategy for Water Supply and Sanitation, 2014 was to further development of different guidelines to suit the specific needs of the sector.
- Institutional and Regulatory Framework for Fecal Sludge Management (FSM) 2016 was to assist the execution of FSM services in Dhaka, Bangladesh.

- Menstrual Hygiene Management (MHM) strategies should be introduced to implement at

- A separate guideline for growth centers, hotels and restaurants on proper WASH facilities and food hygiene is needed that would be used by the DPHE, local government and health Inspector.
- Model/slandered of the WASH facilities or WASH block with a guideline is required for the Health Care Centers and family welfare centre.
- Upazila based guideline for coordination among local government, DPHE, education, health and private sector is necessary for smooth implementation of WASH programs.
- Specific WASH issues as responsibilities of the Department of Primary and Secondary Education need to be incorporated in the Education Policywhich would be disseminated to the teachers and School Managing Committees (SMC).
- A strategic guideline is required for the private sector to provide quality and sustainable WASH services.

8.2.2 Findings on Institutional Arrangement (planning, coordination, monitoring and reporting)

- There was no long term or short-term plan among the WASH service providers at Upazila or Union level. Mainly they were work on a project basis top-down planning.
- In providing WASH services, the current planning approach is essentially top-down. Local DPHE team implements program in consultation with Upazila Administration and local government as per allocation that they receive from the Head Office. Local offices does not develop project considering local needs. In addition, there is lack of systematic monitoring and O&M of WASH infrastructures by DPHE.
- In Health Sector, generally task-based (i.e # of HH visit, nos. of satellite clinic etc) year wise plan are prepared by the health workers, not result-based planning. Each health centers send their work plan at the Upazila level and Upazila Health Offices send the compiled plan to the District Health Office.
-

Education. Union council and DPHE work in coordination but do not have any institutional accountability. DPHE provide technical assistance in the case that Union Parishad seek support.

- There is lack of counselling on WASH issues in the monthly EPI centres. Inadequate WASH practices reported in public places, growth centres and community clinics.
- In some places Upazila WATSAN committees were active but not everywhere. There was no linkage between Upazila and Union WATSAN Committees or Union Standing Committee.
- Generally, only Disaster Management Committee distribute water refining tablets, clean water and hygiene kit box among the disaster-affected people during emergencies. However, no WASH specific plan has been prepared by the DPHE for disaster or emerging situations. they generally or initiative has been taken to protect WASH infrastructure.
- In areas where there were rocks and water needed to be drawn from deeper aquifers, suitable technology and budget were unavailable. In addition, presence of more iron and arsenic has negative impact on population health, and proper maintenance of WASH facilitates as well.
- Construction of WASH blocks required consideration of MHM facilities (e.g. availability of sanitary napkins)
- As Cox's Bazar is a disaster-prone area (flood, cyclone), people are facing problems with direct latrine with three rings-one slab latrines. Since it fills up quickly, there remains problem with fecal sludge management. It is seen to break down and pollute the environment often.
- Inadequate WASH facilities in public places, growth centres, cyclone shelters and community clinics were current challenges. Lack of inspection in public places for waste management (e.g. fish market, slaughter house) was also a challenge.
- There was no mechanism for quality assurance of the WASH products and accountability of the private sector/local entrepreneurs in manufacturing those products.

- Promote bottom-up participatory long-term plan at Union and Upazila level which should be developed by the lead role of DPHE in coordination with the local government, education and health sector. Department of Public Health Engineering has fixed sanitation target to achieve vision 2021 which are as follows:

Table 55: DPHE fixed targets to achieve vision 2021

Indicator	Base Year Information (2017-18)	Target		Comments
		2018-19	2019-20	
Urban Sanitary Coverage	98% (58% Improved Latrine+ 30% Shared Latrine+ 12% Un-Improved Latrine)	100% (90% Improved Latrine+ 10% Shared Latrine+ 0% Un-Improved Latrine)	100% (100% Improved Latrine+ 0% Shared Latrine+ 0% Un-Improved Latrine)	Target fixed following 7th Five-year Plan to achieve Vision 2021
Rural Sanitary Coverage	98% (62% Improved Latrine+ 28% Shared Latrine+ 8% Un-Improved Latrine)	100% (90% Improved Latrine+ 10% Shared Latrine+ 0% Un-Improved Latrine)	100% (100% Improved Latrine+ 0% Shared Latrine+ 0% Un-Improved Latrine)	

Source: Sanitation Scenario, Bangladesh. Website of Department of Public Health Engineering. http://old.dphe.gov.bd/

- In line with the above DPHE need to fix up target to achieve safely managed or advanced water and sanitation (SDG 6.2) by 2030. In this regard, DPHE local authority would take initiative to assess local situation with the support of stakeholders and make plan with the participation of all stakeholders.
- Duties and responsibilities of each person/sector may be reviewed by the service providers according to the key functions of the respective organization and mutual understanding for developing

Key Functions of DPHE Local Authorities

1. Responsible for assisting the infrastructure development and technical assistance.
2. Assist Local Government Institutions in the O & M of the WASH infrastructure & services including technical assistance.
3. Strengthen water-testing facilities to ensure safe water for the people.
4. Carryout Hydro-geological investigations in search of safe source (both surface & ground).
5. Social Mobilization for Awareness raising towards proper management of water supply & sanitation infrastructure and promotion of personal hygiene practices.
6. Develop safe water supply technologies in the Arsenic affected and other hydro-geologically difficult areas (Saline belt, stone problem areas, hilly regions and areas likely to be affected by other micro-pollutants).
7. Ensure water supply and sanitation services/facilities during and after the natural disasters/ calamities.
8. Capacity building of the community, LGIs, private entrepreneurs and NGOs with technical know-how, information, training etc. in terms of water supply and sanitation.
9. Monitoring and coordination of activities of the stakeholders including NGOs & private operators working

places).

- In line with the National Strategy for Water and Sanitation 2014,[9] WASH activities supposed to be coordinated among Department of Health, Department of Family Planning, Department of Primary Education and Department of Secondary Education regarding improvement of hygienic behavior among the community people and school students as well as O&M of school WASH facilities.

  - Implementation of water quality monitoring protocol started by Dec 2014.
  - Surface and ground water sources such as surface water intake, control points of treatment plants and distribution mains, non-piped water sources and production wells, pollution risk identified and action taken by LGIs by December 2015.
  - Strengthen the Water Quality Monitoring and Surveillance Circle of DPHE to supervise and improve the management of WSPs including coordination among DoE, NGOs and private sectors by June 2016.
  - WSP incorporated in at least 50 percent piped water supplies by December 2017.

- The local WATSAN committees (both Union and Upazila level) need to be activated and ensure regular monthly meetings by the lead role of DPHE for strengthening accountability along with coordination mechanism among all relevant WASH service providers including UPs, health, education and private sector. In addition, strategy on O&M of WATSAN for the facility at schools and community level.

- Develop joint monitoring mechanism at local level. Monitoring report needs to be shared among the relevant stakeholders i.e Union Chairmen, Upazila Chairman, UNO, District Education and Health Officials for taking further initiative for the sustainability of the WASH facilities.

- In Cox's Bazar it is important to use surface water or natural source of water (spring/rainwater) with pipeline supply network at Household, schools and health centers. It is difficult to get enough water from tube wells for handwashing and other cleaning activities of household chores. To ensure proper hygiene practice, latrine, kitchen and handwashing places must have running water supply. In areas such as Maheshkhali (Kalarmarchara union) and Ramu (Joariyanala union), spring layer could be used through pipeline supply network since automatic water supply from ground is unavailable.

- Before providing WASH blocks, DPHE needs to examine the water quality of that

institutions.

- Menstrual Hygiene Management (MHM) needs to be considered during construction of WASH blocks in schools as well as disaster period. Emergency sanitary napkins can be promoted by the help of School level Improvement Plan (SLIP) fund.
- Teachers, SMC, Students Cabinet, Scout Group could be trained to make them aware about WASH.
- Considering safely managed sanitation, direct line latrine one slab with three rings should not be provided any more. Instead, offset with five-ring pit latrine with syphon & ceramic pan need to be promoted. A culture to set up latrines must be promoted above flood level with concrete or tin wall to ensure sustainability.
- A mechanism must be developed for the private sector/local entrepreneurs to produce quality products that are sustainable and ensure accountability of the sanitation business owners to the government.

8.2.3 Findings on Resource Management (human and financial resources, available logistics/ equipment)

- Although number of professionals or field staffs was adequate, problem remained with the capacity of the existing human resource. (In average DPHE Upazila office has 6/7 personnel, Union Health & Family Welfare Centre (UH&FWC) have 5 personnel, Upazila Family Planning Office have 10/12 personnel, Secondary Education Office has 3 personnel who can provide WASH services). Most of the field staff did not have updated knowledge and information. Private sector personnel were also not well trained about the issues related with appropriate technologies, SDG and national targets.
- DPHE local offices did not have adequate vehicles for field movement and monitoring activities.
- Local offices did not have any role in budget preparation (top-down approach), as mentioned earlier. Among the entire budget allocation at Upazila level, 50% had been distributed by the UNO, Upazila and UP Chairman. The rest had been distributed by the

WASH facilities in the Schools.

- There was a lack of adequate budget compare to need. All Upazila got equal budgets although population was not same. (ee.g. Chakoria was a large Upazila with 18 unions, it received same budget as other union)
- Budget was not considered for poor transportation, difficulties in carrying materials in remote areas or for cutting the rocks or a deeper burrow by using drill machine.
- There are poor and landless population living in many unions of Cox's Bazar districts who required government and non-government support, free distribution of latrines.

Recommendations:

- Ensure arrangements of official vehicles or transports to perform routine duties and monitoring activities for DPHE official and other staff
- Enhance capacity of the mechanics to provide quality service and technical support as required.
- Need training on WASH, technologies, SDG targets, and WASH policies for all relevant staff/officials to provide effective services. Teachers should be trained on proper use of WASH blocks so they can teach the students. School council should be activated to be more functional to monitor hygiene of WASH blocks. Need a mechanism for union wise training from the DPHE. Raising awareness among traders and companies to produce sustainable WASH products as recommended.
- In Health Sector, WASH specific workforce is inadequate to ensure food hygiene and waste management in public places since there is only one Sanitary Inspector for each Upazila who covers water, sanitation and food safety of the entire Upazila.
- Top down budgeting system is present. However, planning should be done first at local level and then budgets and targets should be fixed accordingly. Need participation of Education Officer during allocation of ADP budget.
- More budgets for cleanliness and maintenance of the WASH facilities of the EWC is

committee members and rest 20% should be kept preserved for the institution to decide.

- UP receives fund from Local Governance Support Project (LGSP), Food for Work, ADP, Upazila Development Facilitator (UDF). Other income source of UP is 1% land exchange vat, donation from district/Upazila level (few cases), projects of different NGOs which could be used for taking WASH projects in priority basis.
- Provision to give loan with less interest rate to the private sector to prepare quality WASH products.
- Micro-finance organizations can provide credit to the community people to improve their WASH facilities

Section 9 | Participatory WASH Plan

Goal of the Upazila WASH plan

The goal of the Upazila WASH Plan is to attain universal equitable access to safe drinking water and improved sanitation and hygiene by 2030 for all. To achieve the goal, the average milestones were set as below though respective Upazila team determined their milestone considering their WASH situation and local context:

Milestone 1: By 2022 achieve 50% universal drinking water and latrine coverage of the total population
Milestone 2: By 2025 achieve 70% universal drinking water and latrine coverage of the total population
Milestone 3: By 2030 achieve 100% universal drinking water and latrine coverage of the total population

Moreover, this WASH plan gives the due focus to ensure WASH including handwashing and menstrual hygiene facilities and practices in all educational institutions, Growth Centres and Health Service Centres in rural and urban areas also addressed in Upazila WASH planning.

Objectives

The overall objective of the Upazila WASH Plan is to create an enabling environment in order to

integrated planning, monitoring and coordinated services;
- To develop the necessary mechanism and strategic direction for all the concerned stakeholders to maintain uniformity and standards in WASH facilities for achieving universal coverage;
- To develop an institutional arrangement and strengthening capacity of the relevant institutions as appropriate;
- To develop resource pooling and cost-sharing arrangements at action level;
- To ensure equity, inclusion and access of poor, disadvantaged, and other socially excluded groups.

Methodology of the Upazila Level WASH Plan

A consultative process was followed to prepare the WASH plan of Cox's Bazar district with short- mid- and long-term targets considering SDG. Total eight workshops were conducted at Upazila level by discussing the current situation, actual need and planning. Aiming for participatory planning within a mixed group, stakeholders from the health sector, family planning, secondary education department, Upazila Administration/Upazila Parishad and NGO's representatives of the respective Upazila participated in the workshop.

After initial three workshops in Maheshkhali, Sadar and Ramu, we experienced difficulties in assembling all of the Union Parishad Chairmen on a particular day, since they are busy with their various working agendas. In addition, interruption in the actual schedule caused dropouts of other participants/officials as well. It is often difficult to retain them for such longer time. Therefore, strategy of participatory planning was modified to reach out to all respective UP Chairmen from those unions which were not included in the sample of qualitative data collection or quantitative survey of this current study. In addition, assigned team collected the required information such as, availability, accessibility and requisite for safe water, improved sanitation and hygiene services at their corresponding communities and institutions, prior to the day of workshop.

Conduction Procedure of the Planning Workshop

- First, the Upazila specific survey findings on WASH situation were shared with the participants using a power point presentation in Bengali. After the presentation, a brief discussion was held on the presentation and participants were asked to provide their feedback, comments or remarks on the findings.

years (by 2030). The participants also identified responsible organization to execute the WASH plan.

- A team member was assigned for taking detailed notes of the entire discussion and recommendations provided by the participants. In addition, the discussion sessions were audio recorded with the verbal consent of the participants to avoid missing or misinterpretation of data. Each planning workshops lasted for 2 hours or more.

Participants of the Planning Workshop

Table 56: Participants of the planning workshop

Date of Workshop	Upazila	Number of Key Participants	Type of participants
22/10/2019	Maheshkhali	7	AC Land (in absence of UNO), 2 Union Chairmen, Sub Assistant Engineer of DPHE, Secondary Education Officer, representative from health and family Planning.
23/10/2019	Sadar	17	UNO, Upazila Chairman, 10 Union Chairmen, Sub Assistant Engineer of DPHE, Representative from Health Sector, Primary and Secondary Education Officer, NGO representative (BRAC)
28/10/2019	Ramu	14	UNO, Upazila Vice Chairman (Female), 8 Union Chairmen; Sub Assistant Engineer of DPHE, Upazila Family Planning Officer, Upazila Primary Education Officer, Upazila Secondary Education Officer
02/12/2019	Pekua	7	UNO, Upazila Chairman, Sub Assistant Engineer of DPHE, Representative of Upazila Family Planning Office, Upazila Primary Education Officer, Upazila Secondary Education Officer, Representative of Primary Education Office
04/12/2019	Chakaria	3	UNO, Sub Assistant Engineer of DPHE, Upazila Secondary Education Officer
18/12/2019	Ukhiya	7	UNO, Sub Assistant Engineer of DPHE, Upazila Family Planning Officer, Upazila Secondary Education Officer, Representative of Primary Education Office, NGO Representatives (NGO Forum)
19/12/2019	Teknaf	8	UNO, Sub Assistant Engineer of DPHE, Upazila Family Planning Officer, Upazila Primary Education Officer, Upazila Secondary Education Officer, Representative of Health Sector, NGO Representatives (DSK, IDE)
19/12/2019	Kutubdia	6	UNO, Sub Assistant Engineer of DPHE, Upazila Family Planning Officer, Upazila Secondary Education Officer, Upazila Primary Education Officer, NGO Representative (NGO Forum)
Total 8 planning workshops		**Total 69 participants**	

Upazila representatives.

- A compile WASH target plan prepared for the Cox's Bazar District based on the eight Upazila WASH target plans.
- Eight Upazila WASH target plan developed by the respective Upazila representatives.

Implementation modalities of the Upazila WASH plan

a. Priority need to be given in sanitation facilities at growth centres, schools and health care centers.
b. Member secretary (SAE, DPHE) should take initiative to activate the Upazila and Union WATSAN committees. Upazila WATSAN committee should have regular meetings (quarterly) to review progress and follow up of WASH activities and shared meeting minutes to all relevant WASH stakeholders.
c. 25-30% hard core poor people should be given free and sustainable latrine which costs BDT 10000-15000. Local authorities (Upazila Parishad and Union Parishad) should be more careful about the distribution and installation of the WASH facilities for the poor people.
d. In some places of Cox's Bazar Upazila, the aquifersis deep down and somewhere more iron is present. Considering this respective Upazila-DPHE team may assess full area of the Upazila and suggest which technology will appropriate in where. DPHE local team reported they have lack of workforce to assess or monitor current situation due to lack of transport facilities and inadequate allocation for transport for the existing workforce. At present rain water harvesting or use of surface water technology or pipe water supply with Iron removal plan (IRP) can take place to avoid Tube-well.
e. DPHE should take necessary actions for the appropriate WASH facilities after assessment of current condition of the cyclone shelter.
f. Facilities are not sustainable due to poor maintenance and monitoring. Strong O&M procedure need to be developed to use public toilet including handwashing facilities before giving lease out of the growth centers WASH facilities.
g. DPHE can take joint initiative with other stakeholders (health, family planning, primary and secondary education) to improve WASH practices of community people and students through behavior change communication for betterment of their health.
h. The budgets allocation for boring tube wells are inadequate since the boring rates are high in hilly areas. Budget for installing tube wells should be increased according to the boring rate of the particular area. The budget for the areas near the hills should be similar as the budget for the hill tracts.
i. Demand should be placed by Upazila-DPHE to the central level. Budget should be allocated from the Head Office of DPHE considering the demand from Upazila (population, characteristics of the area, geo-hydrological condition, problems etc.)

Upazila wise WASH target plan

Household based water, sanitation and hygiene related target has been fixed based on the survey findings and institution based WASH target has been fixed as per perception of the representative of

Table 58: Water, Sanitation and Hygiene (WASH) Plan of Sadar Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Sadar Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey) %**	**Current situation (Perception of participants) %**	**Demand (%)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	7%	43%	93%					
1.1	Tubewell installation			73%	13%	30%	30%	**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network			20%	0%	10%	10%		
1.3	Other water sources								
2	**Safely managed sanitation access at households**	51%	60%	50%					
2.1	Improved sanitation will build by the Community people			30%	5%	10%	15%	**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			20%	5%	5%	10%		
3	Sanitation facilities at growth centres	0%	0%	100%	20%	30%	50%	**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	61%	50%	40%	10%	10%	20%	**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	44%		56%	16%	20%	20%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	38%	30%	62%	12%	20%	30%		
5.3	Practice proper menstrual hygiene management at the household	52%	34%	48%	8%	20%	20%		
Water, Sanitation and Hygiene (WASH) Plan of Sadar Upazila, Cox's Bazar (Institutional WASH Plan)									
6	**WASH Facilities at Community Clinics (Number = 36)**	**Current Situation (Survey) %**		**Demand (N)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
6.1	Advanced drinking water supply	50%		8 (New)	2	3	3	**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		36 (reapair)	10	10	16		
6.3	Handwashing facility (advance level)	0%		36 (repair)	10	10	16		
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 6)**								
7.1	Advanced drinking water supply	0%		3 (Deep tube wells)	3			**UFPO**	
7.2	Advanced sanitation facility	20%		5 (1 repair, 4 new install)	5				

	Number 103)								
8.1	Advanced drinking water supply	0%		103	50	53		**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility	33%		67	30	37			
8.3	Handwashing facility (advance level)	57%		43	20	23			
9	**WASH facilities at secondary schools& madrasha (Total Number: 64)**								
9.1	Advanced drinking water supply	0%		64	30	34		**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	34%		43	20	23			
9.3	Handwashing facility (advance level)	6%		63	30	33			

Table 59: Water, Sanitation and Hygiene (WASH) Plan of Chakoria Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Chakoria Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey) %**	**Current situation (Perception of participants) %**	**Demand (%)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	27%	35%	73%					
1.1	Tube well installation			53%	13%	20%	20%	**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network			20%	5%	5%	10%		
1.3	Other water sources								
2	**Safely managed sanitation access at households**	22%	38%	80%					
2.1	Improved sanitation will build by the Community people			60%	10%	20%	30%	**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			20%	5%	5%	10%		
3	Sanitation facilities at growth centres	0%	3%	97%	30%	30%	37%	**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	41%	30%	60%	15%	15%	30%	**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	29%		70%	15%	25%	30%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	29%	24%	70%	15%	25%	30%		
5.3	Practice proper menstrual hygiene management at the household	32%	32%	70%	15%	25%	30%		
Water, Sanitation and Hygiene (WASH) Plan of Chakoria Upazila, Cox's Bazar (Institutional WASH Plan)									
6	**WASH Facilities at**				**Target**			**Responsible**	**Present/Potential**

				new)				Unit)	
6.3	Handwashing facility (advance level)	0%		34 (13 repair, 21 new)	34				
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 18)**								
7.1	Advanced drinking water supply	40%		0				**UFPO**	
7.2	Advanced sanitation facility	0%		3	3				
7.3	Handwashing facility (advance level)	0%		0					
8	**WASH facilities at Primary schools (Total Number 235)**								
8.1	Advanced drinking water supply	100%		0				**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility	100%		0					
8.3	Handwashing facility (advance level)	0%		235	50	85	100		
9	**WASH facilities at secondary schools& madrasha (Total Number 50)**								
9.1	Advanced drinking water supply	46%		20	20			**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	84%		5	5				
9.3	Handwashing facility (advance level)	0%		50	50				

4 December 2019- Planning Workshop
UNO gave opinion on following issues at Planning Workshop:
1. Prioritize sanitation facilities at growth centres, schools and health care centres.
2. Requested member secretary (SAE, DPHE) to take initiative to activate the WATSAN committee
3. They are interested to work on rain water harvesting considering the decresing level of ground water and climate change.
4. Requested to install WASH facilities for the poor people.

Table 60: Water, Sanitation and Hygiene (WASH) Plan of Pekua Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Pekua Upazila, Cox's Bazar (Households and Growth Centre)

Sl. #	Indicators	Current Situation (Survey) %	Current situation (Perception of participants) %	Demand (%)	Target			Responsible Organization	Present/Potential Resources
					2022	2025	2030		
1	Safely managed safe drinking water access at households	21%		80%					
1.1	Tubewell installation			80%	20%	30%	30%	**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network								
1.3	Other water sources								
2	**Safely managed sanitation access at households**	19%	30%	80%					

	growth centres							**Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	43%		57%	17%	20%	20%	**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	26%		74%	24%	25%	25%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	23%	30%	77%	17%	20%	40%		
5.3	Practice proper menstrual hygiene management at the household	23%		80%	20%	20%	40%		

Water, Sanitation and Hygiene (WASH) Plan of Pekua Upazila, Cox's Bazar (Institutional WASH Plan)

6	**WASH Facilities at Community Clinics (Number = 17)**	**Current Situation (Survey) %**		**Demand (N)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
6.1	Advanced drinking water supply	0%		13 (6 repair, 7 new)	13			**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		14 (5 repair, 9 New)	14				
6.3	Handwashing facility (advance level)	0%		14 (5 repair, 9 New)	14				
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 5)**								
7.1	Advanced drinking water supply	75%		1	1			**UFPO**	
7.2	Advanced sanitation facility	0%		2	2				
7.3	Handwashing facility (advance level)	0%		1	1				
8	**WASH facilities at Primary schools (Total Number 56)**								
8.1	Advanced drinking water supply	100%		16 (14 repair, 2 new)	16			**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility	100%		14 (repair)	14				
8.3	Handwashing facility (advance level)	0%		20 (repair)	20				
9	**WASH facilities at secondary schools& madrasha (Total Number 20)**								

	facility								
9.3	Handwashing facility (advance level)	0%		12 (9 new, 3 reapair)	12				

2 December 2019- Planning Workshop

1. In Pekua Upazila, the water layer is deep down where Iron is present. A pilot program of Iron removal plan (IRP) can take place with pipeline water network in the future.
2. Facilities are not sustainable due to poor maintenance and monitoring.
3. About 25% of people in Pekue are poor (UNO).
4. Before any lease agreement for growth centres, a condition may apply for installing public toilet and handwashing facility..
5. DPHE can take joint initiative with other stakeholders (health, family planning, primary and secondary education) to improve WASH practices of community people and students through behavior change communication for betterment of their health.

7. Needs to activate and regularize the WATSAN committee.

Table 61: Water, Sanitation and Hygiene (WASH) Plan of Maheshkhali Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Maheshkhali Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey) %**	**Current situation (Perception of participants) %**	**Demand (%)**	**Target**			**Responsible organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	27%	65%	83%					
1.1	Tube well installation			70%	20%	20%	30%	**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network			13%	3%	3%	7%		
1.3	Other water sources								
2	**Safely managed sanitation access at households**	19%	31%	80%					
2.1	Improved sanitation will build by the Community people			60%	10%	20%	30%	**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			20%	5%	5%	10%		
3	Sanitation facilities at growth centers	0%	16%	100%	20%	30%	50%	**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	46%	17%	54%	14%	20%	20%	**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	29%		70%	15%	25%	30%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	34%	20%	66%	16%	20%	30%		

6	Health Facilities at Upazila (Number =38)	Current Situation (Survey) %		Demand (N)	Target			Responsible Organization	Present/Potential Resources
					2022	2025	2030		
6.1	Advanced drinking water supply	0%		3 (New)	3			UHFPO, CMMU (Construction Management and Maintenance Unit)	
6.2	Advanced sanitation facility	0%		0					
6.3	Handwashing facility (advance level)	0%		36	36				
7	**Union Health and Family Welfare Centre at Upazila (Number = 6)**								
7.1	Advanced drinking water supply	50%		0				UFPO	
7.2	Advanced sanitation facility	0%		0					
7.3	Handwashing facility (advance level)	0%		2 (New)	2				
8	**Primary Education (Number of schools=70)**								
8.1	Advanced drinking water supply	50%		6	6			UEO, Teachers & SMC	
8.2	Advanced sanitation facility	33%		19	19				
8.3	Handwashing facility (advance level)	0%		16	16				
9	**Secondary Education (Number of schools/madrasa) = 43**								
9.1	Advanced drinking water supply	27%		0				USEO, Teachers & SMC	
9.2	Advanced sanitation facility	50%		0					
9.3	Handwashing facility (advance level)	0%		36	36				

Table 62: Water, Sanitation and Hygiene (WASH) Plan of Ramu Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Ramu Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	Indicators	Current Situation (Survey)	Current situation (Perception of participants)	Demand	Target			Responsible Organization	Present/Potential Resources
					2022	2025	2030		
1	**Safely managed safe drinking water access at**	36%	34%	65%					

2	**Safely managed sanitation access at households**	40%	30%	30%					
2.1	Improved sanitation will build by the Community people			40%	10%	10%	20%	**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hardcore poor			20%	5%	5%	10%		
3	Sanitation facilities at growth centres	0%	0%	100%	20%	30%	50%	**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	50%	40%	50%	10%	20%	20%	**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	40%		60%	20%	20%	20%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	19%	20%	80%	20%	20%	40%		
5.3	Practice proper menstrual hygiene management at the household	43%	0%	57%	17%	20%	20%		

Water, Sanitation and Hygiene (WASH) Plan of Ramu Upazila, Cox's Bazar (Institutional WASH Plan)

6	**WASH Facilities at Community Clinics (Number = 29)**	**Current Situation (Survey) %**		**Demand (N)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
6.1	Advanced drinking water supply	20%		0				**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		0					
6.3	Handwashing facility (advance level)	0%		0					
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 9)**								
7.1	Advanced drinking water supply	0%		0				**UFPO**	
7.2	Advanced sanitation facility	0%		4 (Repair)	4				
7.3	Handwashing facility (advance level)	0%		9 (5 New, 4 repair)	9				
8	**WASH facilities at Primary schools (Total Number 85)**								
8.1	Advanced drinking water supply	100%		0				**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility	100%		0					
8.3	Handwashing facility (advance level)	0%		85	35	50			
9	**WASH facilities at secondary schools& madrasha (Total Number 34)**								
9.1	Advanced drinking water supply	6%		11	11			**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	47%		4	4				
9.3	Handwashing facility (advance level)	0%		14	14				

28 October 2019- Planning Workshop
1. Budget for installing tube wells should be increased according to boring rate.
2. The budget for the areas near the hills should be similar as the budget for the hill tracks.

Table 63: Water, Sanitation and Hygiene (WASH) Plan of Ukhiya Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Ukhiya Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey)**	**Current situation (Perception of participants)**	**Demand**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	8%		90%					
1.1	Tube well installation			20%				**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network			70%	20%	20%	30%		
1.3	Other water sources								
2	**Safely managed sanitation access at households**	29%		70%					
2.1	Improved sanitation will build by the Community people			50%	20%	30%		**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			20%	10%	10%			
3	Sanitation facilities at growth centres	0%		100%	100%			**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	48%		52%	50%			**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	45%		55%	20%	30%		**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	29%		70%	30%	40%			
5.3	Practice proper menstrual hygiene management at the household	51%		50%	20%	30%			
Water, Sanitation and Hygiene (WASH) Plan of Ukhiya Upazila, Cox's Bazar (Institutional WASH Plan)									
6	**WASH Facilities at Community Clinics (Number = 21)**	**Current Situation (Survey) %**		**Demand (N)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
6.1	Advanced drinking water supply	0%		0	0			**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		0	0				
6.3	Handwashing facility (advance level)	0%		20	20				
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 4)**								
7.1	Advanced drinking water supply	0%		0				**UFPO**	
7.2	Advanced sanitation facility	0%		2 repair	2				
7.3	Handwashing facility (advance level)	0%		2 repair	2				
8	**WASH facilities at Primary schools (Total Number 83)**								
8.1	Advanced drinking water	0%		60	30	30		**UEO,**	

	35)								
9.1	Advanced drinking water supply	0%		0				**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	84%		0					
9.3	Handwashing facility (advance level)	6%		0					

18 December – Planning Workshop

1. Human attitude towards WASH needs to be changed; therefore, awareness program should be taken.
2. There is a need to improve WASH situation especially in community clinics (CC), public places and 35% of the households.
3. UNO did not agree with the sanitation situation of the public place shown in the current WASH mapping study. According to him, the actual situation is worse than reported. Around 1500 latrine distributed to the people of Ukhiya; however, the report does not show any improvement of sanitation situation here in Ukhiya. The facilitator clarified that number of sanitation facilities does not mean all are safely managed.
5. UNO also suggested that during planning of household pipeline water supply, one should check the current water layer for the tube well and then draw the water from the next layer for the pipeline water system. Two-layer should not be mixed.
6. All NGOs should consult their WASH activities and plan with the UNO. Resources/funds can be allocated from different organizations or donors, but should be mobilized from a single place/institutes/administration.
7. Any WASH related works has to be approved in the WATSAN committee.
8. All the primary schools have tube well and WASH blocks.
9. In all Community Clinics, water purifier machines for safe water can be installed.
10. WASH plan requires according to the geographical area. For example, the water layer of Jalia palong union is 60 feet down and there are rocky formation below this water layer. To install deep tube wells, special drilling machines are required to cut this rocky formation to get drinking water beyond that layer. Therefore, the WASH plan will be different for each area/union.
11. Area wise demand for WASH is required, therefore UNO suggested the respective DPHE official to initiate the process of information collection. First, he suggested collecting information from the institutions and later from the community. UP Chairman, member, Secretary, *Gram Choukidar* can help during information collection at community level. If DPHE has no fund for this data collection, UNO will arrange fund from his own budget of Upazila Administration.

Table 64: Water, Sanitation and Hygiene (WASH) Plan of Teknaf Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Teknaf Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey)**	**Current situation (Perception of participants)**	**Demand**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	0%		100%					
1.1	Tube well installation			20%	10%	10%		**Upazila Parishad, UP, DPHE & NGO**	
1.2	Pipeline water network			80%	25%	25%	30%		
1.3	Other water sources								
2	**Safely managed sanitation access at households**	32%		70%					
2.1	Improved sanitation will build by the Community people			40%	20%	20%		**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			30%	15%	15%			
3	Sanitation facilities at growth centres	0%		100%	50%	50%		**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	49%		50%				**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	29%		70%	30%	40%		**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	31%		70%	30%	40%			

	Community Clinics (Number = 14)	Situation (Survey) %		Demand (N)	2022	2025	2030	Organization	Resources
6.1	Advanced drinking water supply	50%		8 repair	8			**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		6 repair	6				
6.3	Handwashing facility (advance level)	0%		6 repair	6				
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 5)**								
7.1	Advanced drinking water supply	25%		5 new	5			**UFPO**	
7.2	Advanced sanitation facility	0%		4 new	4				
7.3	Handwashing facility (advance level)	0%		3 (Basins)	3				
8	**WASH facilities at Primary schools (Total Number 64)**								
8.1	Advanced drinking water supply	N/A						**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility								
8.3	Handwashing facility (advance level)								
9	**WASH facilities at secondary schools& madrasha (Total Number 32)**								
9.1	Advanced drinking water supply	84%		4	4			**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	100%		0	0				
9.3	Handwashing facility (advance level)	13%		29	29				

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1. Due to the rocky formation beneath the surface, Teknaf has inadequate water supply.
2. In a cyclone shelters, gender segregated toilets should be increased for both male and female (at least adequate chambers for 30 male and 20 female)
3. About 80% of the people of Teknaf use shallow tube well. Since the water layer is going down (due to the increasing use of deep tube wells water layer is 600 to 900 feet down from the surface), people are not getting enough water who uses shallow tube wells, which is a huge concern.
4. Rainwater harvesting can be a solution for water supply during the rainy season.
5. According to the Upazila Chairman, the pipeline water supply is required.
6. According to UNO, Teknaf, a desalination program can be taken as pilot basis and the water of Naf river can be used for the desalination plant.
7. 30% of the people of Teknaf are extremely poor.
8. Union-wise WASH assessment is required and respective officials can step forward to do this.
9. UNO, Teknaf mentioned he will prioritize WASH issue and DPHE can invite him in any WASH-related meeting. He also mentioned to activated the WATSAN committee and regularize its meeting.

Table 65: Water, Sanitation and Hygiene (WASH) Plan of Kutubdia Upazila, Cox's Bazar

Water, Sanitation and Hygiene (WASH) Plan of Kutubdia Upazila, Cox's Bazar (Households and Growth Centre)									
Sl. #	**Indicators**	**Current Situation (Survey)**	**Current situation (Perception of participants)**	**Demand**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
1	**Safely managed safe drinking water access at households**	17%		83%					

2	**Safely managed sanitation access at households**	15%		85%					
2.1	Improved sanitation will build by the Community people			54%	20%	24%	10%	**Upazila Parishad, UP, DPHE & NGO**	
2.2	Free distribution of improved sanitation to the hard core poor			26%	26%				
3	Sanitation facilities at growth centers	0%		100%	30%	60%	10%	**DPHE, Upazila Parishad, UP, Lease holder, NGOs**	
4	**Basic handwashing facilities at households (Own resource)**	42%	25%	75%	50%	25%		**DPHE, UP, NGOs**	
5	**Hygiene**								
5.1	Practice proper handwashing at household level	22%		80%	20%	40%	20%	**Education, Health & Family Planning-Joint initiative**	
5.2	Practice of appropriate child feces disposal	21%		80%	20%	40%	20%		
5.3	Practice proper menstrual hygiene management at the household	19%		80%	20%	40%	20%		

Water, Sanitation and Hygiene (WASH) Plan of Kutubdia Upazila, Cox's Bazar (Institutional WASH Plan)

6	**WASH Facilities at Community Clinics (Number = 12)**	**Current Situation (Survey) %**		**Demand (N)**	**Target**			**Responsible Organization**	**Present/Potential Resources**
					2022	**2025**	**2030**		
6.1	Advanced drinking water supply	0%		12 (Deep Tube wells)	12			**UHFPO, CMMU (Construction Management and Maintenance Unit)**	
6.2	Advanced sanitation facility	0%		4 (New)	4				
6.3	Handwashing facility (advance level)	0%		4 (New)	4				
7	**WASH facilities at Union Health and Family Welfare Centre (Total Number 6)**								
7.1	Advanced drinking water supply	0%		2 New	2			**UFPO**	
7.2	Advanced sanitation facility	0%		3 New	3				
7.3	Handwashing facility (advance level)	0%		5 New	5				
8	**WASH facilities at Primary schools (Total Number 51)**								
8.1	Advanced drinking water supply	67%		17	17			**UEO, Teachers & SMC**	
8.2	Advanced sanitation facility	0%		51	25	26			
8.3	Handwashing facility (advance level)	7%		48	20	28			
9	**WASH facilities at secondary schools& madrasa (19)**								
9.1	Advanced drinking water supply	34%		19 (Deep tubewells with 3 IRP)	19			**USEO, Teachers & SMC**	
9.2	Advanced sanitation facility	84%		17 (11 new,	17				

• Involvement of DPHE and government representatives during installment of tube wells or toilets.
• Respective institutes to work together in improving the status of Basic Service into safely managed.
• Establishment of water and sanitation facilities in 'No Service' area would be a priority.
• Being a small Upazila all target should be achieved 100% by 2025.
• Government will set up five water treatment plants.
• Considering geographical area and sustainability, tube wells water should be 70% and pipeline water should be 30%.

Sanitation

• Need information about specific schools where gender segregated toilets are absent.
• Free sanitation distribution is more effective for putting theory into practice.

Hygiene practice

• Motivational/awareness program at Ward level with follow up programs.
• Motivation/Awareness program at school and household level. At households, parents should get the priority so they can teach their children as well.
• Incentive program for handwashing, especially for those who are unable to buy soap for handwashing.
• MHM should be included in hygiene promotion activities and awareness programs.
• Hygiene and sanitation will improve automatically if running water is available all the time.

Annex Tables

Table 66: Coverage and water safety plan by Upazila

Indicator	Cox's Bazar Sadar (N=270)	Kutubdia (N=270)	Chakoria (N=270)	Pekua (N=270)	Maheshkhali (N=270)	Ramu (N=265)	Ukhiya (N=270)	Teknaf (N=270)	Overall (N=2,155)
Accessibility	57	41	63	34	49	66	56	36	50
Utilization	56	40	62	33	49	65	55	36	49
Adequate Coverage	53	37	58	31	43	57	46	30	44
Maintain Water Safety Plan	33	15	25	20	15	15	18	20	20

***Accessibility**: Proportion of households with functional and improved water source within the house or within 150 meters/ 492 feet from home*
***Utilization**: Proportion of households using water (within last two days) from the functional and improved water source located within the house or within 150 meters/ 492 feet from home*
***Adequate Coverage**: Proportion of households using a minimum of 20 liters/person/day of water round the year from functional and improved water source located within the house or within 150 meters /492 feet from home and collected water within last two days*
***Water safety plan**: No latrine within 10m of water source, platform size 5'*5', no cracked in the apron, no loose at the point of attachment to apron, no drainage fault allowing ponding within the 2meter of tube well, the storage container is fully covered, cover is no faulty/ clean /no damaged, cover is on insanitary.*

Table 67: Drinking water access and 'adequate coverage' at households: urban vs. rural

Indicator	Rural (N=)	Urban (N=)
	n (%)	n (%)
Source of drinking water by category		
Shallow tube well/Tara pump	1021 (60)	226 (50)
Deep tube well/Tara pump	573 (34)	150 (33)
Protected sources: dug well/ spring	29 (2)	20 (4)
Piped water into dwelling	43 (3)	29 (6)
Piped water: WASH/Pouroshova/public tap	0 (0)	2 (0.4)
Direct source for drinking water	39 (2)	23 (5)
Location of the improved sources of drinking water		
In dwelling	137 (8)	37 (8)
In yard/plot	872 (51)	177 (39)
Other's yard/plot	562 (33)	171 (38)
Government plot	82 (5)	50 (11)
Elsewhere	52 (3)	15 (3)
Ownership of improved sources of water:	1667 (98)	429 (95)
Household owned	778 (46)	163 (36)
Shared/public	889 (52)	266 (59)
Ownership of improved sources of water by wealth quintiles‡		
Poorest quintile	98 (25)	4 (9)
2nd	125 (34)	8 (12)
3rd	165 (45)	24 (36)
4th	189 (58)	42 (40)
[illegible]	201 (76)	85 (51)

Households with tube well[§]	1594 (93)	376 (84)
Individual tube well at households	734 (43)	131 (29)
Shared/public tube wells	860 (50)	245 (54)
Household owned tube well:		
Platform available	624 (37)	108 (24)
No water logging	534 (31)	106 (24)
No visible feces around	699 (41)	120 (27)
No garbage around	297 (17)	49 (11)
Platform available, no water logging, no visible feces around	240 (14)	42 (9)
Shared/public tube well with:		
Platform available	678 (40)	176 (39)
No water logging	508 (30)	144 (32)
No visible feces around	749 (44)	185 (41)
No garbage around	224 (13)	80 (18)
Platform available, no water logging, no visible feces around	188 (11)	69 (15)
Access to safe water- functional and improved source (within the house/150 meters)	860 (50)	224 (50)
Water safety plan according to WHO guidelines		
Households with tube well maintain water safety plan according to WHO guidelines[§] (N=1970)	248 (16)	84 (22)
Households with water storage reservoirs maintain water safety plan according to WHO guidelines[£] (N=214)	40 (36)	32 (31)
Households with Taps water distribution maintain water safety plan according to WHO guidelines[¥] (N=138)	23 (32)	33 (50)
Households with Piped water distribution maintain water safety plan according to WHO guidelines[¥] (N=73)	16 (31)	5 (23)
Households drinking water Collection and Storage Containers maintain water safety plan according to WHO guidelines[$] (N=1852)	242 (16)	132 (35)
Adequate coverage of drinking water[±]	1426 (84)	389 (86)

Table 68: Barriers and challenges to access to safe drinking water at households

Description of barriers	Sadar	Ramu	Ukhiya	Teknaf	Chakaria	Pekua	Maheshkhali	Kutubdia
High concentration of iron and saline intrusion in surface and ground water is the major problem in this area	+++	++	+	+	+++	+	+	++
Technologies are expensive and hardly affordable to the community (lack of economic resources to install a deep tube-well)	+	++	++	+++	+++	+++	+++	+++
Underground land composition/rocky soil characteristics make drilling and installing a tube-well difficult	+		+	+				
Physical barriers such as long distance, topography of the area (hilly area), nature of the roads particularly during rainy season hindering water access	++	+	+	++	++	+++	+	+++
Inadequate number of improved water sources	+	+	+++	++	++	++	+	+++
Primarily, women and girls are responsible for water collection, storing and treating, but due to social barriers such as to avoid being seen by others (men) and social security, menstruation period they were not always be able to go out and collect water	+	+				+	+	++
Participants lack adequate knowledge about the public health importance of safe drinking water	+	+	+	+	+	+	+	+
The concentration of saline in the ground water is increasing due to increased salt cultivation (or may be influenced by climate change) and making fresh water access difficult					+		+	
Institutional barriers also exists, such as,					+	+	+	

where the participants collected water for drinking									
lack of positive attitude to establish, use and maintain tube-wells in a shared way			+	+	+		+		

Table 69: Access to drinking water at schools

Indicators	Cox's Bazar Sadar N=13	Kutubdia N=10	Chakoria N=14	Pekua N=17	Maheshkhali N=12	Ramu N=16	Ukhiya N=13	Teknaf N=12	Overall N=107
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Advanced	0	4 (40)	8 (57)	11 (65)	4 (33)	1 (6)	0	10 (83)	38 (35)
Basic	12 (92)	5 (50)	6 (43)	6 (35)	8 (67)	15 (94)	13 (100)	2 (17)	67 (63)
Limited	0	0	0	0	0	0	0	0	0
No service	1 (8)	1 (10)	0	0	0	0	0	0	2 (2)
Improved[‡] functional[§] drinking water source at schools	12 (92)	9 (90)	14 (100)	17 (100)	12 (100)	16 (100)	13 (100)	12 (100)	105 (98)
Mean distance of the water source from the school compound (mean, SD)	0	202 (606)	5 (19)	0	25 (86)	0 (0)	9 (33)	188 (574)	43 (264)
Mean number of functional water source at school (reported)	1.3 (0.7)	1.1 (0.4)	1.6 (1.0)	1.9 (1.1)	1.3 (0.5)	1.8 (0.8)	1.4 (0.5)	1.1 (1.1)	1.4 (0.8)
Students use drinking water source from school	46 (64)	68 (94)	70 (97)	71 (99)	57 (79)	62 (86)	61 (84)	40 (56)	475 (82)
Students use other source other than school	25 (35)	4 (6)	2 (3)	1 (1)	15 (21)	9 (13)	9 (13)	31 (43)	96 (17)
Students use others sources other than school:	N=26	N=4	N=2	N=1	N=15	N=10	N=11	N=32	N=101
personal Carry own house/ water pot	22 (85)	0 (0)	2 (100)	1 (100)	9 (60)	8 (80)	7 (64)	14 (44)	63 (62)
Other source	3 (12)	4 (100)	0	0	6 (40)	1 (10)	2 (18)	17 (53)	33 (33)
Do not drink water	1 (4)	0	0	0	0	1 (10)	2 (18)	1 (3)	5 (5)
Glass or mug available at school for drinking water	N=72 56 (78)	N=71 63 (89)	N=72 64 (89)	N=72 64 (89)	N=66 52 (79)	N=70 49 (70)	N=71 58 (82)	N=69 45 (65)	N=563 451 (80)
Mean number of water container	N=56 5 (3.3)	N=63 4 (1.9)	N=64 3 (1.5)	N=64 5 (2.9)	N=52 4 (2.6)	N=49 4 (1.9)	N=58 4 (2.6)	N=45 5 (2.5)	N=451 4 (2.5)
Mug and glass accessible for drinking									
Always	46 (82)	53 (84)	43 (67)	55 (86)	41 (79)	31 (63)	32 (55)	25 (56)	326 (72)
Sometimes	10 (18)	10 (16)	21 (33)	9 (14)	10 (19)	16 (33)	22 (38)	20 (44)	118 (26)
Never	0	0	0	0	1 (2)	2 (4)	4 (7)	0	7 (2)

						(46)			
Use bottle/other pot	16 (62)	6 (32)	7 (24)	14 (82)	20 (65)	21 (51)	23 (58)	20 (43)	127 (51)
Don't drink	2 (8)	0	1 (4)	0	0	0	0	4 (9)	7 (3)

**Advanced Service- Water is available when needed, accessible to all, free from contamination, etc*
** Basic service- Water from an improved source is available at the school*

Table 70: Drinking water access at school: urban vs. rural

Indicator	Rural (N=381)	Urban (N=195)
	n (%)	n (%)
Drinking water is available at schools for students	330 (87)	145 (74)
Mean distance of the water source from the school compound	60	9
Mean number of functional water source at school	2 (0.8)	2 (0.9)
Students use others sources when water not available at school:	N=51	N=50
Carry own house/ personal water pot	25 (49)	38 (76)
Other source	24 (47)	9 (18)
Do not drink water	2 (4)	3 (6)
Glass or mug available at school for drinking water	303 (81)	148 (78)
Average number of water container available at school for drinking water	4	5
Mug and glass accessible for drinking		
Always	214 (71)	112 (76)
Sometimes	86 (28)	32 (22)
Never	3 (1)	4 (3)
Use another source when mug or glass not available at school	N=167	N=83
Directly use mouth	8 (5)	3 (4)
Directly use hands	91 (55)	22 (27)
Using bottle/other pot	70 (42)	57 (69)

Table 71: Drinking water access at health centers by Upazila

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Access to drinking water:									
Safely managed	1 (14)	0 (0)	2 (29)	3 (43)	1 (20)	1 (14)	0 (0)	2 (33)	10 (19)
Basic service	1 (14)	3 (50)	5 (71)	2 (29)	1 (20)	4 (57)	4 (57)	0 (0)	20 (38)
Limited service	1 (14)	0 (0)	0 (0)	1 (14)	1 (20)	0 (0)	0 (0)	0 (0)	3 (6)
No water source or an unimproved source	4 (57)	3 (50)	0 (0)	1 (14)	2 (40)	2 (29)	3 (43)	4 (67)	19 (37)
Access to drinking water source in health care facilities	6 (86)	4 (67)	7 (100)	6 (86)	5 (100)	5 (71)	6 (86)	5 (83)	44 (85)
Function water sources have in health care facilities	6 (86)	3 (50)	7 (100)	6 (86)	3 (60)	5 (71)	5 (71)	5 (83)	40 (77)
Ownership of improved sources of water:	3 (43)	3 (50)	7 (100)	6 (86)	3 (60)	5 (71)	4 (57)	2 (33)	33 (63)
Health centers owned improved	1 (14)	3 (50)	1 (14)	6 (86)	3 (60)	4 (57)	3 (43)	2 (33)	23 (44)

with Mechanized Pumping maintain water safety plan according to WHO guidelines[$] (N=8)	1 (100)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	2 (25)
Health care facilitieswith water storage reservoirs maintain water safety plan according to WHO guidelines[¥] (N=3)	-	-	-	0(0)	-	0(0)	-	1 (100)	1 (33)
Health care facilities with Taps distribution maintain water safety plan according to WHO guidelines[£] (N=7)	1 (100)	-	1 (100)	1 (100)	0 (0)	0 (0)	1 (100)	1 (100)	5 (71)
Health care facilities with Piped water distribution maintain water safety plan according to WHO guidelines[£] (N=7)	-	-	0 (0)	0 (0)	0 (0)	0 (0)		0 (0)	0 (0)
Maintained environmental sanitation of drinking water points[†]									

[†]*Environmental sanitation is considered maintained if the water point's platform is not broken and not water logged and has no garbage, dirt, or feces around it.*

Table 72: Sanitation access and 'adequate coverage' by Upazila at households

Indicator	**Cox's Bazar Sadar (N=)**	**Kutubdia (N=)**	**Chakoria (N=)**	**Pekua (N=)**	**Maheshkhali (N=)**	**Ramu (N=)**	**Ukhiya (N=)**	**Teknaf (N=)**	**Overall (N=)**
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Access to Latrine:									
Safely managed	51 (19)	94 (35)	70 (26)	72 (27)	84 (31)	91 (34)	107 (40)	81 (30)	650 (30)
Basic Sanitation	129 (48)	68 (25)	83 (31)	76 (28)	65 (24)	87 (33)	61 (23)	79 (29)	648 (30)
Limited Sanitation	32 (12)	77 (29)	47 (17)	63 (23)	52 (19)	41 (15)	59 (22)	61 (23)	432 (20)
Unimproved	5 (2)	9 (3)	17 (6)	8 (3)	21 (8)	18 (7)	16 (6)	6 (2)	100 (5)
Open defecation	51 (19)	94 (35)	70 (26)	72 (27)	84 (31)	91 (34)	107 (40)	81 (30)	650 (30)
Access to Toilet									
Access to improved[†] toilet- including shared latrine	212 (79)	239 (89)	200 (74)	211 (78)	201 (74)	219 (83)	227 (84)	221 (82)	1730 (80)
Access to improved[†] toilet (shared latrines not included)	180 (67)	162 (60)	153 (57)	148 (55)	149 (55)	178 (67)	168 (62)	160 (59)	1298 (60)
Poorest quintile	5 (33)	39 (49)	10 (22)	20 (32)	33 (40)	13 (34)	20 (35)	23 (44)	163 (38)
2nd	12 (48)	38 (52)	28 (45)	33 (49)	26 (44)	17 (53)	31 (52)	29 (55)	214 (50)
3rd	30 (54)	40 (62)	26 (55)	37 (60)	24 (56)	36 (61)	32 (63)	22 (46)	247 (57)
4th	40 (63)	31 (86)	39 (68)	34 (65)	31 (65)	42 (67)	41 (73)	39 (70)	297 (69)
Wealthiest quintile	93 (84)	14 (88)	50 (85)	24 (89)	35 (92)	70 (96)	44 (96)	47 (77)	377 (87)
No access to a toilet	1 (0.4)	1 (0.4)	7 (2.6)	6 (2.2)	8 (3)	9 (3.4)	11 (4.1)	9 (3.3)	52 (2.4)
Poorest quintile	1 (7)	1 (1)	6 (13)	6 (10)	7 (9)	7 (18)	8 (14)	8 (15)	44 (10)
2nd	0 (0)	0 (0)	1 (1.6)	0 (0)	1 (1.7)	1 (3.1)	2 (3.3)	0 (0)	5 (1.2)
3rd	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.7)	1 (2)	1 (2.1)	3 (0.7)
4th	-	-	-	-	-	-	-	-	-
Wealthiest quintile	-	-	-	-	-	-	-	-	-
Access to toilet by category:									
Piped sewer system	14 (5)	0 (0)	1 (0)	0 (0)	0 (0)	5 (2)	1 (0)	1 (0)	22 (1)
Septic tank	89	16 (6)	32 (12)	17 (6)	21 (8)	50 (19)	25 (9)	43 (16)	293 (14)

No toilet	1 (0)	1 (0)	7 (3)	6 (2)	8 (3)	9 (3)	11 (4)	9 (3)	52 (2)
Improved toilet slab and floor appeared clean	74 (27)	30 (11)	58 (21)	31 (11)	41 (15)	50 (19)	49 (18)	54 (20)	387 (18)
Poorest quintile	0 (0)	3 (4)	1 (2)	1 (2)	2 (2)	0 (0)	4 (7)	3 (6)	14 (3)
2nd	0 (0)	8 (11)	4 (6.5)	1 (1.5)	3 (5.1)	1 (3.1)	5 (8.3)	1 (1.9)	23 (5.3)
3rd	5 (8.9)	6 (9.2)	5 (10.6)	7 (11.3)	2 (4.7)	5 (8.5)	6 (11.8)	3 (6.3)	39 (9.1)
4th	11 (17)	6 (17)	14 (25)	13 (25)	13 (27)	12 (19)	11 (20)	16 (29)	96 (22)
Wealthiest quintile	58 (78)	7 (23)	34 (59)	9 (29)	21 (51)	32 (64)	23 (47)	31 (57)	215 (56)
Households use an improved toilet within 20 meters	79 (44)	18 (11)	42 (27)	29 (20)	37 (25)	44 (25)	37 (22)	55 (34)	341 (26)
Adequate coverage of improved toilet ±	74 (27)	30 (11)	56 (21)	29 (11)	41 (15)	49 (18)	44 (16)	52 (19)	375 (17)
Effective coverage of improved toilet§	0 (0)	0 (0)	2 (0.7)	1 (0.4)	1 (0.4)	2 (0.8)	1 (0.4)	0 (0)	7 (0.3)
Observed Defecation/Toilet use by all household members (SO) **(N=113)**									
latrine	9 (75)	11 (61)	11 (69)	10 (77)	12 (80)	7 (88)	8 (57)	9 (53)	77 (68)
Open defecation	2 (17)	7 (39)	3 (19)	2 (15)	3 (20)	1 (13)	4 (29)	5 (29)	27 (24)
Potty	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (14)	1 (6)	4 (4)
Katha/Cloth	0 (0)	0 (0)	2 (12.5)	1 (7.7)	0 (0)	0 (0)	0 (0)	2 (11.8)	5 (4.4)

†Improved latrine according to JMP: Flush or pour-flush to - piped sewer system, septic tank, pit latrine, Ventilated improved pit (VIP) latrine, Pit latrine with slab, Composting latrine

± Adequate coverage: easy accessible by all household members (including >5y old child) and also clean and can be use all the year round

§Effective coverage: adequate coverage and handwashing facilities with water and soap available inside or within 5m of the toilet

£Use of improved facilities which are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site

$Use of improved facilities which are not shared with other households

¥Use of improved facilities shared between two or more households

€Use of pit latrines without a slab or platform, hanging latrines or bucket latrines

μDisposal of human faeces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste

Table 73: Sanitation access at households: urban vs. rural

Indicator	**Rural (N=)**	**Urban (N=)**
	n (%)	n (%)
Access to Toilet		
Access to improved† toilet- including shared latrine	1388 (81)	342 (76)
Access to improved† toilet (shared latrines not included)	1026 (60)	272 (60)
Poorest quintile	148 (14)	15 (6)
2nd	182 (18)	32 (12)
3rd	224 (22)	23 (8)
4th	231 (23)	66 (24)
Wealthiest quintile	241 (23)	136 (50)
No access to a toilet	49 (3)	3 (0.7)
Poorest quintile	41 (84)	3 (100)
2nd	5 (10)	0 (0)
3rd	3 (6)	0 (0)
4th	-	-
Wealthiest quintile	-	-
Access to toilet by category:		
Piped sewer system	10 (1)	12 (3)
Septic tank	182 (11)	111 (25)

Improved toilet slab and floor appeared clean	244 (14)	143 (32)
Poorest quintile	13 (5)	1 (1)
2nd	21 (9)	2 (1)
3rd	35 (14)	4 (3)
4th	65 (27)	31 (22)
Wealthiest quintile	110 (45)	105 (73)
Households use an improved toilet within 20 meters	210 (20)	131 (48)
Adequate coverage of improved toilet ±	232 (14)	143 (32)
Effective coverage of improved toilet§	5 (0.3)	2 (0.4)
Observed Defecation/Toilet use by all household members (SO)**(N=113)**		
latrine	59 (68)	18 (69)
Open defecation	21 (24)	6 (23)
Potty	3 (3)	1 (4)
Katha/Cloth	4 (5)	1 (4)

Table 74: Sanitation knowledge and practices (reported ODF) at household level

Indicator	**Cox's Bazar Sadar (N=)**	**Kutubdia (N=)**	**Chakoria (N=)**	**Pekua (N=)**	**Maheshkhali (N=)**	**Ramu (N=)**	**Ukhiya (N=)**	**Teknaf (N=)**	**Overall (N=)**
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Knowledge of Sanitation and feces disposal									
Discarded contents in a pit within 200 meters of the latrine	49 (48)	130 (64)	89 (64)	98 (60)	119 (69)	111 (76)	144 (92)	115 (78)	855 (69)
Discarded contents in a pit > 200 meters from the latrine	10 (10)	18 (9)	7 (5)	4 (2)	5 (3)	7 (5)	4 (3)	5 (3)	60 (5)
Discarded contents openly nearby bushes, river, pond or any other general water body	24 (24)	41 (20)	25 (18)	38 (23)	31 (18)	12 (8)	3 (2)	10 (7)	184 (15)
Covered the latrine and built a new one	1 (1)	2 (1)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	1 (1)	5 (0)
Switched to the second pit of a dual pit latrine	1 (1)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0)
Emptied by local labor and they took the sludge	3 (3)	1 (0)	2 (1)	0 (0)	4 (2)	0 (0)	2 (1)	8 (5)	20 (2)
Emptied by pourashava/union worker and they took the sludge for treatment	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)
Emptied by pourashava/union worker and they took the sludge	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	2 (0)
Pits or septic tanks have been arranged to pierce the cargo	4 (4)	2 (1)	6 (4)	10 (6)	8 (5)	2 (1)	2 (1)	1 (1)	35 (3)
Others	9 (9)	10 (5)	8 (6)	13 (8)	4 (2)	14 (10)	1 (1)	8 (5)	67 (5)
Household members (>5 years) defecate outside on the ground:									
Daily	7 (3)	12 (4)	16 (6)	18 (7)	14 (5)	20 (8)	19 (7)	14 (5)	120 (6)
At least once a week	1 (0)	2 (1)	2 (1)	0 (0)	1 (0)	4 (2)	5 (2)	8 (3)	23 (1)
Occasionally	10 (4)	15 (6)	15 (6)	13 (5)	27 (10)	25 (9)	28 (10)	17 (6)	150 (7)
Never	252 (93)	241 (89)	236 (87)	238 (88)	228 (84)	215 (81)	218 (81)	231 (86)	1,859 (86)
Household disposed of child feces into a pit or toilet (reported)**(N=714)**	33 (38)	19 (21)	26 (29)	20 (23)	35 (34)	10 (19)	27 (29)	33 (31)	203 (28)

household members (SO)**(N=32)**									
Latrine	1 (20)	2 (29)	1 (17)	1 (25)	0 (0)	0 (0)	0 (0)	1 (14)	6 (19)
Open Pit/ separate pit for child or animal feces	0 (0)	0 (0)	1 (17)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	2 (6)
Bury it/Covered Pit	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	1 (3)
Undefined open site near the courtyard	3 (60)	2 (29)	0 (0)	2 (50)	0 (0)	0 (0)	2 (100)	3 (43)	12 (38)
Garbage disposal sites / dumps	0 (0)	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3.1)
Bush / forest / field	0 (0)	2 (29)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (14)	3 (9)
Nearby water (pond, canal, river)	1 (20)	1 (14)	4 (67)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	7 (22)

Table 75: Access to safe sanitation and 'adequate coverage' at school

Indicators	Cox's Bazar Sadar (N=9)	Kutubdia (N=9)	Chakoria (N=9)	Pekua (N=9)	Maheshkhali (N=9)	Ramu (N=9)	Ukhiya (N=9)	Teknaf (N=9)	Overall (N=9)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Toilet facilities available at the school	9 (100)	9 (100)	9 (100)	9 (100)	9 (100)	9 (100)	9 (100)	9 (100)	72 (100)
Average number of functional toilet facilities available at the school	10 (9.7)	6 (4.0)	5 (4.0)	8.9 (4.9)	6 (3.2)	6 (3.5)	8 (3.7)	9 (4.8)	7 (5.1)
Toilet: student ratio	1:91	1:105	1:152	1:119	1:137	1:139	1:110	1:115	1:121
Toilet: female student ratio									
Toilet: male student ratio									
School has safely managed sanitation*	N=89 53 (60)	N=58 27 (47)	N=48 30 (63)	N=80 72 (90)	N=52 26 (50)	N=50 36 (72)	N=76 46 (61)	N=77 59 (77)	N=530 349 (66)
School has basic sanitation*	62 (70)	29 (50)	31 (65)	74 (93)	33 (64)	40 (80)	50 (66)	60 (78)	379 (72)
School has limited sanitation*	89 (100)	58 (100)	48 (100)	80 (100)	52 (100)	50(100)	76 (100)	77 (100)	530 (100)
User of the toilet	N=89	N=58	N=48	N=80	N=52	N=50	N=76	N=77	N=530
Only Girl's latrine	50 (56)	15 (26)	8 (17)	33 (41)	12 (23)	21 (42)	21 (28)	22 (29)	182 (34)
Girls and female teacher's latrine	0	1 (2)	7 (15)	0	5 (10)	4 (8)	2 (3)	6 (8)	25 (5)
Boys and male teacher's latrine	2 (2)	1 (2)	3 (6)	0	7 (14)	2 (4)	4 (5)	2 (3)	21 (4)
Only Teacher's latrine	17 (19)	11 (19)	9 (19)	15 (19)	7 (14)	12 (24)	21 (28)	15 (20)	107 (20)
Only Boy's latrine	12 (14)	8 (14)	16 (33)	29 (36)	10 (19)	7 (14)	16 (21)	27 (35)	125 (24)
For all students- not specific for girls or boy	1 (1)	10 (17)	4 (8)	3 (4)	3 (6)	3 (6)	12 (16)	1 (1)	37 (7)
Non specific	6 (7)	12 (21)	1 (2)	0	8 (15)	1 (2)	0	4 (5)	32 (6)
Students use toilet facilities at school during school time	N=72	N=72	N=72	N=72	N=72	N=72	N=72	N=72	N=72
School latrine	66 (92)	72 (100)	70 (97)	71 (99)	69 (96)	69 (96)	71 (99)	71 (99)	559 (97)
Other than school latrine	6 (8)	0	2 (3)	1 (1)	3 (4)	3 (4)	1 (1)	1 (1)	17 (3)
Available separate urinal point at school	20 (28)	8 (11)	16 (22)	16 (22)	23 (32)	22 (31)	35 (49)	4 (6)	144 (25)
Average number of urinal at school	2 (0.6)	2 (0)	4 (2.6)	2 (0.4)	2 (1.1)	2 (0.7)	2 (0.8)	3 (0)	2 (1.2)
Latrine always open and accessible for all students during school hours	66 (92)	72 (100)	72 (100)	70 (97)	70 (97)	63 (88)	70 (97)	61 (85)	544 (94)
Cleanliness of the toilet based on their last use (Reported by the students)									
Clean	27 (37)	34 (47)	22 (31)	19 (26)	29 (40)	29 (40	28 (39)	27 (38)	215 (37)
Dirty	37 (51)	38 (53)	46 (64)	51 (71)	37 (51)	39 (54)	38 (53)	35 (49)	321 (56)
Very Dirty	5 (7)	0	2 (3)	2 (3)	2 (3)	4 (6)	3 (4)	8 (11)	26 (5)
Observed door available and open in the latrine	N=89 78 (88)	N=58 55 (95)	N=48 43 (90)	N=80 78 (98)	N=52 46 (89)	N=50 44 (88)	N=76 70 (92)	N=77 66 (86)	N=530 480 (91)
Observed visible stool in the toilet	N=66 24 (36)	N=39 23 (59)	N=38 17 (45)	N=75 31 (41)	N=39 24 (62)	N=43 21 (49)	N=54 33 (61)	N=61 24 (39)	N=415 197(48)

Safely managed sanitation Improved facilities, which are single-sex and usable, with sealed septic tank at the school*
Basic sanitation Improved facilities, which are single-sex and usable at the school*
Limited sanitation There are improved facilities (flush/pour-flush toilets, pit latrine with slab, composting toilet), but not single-sex or not usable at time of survey*

Table 76: Sanitation technologies, disaster resilience and inclusiveness at school

Indicators	Cox's Bazar Sadar (N=66)	Kutubdia (N=39)	Chakoria (N=38)	Pekua (N=75)	Maheshkhali (N=39)	Ramu (N=44)	Ukhiya (N=53)	Teknaf (N=60)	Overall (N=414)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Water is available inside the toilet (running water and handwashing facilities)	62 (94)	39 (100)	38 (100)	70 (93)	35 (90)	37 (84)	53 (100)	60 (100)	394 (95)
Hand cleaning agent (soap and water) available in or near latrine (after defecation)	18 (27)	7 (18)	3 (8)	13 (17)	10 (26)	7 (16)	19 (36)	26 (43)	103 (25)
Anal cleansing materials available in the toilet facilities									
Water & toilet paper	0	3 (8)	0	2 (3)	1 (3)	1 (2)	0	1 (2)	8 (2)
Water & Cloth	0	0	0	0	0	0	0	0	0
Water & Piece of mud	0	0	0	0	0	0	0	0	0
Available MHM disposal bin with lid	N=5 -	N=0 -	N=2 2 (100)	N=7 5 (71)	N=0 -	N=2 2 (100)	N=10 9 (90)	N=2 0	N=28 18 (68)
Types of handwashing divices-	N=9	N=9	N=9	N=9	N=9	N=9	N=9	N=9	N=72
Specially designed hand washing system	0	0	0	0	0	0	0	0	0
Basin/ tap	7 (78)	7 (78)	6 (67)	9 (100)	5 (56)	4 (44)	8 (89)	6 (67)	52 (72)
Water container	0	2 (22)	0	1 (11)	1 (11)	0	0	1 (11)	5 (7)
Tubewell	1 (11)	5 (56)	9 (100)	6 (67)	7 (78)	4 (44)	4 (44)	2 (22)	38 (53)
Average number of functional handwashing device available at school	7 (9)	4 (2)	5 (4)	5 (3)	5 (5)	3 (3)	9 (7)	5 (5)	6 (5)
Soap usually kept	N=19	N=7	N=7	N=9	N=11	N=6	N=38	N=16	N=113
Inside toilet facility	3 (16)	3 (42)	1 (14)	3 (33)	2 (18)	1 (67)	5 (13)	4 (25)	25 (22)
Outside the toilet	16 (84)	4 (57)	6 (86)	6 (67)	5 (46)	2 (33)	13 (34)	12 (75)	64 (57)
No specific place	0	0	0	0	4 (36)	0	20 (53)	0	24 (21)
Water and soap available for handwashing	19 (63)	4 (57)	6 (86)	9 (100)	4 (57)	6 (32)	12 (67)	15 (94)	75 (66)
During demonstration, students washed their both hands with soap at least six second	N=70 28 (40)	N=72 14 (19)	N=71 10 (14)	N=72 8 (11)	N=72 14 (19)	N=69 12 (17)	N=70 24 (34)	N=67 34 (51)	N=563 144 (26)
Hands dried with-									
Wearing cloth	15 (21)	39 (54)	21 (30)	33 (46)	25 (35)	15 (22)	18 (26)	24 (36)	190 (34)
Dirty cloth	1 (1)	0	0	0	0	3 (4)	1 (1)	0	5 (1)
Clean cloth	4 (6)	1 (1)	2 (3)	2 (3)	4 (6)	1 (2)	0	2 (3)	16 (3)
Air dry	17 (24)	11 (15)	17 (24)	16 (22)	16 (22)	13 (19)	20 (29)	19 (28)	129 (23)
Not dry	33 (47)	21 (29)	31 (44)	21 (29)	27 (38)	38 (55)	32 (46)	22 (33)	225 (40)
Handle available for disable person to hold inside the toilet	N=66 3 (5)	N=39 0	N=38 0	N=75 2 (3)	N=39 1 (3)	N=44 1 (2)	N=53 4 (8)	N=60 1 (2)	N=414 12 (3)
Wheel chair accessible to the toilet	0	1 (3)	0	1 (1)	0	2 (5)	0	0	4 (1)
Toilet raised above the highest flood line	66 (100)	38 (98)	24 (63)	69 (92)	32 (82)	30 (68)	46 (87)	59 (98)	364 (88)
Cleanliness of students both hand	N=72 29 (40)	N=72 42 (58)	N=72 40 (56)	N=72 41 (57)	N=72 42 (58)	N=72 27 (38)	N=72 42 (58)	N=72 49 (68)	N=576 312 (54)

	(N=3)								
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Access to Toilet For Doctor/Officer	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Access to toilet by category:									
Flush toilet-Septic tank	3 (100)	1 (100)	2 (67)	1 (50)	0 (0)	1 (100)	1 (50)	2 (100)	11 (73)
Pour-Flush toilet-Septic tank	0 (0)	0 (0)	1 (33)	1 (50)	1 (100)	0 (0)	1 (50)	0 (0)	4 (27)
Access to improved‡ toilet	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Location of toilet:									
Inside Hospital building	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Improved toilet slab and floor appeared clean	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Accessibility of wheel chair	3 (100)	0 (0)	1 (33)	0 (0)	1 (100)	1 (100)	0 (0)	2 (100)	8 (53)
Handle for pregnant/disable person	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
MHM disposal bin	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Access to ToiletFor Nurse/Staff's	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Access to toilet by category:									
Flush toilet-Septic tank	3 (100)	1 (100)	1 (33)	0 (0)	0 (0)	0 (0)	1 (50)	2 (100)	8 (53)
Piped sewer system	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (7)
Pour-Flush toilet-Septic tank	0 (0)	0 (0)	1 (33)	2 (100)	1 (100)	1 (100)	1 (50)	0 (0)	4 (40)
Access to improved‡ toilet	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Location of toilet:									
Inside Hospital building	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Improved toilet slab and floor appeared clean	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Accessibility of wheel chair	3 (100)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	2 (100)	6 (40)
For Doctor/Officer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
For Nurse/staff	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Status of ward wise toilet facilities									
Male Ward									
Mean number of toilet	2	3	2	2	2	2	2	2	2
Type of latrine									
Flush toilet-Septic tank	3 (100)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	6 (46)
Pour-Flush toilet-Septic tank	0 (0)	0 (0)	1 (100)	2 (100)	1 (100)	1 (100)	2 (100)	0 (0)	7 (54)
Loction of the toilet									
Inside Hospital building	3 (100)	1 (100)	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	15 (100)
Average Distance of toilet location from Ward	24	21	41	16	13	34	13	17	21
Improved toilet slab and floor appeared clean	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Accessibility of wheel chair	3 (100)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (50)	5 (38)
Handle for pregnant/disable person	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
MHM disposal bin	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
FeMale Ward									

Inside Hospital building	3 (100)	-	3 (100)	2 (100)	1 (100)	1 (100)	2 (100)	2 (100)	14 (100)
Average Distance of toilet location from Ward	10	-	25	0	13	34	17	17	15
Improved toilet slab and floor appeared clean	0 (0)	-	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	1 (7)
Accessibility of wheel chair	3 (100)	-	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (50)	5 (36)
Handle for pregnant/disable person	0 (0)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
MHM disposal bin	1 (33)	-	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	2 (14)
Child Ward									
Mean number of toilet	1	-	3	-	2	0	5	4	2
Type of latrine									
Flush toilet-Septic tank	2 (100)	-	0 (0)	-	0 (0)	0 (0)	0 (0)	1 (100)	3 (38)
Pour-Flush toilet-Septic tank	0 (0)	-	2 (100)	-	1 (100)	0 (0)	1 (100)	0 (0)	4 (50)
Loction of the toilet									
Inside Hospital building	2 (100)	-	2 (100)	-	1 (100)	0 (0)	1 (100)	1 (100)	7 (88)
Average Distance of toilet location from Ward	15	-	24	-	11	-	24	33	21
Improved toilet slab and floor appeared clean	0 (0)	-	0 (0)	-	0 (0)	0 (0)	1 (100)	0 (0)	1 (13)
Accessibility of wheel chair	2 (100)	-	0 (0)	-	1 (100)	0 (0)	0 (0)	1 (100)	4 (50)
MHM disposal bin	0 (0)	-	0 (0)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
General Ward									
Mean number of toilet	-	4	4	-	-	-	-	-	4
Type of latrine									
Flush toilet-Septic tank	-	1 (100)	1 (50)	-	-	-	-	-	2 (67)
Pour-Flush toilet-Septic tank	-	0 (0)	1(50)	-	-	-	-	-	1 (33)
Loction of the toilet									
Inside Hospital building	-	1 (100)	2 (100)	-	-	-	-	-	3 (100)
Average Distance of toilet location from Ward	-	21	23	-	-	-	-	-	22
Improved toilet slab and floor appeared clean	-	1 (100)	0 (0)	-	-	-	-	-	1 (33)
Accessibility of wheel chair	-	0 (0)	0 (0)	-	-	-	-	-	0 (0)
MHM disposal bin	-	0 (0)	0 (0)	-	-	-	-	-	0 (0)
	Cox's Bazar (N=4)	Kutubdia (N=5)	Chakoria (N=4)	Pekua (N=5)	Maheshkhali (N=4)	Ramu (N=6)	Ukhiya (N=5)	Teknaf (N=4)	Overall (N=37)
Access to Toilet in CC and UH&FWC	4 (100)	4 (80)	4 (100)	5 (100)	3 (75)	4 (67)	5 (100)	4 (100)	33 (89)
Access to toilet by category:									
Flush toilet-Septic tank	0 (0)	1 (20)	1 (25)	1 (20)	0 (0)	1 (17)	0 (0)	0 (0)	4 (11)
Pour-Flush toilet-Septic tank	3 (75)	2 (40)	1 (25)	2 (40)	2 (50)	0 (0)	3 (60)	3 (75)	16 (43)
Pour-Flush to pit latrine	1 (25)	1 (20)	1 (25)	2 (40)	1 (25)	3 (50)	2 (40)	1 (25)	12 (32)
Pour-Flush tolilet connected to somewhere else (canal, ditch, river, etc.)	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (3)
Access to improved toilet	4 (100)	4 (80)	3 (75)	5 (100)	3 (75)	4 (67)	5 (100)	4 (100)	32 (86)
Inside Health facility building	4 (100)	4 (80)	3 (75)	5 (100)	3 (75)	4 (67)	5 (100)	4 (100)	32 (86)

Table 78: Handwashing facilities at household by Upazila at household

Indicator	Cox's Bazar Sadar (N=)	Kutubdia (N=)	Chakoria (N=)	Pekua (N=)	Maheshkhali (N=)	Ramu (N=)	Ukhiya (N=)	Teknaf (N=)	Overall (N=)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Handwashing ladder									
BASIC	166 (61)	114 (42)	111 (41)	115 (43)	124 (46)	132 (50)	130 (48)	131 (49)	1023 (47)
LIMITED	12 (4)	24 (9)	15 (6)	29 (11)	35 (13)	12 (5)	20 (7)	26 (10)	173 (8)
NO FACILITY	8 (3)	32 (12)	45 (17)	34 (13)	25 (9)	16 (6)	31 (11)	44 (16)	235 (11)
Other	84 (31)	100 (37)	99 (37)	92 (34)	86 (32)	105 (40)	89 (33)	69 (26)	724 (34)
Handwashing location available within 30 feet from the latrine structure (including improved and unimproved latrine)	219 (81)	192 (71)	180 (67)	204 (76)	203 (75)	191 (72)	185 (69)	184 (68)	1,558 (72)
Handwashing location available within 30 feet from the latrine structure (Improved latrines including shared latrine)	170 (63)	168 (62)	136 (50)	158 (59)	153 (57)	166 (63)	161 (60)	151 (56)	1,263 (59)
Handwashing location available within 30 feet from the latrine structure (Improved latrine excluding shared latrine)	151 (56)	114 (42)	109 (40)	119 (44)	113 (42)	145 (55)	130 (48)	117 (43)	998 (46)
Poorest quintile	2 (13)	27 (34)	6 (13)	12 (19)	22 (27)	11 (29)	18 (32)	13 (25)	111 (26)
2nd	8 (32)	25 (34)	16 (26)	22 (33)	18 (31)	16 (50)	21 (35)	18 (34)	144 (33)
3rd	21 (38)	25 (38)	18 (38)	28 (45)	17 (40)	23 (39)	19 (37)	15 (31)	166 (39)
4th	31 (49)	24 (67)	29 (51)	33 (63)	24 (50)	32 (51)	33 (59)	30 (54)	236 (55)
Wealthiest quintile	89 (80)	13 (81)	40 (68)	24 (89)	32 (84)	63 (86)	39 (85)	41 (67)	341 (79)
Handwashing location with water and soap available within 30 feet from the latrine structure (Improved latrine excluding shared latrine)	127 (47)	74 (27)	77 (29)	77 (29)	69 (26)	105 (40)	95 (35)	87 (32)	711 (33)

Table 79: Handwashing practices at household level by rural vs urban

Indicator	Rural (N=)	Urban (N=)
	n (%)	n (%)
Washed hands, all observed household members		
Used soap or ash while washing both hands	25 (5.9)	6 (4.9)
After using toilet	7 (13)	1 (9.1)
After cleaning child anus	3 (15)	2 (33)
After contact with feces	1 (5.9)	0 (0)
Before preparing food	4 (4.3)	3 (8.8)
Before eating	7 (3.7)	0 (0)
Before infant/child feeding	3 (6.1)	0 (0)
Used any soap while washing both hands	99 (23)	31 (25)
After using toilet	6 (11)	1 (9.1)
After cleaning child anus	8 (40)	3 (50)

After using toilet	19 (34)	0 (0)
After cleaning child anus	7 (35)	1 (17)
After contact with feces	5 (29)	1 (25)
Before preparing food	34 (36)	9 (26)
Before eating	85 (45)	38 (67)
Before infant/child feeding	23 (47)	8 (73)
Demonstrated hand:washed both hands with soap after defecation by respondents	886 (52)	263 (58)
Poorest quintile	166 (43)	17 (37)
2nd	169 (46)	23 (35)
3rd	192 (53)	33 (50)
4th	181 (56)	66 (62)
Wealthiest quintile	178 (67)	124 (75)
Child hand cleanliness: nails, finger pads and palms appeared clean [§] (N=1,076)	195 (23)	87 (38)
Poorest quintile	24 (13)	6 (26)
2nd	33 (18)	7 (22)
3rd	32 (19)	6 (21)
4th	44 (29)	18 (31)
Wealthiest quintile	62 (41)	50 (57)
Respondent hand cleanliness: nails, finger pads and palms appeared clean [§]	537 (32)	208 (46)
Poorest quintile	68 (18)	12 (26)
2nd	85 (23)	18 (27)
3rd	112 (31)	17 (26)
4th	126 (39)	41 (39)
Wealthiest quintile	146 (55)	120 (72)
Received Hygiene and safe water use messages from		
NGO	130 (16)	30 (12)
Government health worker	46 (3)	21 (5)
Media (TV, radio, poster, micking, fair, drama, SMS)	155 (9)	76 (17)
Relative/friends/neighbours/parents/religious leader/school/village doctor	645 (38)	206 (46)
Mentioned at least three of the following eight handwashing messages	550 (32)	160 (36)
Respondents were able to mention the following handwashing messages of washing both hands with water and soap:		
Washing hands with soap before food preparation	341 (20)	112 (25)
Washing hands with soap before serving food	133 (8)	44 (10)
Washing hands with soap before eating	751 (44)	197 (44)
Washing hands with soap before feeding the baby	86 (5)	24 (5)
Washing hands with soap after defecation	1514 (89)	389 (86)
Washing hands with soap after cleaning child's anus	120 (7)	30 (7)
Washing hands with soap after cleaning babies' defecation	112 (7)	34 (8)
Washing hands with soap after eating	517 (30)	161 (36)
Benefits come from safely storing drinking water which is mentioned by the respondent		
Reduce diarrhea morbidity	491 (29)	177 (39)
Reduce ARI morbidity	133 (8)	58 (13)

Table 80: KAP (SO) on Handwashing at household

Indicator	Cox's Bazar Sadar	Kutubdia	Chakoria	Pekua	Maheshkhali	Ramu	Ukhiya	Teknaf	Overall
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Washed hands, all observed household members									
Used soap or ash while washing both hands during the any wash event (N=549)	6 (11)	4 (5)	2 (2)	6 (7)	5 (8)	0 (0)	7 (11)	1 (1)	31 (6)
After using toilet (N=67)	1 (10)	0 (0)	1 (13)	1 (11)	3 (43)	0 (0)	2 (40)	0 (0)	8 (12)
After cleaning child anus (N=26)	0 (0)	1 (20)	1 (17)	1 (50)	1 (100)	0 (0)	1 (33)	0 (0)	5 (19)
After contact with feces (N=21)	0 (0)	1 (33)	0 (0)	0 (0)	(0)	0 (0)	0 (0)	0 (0)	1 (5)
Before preparing food (N=128)	3 (20)	0 (0)	0 (0)	2 (10)	0 (0)	0 (0)	1 (6)	1 (8)	7 (5)
Before eating (N=247)	1 (5)	1 (2.9)	0 (0)	2 (4.8)	1 (2.9)	0 (0)	2 (7.4)	0 (0)	7 (2.8)
Before infant/child feeding (N=60)	1 (17)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	3 (5)
Used only water while washing both hands during the any wash event (N=549)	7 (13)	16 (21)	27 (32)	20 (24)	11 (18)	13 (27)	17 (27)	19 (25)	130 (24)
After using toilet (N=67)	0 (0)	2 (29)	1 (13)	0 (0)	0 (0)	2 (17)	1 (20)	1 (11)	7 (10)
After cleaning child anus (N=26)	1 (100)	2 (40)	2 (33)	0 (0)	0 (0)	2 (67)	1 (33)	3 (60)	11 (42)
After contact with feces (N=21)	1 (25)	2 (67)	0 (0)	3 (75)	(0)	0 (0)	1 (50)	2 (50)	9 (43)
Before preparing food (N=128)	4 (27)	7 (47)	15 (65)	12 (57)	9 (69)	6 (55)	9 (53)	6 (46)	68 (53)
Before eating (N=247)	1 (5)	1 (3)	8 (22)	3 (7)	2 (6)	1 (6)	3 (11)	7 (21)	26 (11)
Before infant/child feeding (N=60)	0 (0)	2 (17)	1 (14)	2 (40)	0 (0)	2 (50)	2 (20)	0 (0)	9 (15)
Did not wash hands at all (N=549)	29 (52)	30 (39)	30 (36)	31 (37)	27 (44)	24 (49)	24 (38)	35 (47)	230 (42)
After using toilet (N=67)	6 (60)	1 (14)	1 (13)	1 (11)	0 (0)	6 (50)	1 (20)	3 (33)	19 (28)
After cleaning child anus (N=26)	0 (0)	2 (40)	2 (33)	1 (50)	0 (0)	1 (33)	0 (0)	2 (40)	8 (31)
After contact with feces (N=21)	2 (50)	0 (0)	1 (33)	1 (25)	0 (0)	1 (100)	0 (0)	1 (25)	6 (29)
Before preparing food (N=128)	5 (33)	7 (47)	7 (30)	4 (19)	4 (31)	4 (36)	6 (35)	6 (46)	43 (34)
Before eating (N=247)	13 (65)	14 (40)	15 (41)	22 (52)	19 (56)	10 (56)	15 (56)	15 (44)	123 (50)
Before infant/child feeding (N=60)	3 (50)	6 (50)	4 (57)	2 (40)	4 (67)	2 (50)	2 (20)	8 (80)	31 (52)
Demonstrated hand: washed both hands with soap after defecation by respondents	152 (56)	139 (51)	149 (55)	141 (52)	136 (50)	140 (53)	142 (53)	150 (56)	1149 (53)
Poorest quintile	6 (40)	32 (40)	18 (40)	26 (42)	33 (40)	16 (42)	24 (42)	28 (54)	183 (42)
2nd	14 (56)	33 (45)	21 (34)	31 (46)	25 (42)	13 (41)	34 (57)	21 (40)	192 (45)
3rd	25 (45)	37 (57)	24 (51)	35 (56)	22 (51)	29 (49)	28 (55)	25 (52)	225 (52)
4th	31 (49)	24 (67)	39 (68)	34 (65)	25 (52)	32 (51)	29 (52)	33 (59)	247 (57)
Wealthiest quintile	76 (68)	13 (81)	47 (80)	15 (56)	31 (82)	50 (68)	27 (59)	43 (70)	302 (70)
Child hand cleanliness: nails, finger pads and palms appeared clean §	44 (33)	20 (15)	33 (28)	27 (21)	40 (27)	27 (21)	36 (27)	55 (36)	282 (26)
Poorest quintile	1 (14)	3 (7)	3 (18)	3 (13)	8 (18)	0 (0)	5 (16)	7 (27)	30 (14)
2nd	2 (14)	5 (14)	4 (16)	6 (15)	4 (13)	2 (15)	7 (22)	10	40 (18)

pads and palms appeared clean [§]	(39)			(30)		(29)	(36)	(39)	(35)
Poorest quintile	3 (20)	20 (25)	9 (20)	11 (18)	15 (18)	1 (3)	9 (16)	12 (23)	80 (19)
2nd	3 (12)	21 (29)	13 (21)	16 (24)	18 (31)	5 (16)	15 (25)	12 (23)	103 (24)
3rd	16 (29)	21 (32)	11 (23)	22 (35)	15 (35)	13 (22)	18 (35)	13 (27)	129 (30)
4th	20 (32)	17 (47)	29 (51)	18 (35)	18 (38)	16 (25)	24 (43)	25 (45)	167 (39)
Wealthiest quintile	63 (57)	9 (56)	40 (68)	13 (48)	27 (71)	41 (56)	31 (67)	42 (69)	266 (62)
Received Hygiene and safe water use messages from									
NGO	33 (16)	3 (4.4)	3 (3.2)	10 (12)	10 (6.4)	32 (18)	34 (23)	35 (24)	160 (15)
Government health worker	16 (5.9)	0 (0)	4 (1.5)	1 (0.4)	16 (5.9)	14 (5.3)	9 (3.3)	7 (2.6)	67 (3.1)
Media (TV, radio, poster, micking, fair, drama, SMS)	68 (25)	4 (1.5)	20 (7.4)	13 (4.8)	26 (9.6)	55 (21)	31 (11)	14 (5.2)	231 (11)
Relative/friends/neighbours/parents/religious leader/school/village doctor	164 (61)	65 (24)	80 (30)	70 (26)	133 (49)	128 (48)	108 (40)	103 (38)	851 (39)
Mentioned at least three of the following eight handwashing messages	119 (44)	60 (22)	78 (29)	70 (26)	79 (29)	105 (40)	121 (45)	78 (29)	710 (33)
Respondents were able to mention the following handwashing messages of washing both hands with water and soap:									
Washing hands with soap before food preparation	74 (27)	23 (9)	37 (14)	37 (14)	45 (17)	80 (30)	73 (27)	84 (31)	453 (21)
Washing hands with soap before serving food	41 (15)	6 (2)	8 (3)	8 (3)	14 (5)	46 (17)	30 (11)	24 (9)	177 (8)
Washing hands with soap before eating	136 (50)	84 (31)	106 (39)	105 (39)	106 (39)	137 (52)	145 (54)	129 (48)	948 (44)
Washing hands with soap before feeding the baby	24 (9)	3 (1)	11 (4)	9 (3)	9 (3)	21 (8)	22 (8)	11 (4)	110 (5)
Washing hands with soap after defecation	247 (91)	245 (91)	227 (84)	234 (87)	245 (91)	242 (91)	245 (91)	218 (81)	1903 (88)
Washing hands with soap after cleaning child's anus	22 (8)	12 (4)	14 (5)	12 (4)	26 (10)	29 (11)	22 (8)	13 (5)	150 (7)
Washing hands with soap after cleaning babies' defecation	25 (9)	10 (4)	17 (6)	12 (4)	25 (9)	19 (7)	21 (8)	17 (6)	146 (7)
Washing hands with soap after eating	73 (27)	120 (44)	110 (41)	103 (38)	85 (31)	28 (11)	87 (32)	72 (27)	678 (31)
Benefits come from safely storing drinking water which is mentioned by the respondent									
Reduce diarrhea morbidity	127 (47)	54 (20)	74 (27)	66 (24)	78 (29)	99 (37)	94 (35)	76 (28)	668 (31)
Reduce ARI morbidity	38 (14)	27 (10)	22 (8)	19 (7)	23 (9)	24 (9)	16 (6)	22 (8)	191 (9)
Reduce water borne disease burden	160 (59)	48 (18)	84 (31)	62 (23)	109 (40)	152 (57)	119 (44)	113 (42)	847 (39)
Can drink germs free water	59 (22)	24 (9)	31 (11)	32 (12)	43 (16)	34 (13)	42 (16)	40 (15)	305 (14)
Other (specify)	24 (9)	28 (10)	23 (9)	21 (8)	49 (18)	18 (7)	23 (9)	35 (13)	221 (10)

[§]*No visible presence of dirt on nails, palms and finger pads*

Table 81: Food hygiene practices at household

Indicator	**Cox's Bazar Sadar (N=)**	**Kutubdia (N=)**	**Chakoria (N=)**	**Pekua (N=)**	**Maheshkhali (N=)**	**Ramu (N=)**	**Ukhiya (N=)**	**Teknaf (N=)**	**Overall (N=)**
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Cooked food items kept in a covered, Safe location[¥] location and clean[†] pot/container (spot check)									

(N=1,360)	(36)			(21)		(21)			(26)
Cooked food was covered with lid (N=1,883)	204 (88)	220 (88)	203 (91)	224 (93)	224 (94)	211 (91)	219 (91)	214 (94)	1,719 (91)
Location of the food container's									
Inside the home on elevated surface	141 (61)	74 (30)	92 (41)	82 (34)	83 (35)	101 (44)	114 (47)	112 (49)	799 (42)
Inside the home on the ground	77 (33)	152 (61)	107 (48)	130 (54)	131 (55)	116 (50)	115 (48)	103 (45)	931 (49)
Inside the home in cabinet	10 (4)	24 (10)	22 (10)	28 (12)	20 (8)	13 (6)	8 (3)	11 (5)	136 (7)
Inside the home in refrigerator	1 (0.4)	0 (0)	1 (0.5)	0 (0)	0 (0)	1 (0.4)	0 (0)	0 (0)	3 (0.2)
Outside the home on elevated surface	2 (0.9)	0 (0)	0 (0)	0 (0)	3 (1.3)	1 (0.4)	5 (2.1)	1 (0.4)	12 (0.6)
Outside the home on the ground	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.4)	0 (0)	0 (0)	1 (0.4)	2 (0.1)
Presence of any flies or any trash or food waste or any animal feces in the food storage area (inside the room, or within 5 feet if food is kept outside the room)	14 (6.1)	7 (2.8)	3 (1.4)	17 (7.1)	10 (4.2)	18 (7.8)	6 (2.5)	7 (3.1)	82 (4.4)
Food serving plate/pot store in safe location [¥] and appeared clean and hygienic [§]	195 (84)	192 (77)	172 (77)	198 (83)	192 (81)	163 (70)	189 (78)	179 (79)	1480 (79)
Cooked food items kept in a covered and clean[†] pot/container (Observed) (N=128)	4 (25)	1 (7)	5 (29)	5 (31)	5 (33)	3 (17)	8 (53)	7 (44)	38 (30)

[†] *No visible dirt inside or outside the containers that contained food*

[¥] *Safe location: Inside the home on elevated surface or Inside the home in cabinet*

[§] *Clean and Hygienic: Clean appearance*

Table 82: Handwashing facilities at school

Indicators	Cox's Bazar Sadar (N=19)	Kutubdia (N=7)	Chakoria (N=7)	Pekua (N=9)	Maheshkhali (N=11)	Ramu (N=6)	Ukhiya (N=38)	Teknaf (N=16)	Overall (N=113)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Average number of functional handwashing device available at school	7 (9)	4 (2)	5 (4)	5 (3)	5 (5)	3 (3)	9 (7)	5 (5)	6 (5)
Soap usually kept	N=19	N=7	N=7	N=9	N=11	N=6	N=38	N=16	N=113
Inside toilet facility	3 (16)	3 (42)	1 (14)	3 (33)	2 (18)	1 (67)	5 (13)	4 (25)	25 (22)
Outside the toilet	16 (84)	4 (57)	6 (86)	6 (67)	5 (46)	2 (33)	13 (34)	12 (75)	64 (57)
No specific place	0	0	0	0	4 (36)	0	20 (53)	0	24 (21)
Water and soap available for handwashing	19 (63)	4 (57)	6 (86)	9 (100)	4 (57)	6 (32)	12 (67)	15 (94)	75 (66)
During demonstration, students washed their both hands with soap at least six second	N=70 28 (40)	N=72 14 (19)	N=71 10 (14)	N=72 8 (11)	N=72 14 (19)	N=69 12 (17)	N=70 24 (34)	N=67 34 (51)	N=563 144 (26)
Hands dried with-									
Wearing cloth	15 (21)	39 (54)	21 (30)	33 (46)	25 (35)	15 (22)	18 (26)	24 (36)	190 (34)
Dirty cloth	1 (1)	0	0	0	0	3 (4)	1 (1)	0	5 (1)
Clean cloth	4 (6)	1 (1)	2 (3)	2 (3)	4 (6)	1 (2)	0	2 (3)	16 (3)
Air dry	17 (24)	11 (15)	17 (24)	16 (22)	16 (22)	13 (19)	20 (29)	19 (28)	129 (23)
Not dry	33 (47)	21 (29)	31 (44)	21 (29)	27 (38)	38 (55)	32 (46)	22 (33)	225 (40)
Handle available for disable person to hold inside the toilet	N=66 3 (5)	N=39 0	N=38 0	N=75 2 (3)	N=39 1 (3)	N=44 1 (2)	N=53 4 (8)	N=60 1 (2)	N=414 12 (3)
Wheel chair accessible to the toilet	0	1 (3)	0	1 (1)	0	2 (5)	0	0	4 (1)
Toilet raised above the highest flood line	66 (100)	38 (98)	24 (63)	69 (92)	32 (82)	30 (68)	46 (87)	59 (98)	364 (88)
Cleanliness of students both hand	N=72 29 (40)	N=72 42 (58)	N=72 40 (56)	N=72 41 (57)	N=72 42 (58)	N=72 27 (38)	N=72 42 (58)	N=72 49 (68)	N=576 312 (54)

	(N=72)								
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Students mentioned below important time to wash hands with soap-									
Before preparing food	2 (3)	3 (4)	2 (3)	2 (3)	1 (1)	2 (3)	5 (7)	9 (13)	26 (5)
Before eating	63 (88)	60 (83)	66 (92)	66 (92)	63 (88)	66 (92)	68 (94)	65 (90)	517 (90)
After eating	49 (68)	44 (61)	40 (56)	39 (54)	42 (58)	45 (63)	37 (51)	41 (57)	337 (59)
Before feeding a child	0	0	0	0	2 (3)	2 (3)	0	2 (3)	6 (1)
After cleaning child's anus	0	0	0	3 (4)	1 (1)	0	0	4 (6)	8 (1)
After disposal of child faeces	0	1 (1)	0	1 (1)	0	2 (3)	0	1 (1)	5 (1)
After defecation	69 (96)	71 (99)	69 (96)	71 (99)	70 (97)	67 (93)	69 (96)	70 (97)	556 (97)
After handling cow-dung	2 (3)	1 (1)	0	0	3 (4)	0	0	1 (1)	7 (1)
After returning from outside compound	22 (31)	12 (17)	9 (13)	12 (17)	9 (13)	15 (21)	9 (13)	3 (32)	111 (19)
Visible dirt	4 (6)	5 (7)	5 (7)	7 (10)	6 (8)	5 (7)	4 (6)	5 (7)	41 (7)
Students mentioned the benefits come from handwashing-									
Less diarrhoea	8 (11)	12 (17)	15 (21)	14 (19)	6 (8)	7 (8)	8 (11)	11 (15)	81 (14)
Less respiratory disease	46 (64)	51 (71)	49 (68)	49 (68)	49 (68)	53 (74)	47 (65)	57 (79)	401 (70)
Less illness	61 (85)	61 (85)	57 (79)	64 (89)	56 (78)	49 (68)	48 (67)	57 (79)	453 (79)
Less germs	8 (11)	7 (8)	1 (1)	12 (17)	8 (11)	7 (10)	8 (11)	9 (13)	60 (10)
Hands are cleaner	0	0	0	0	0	0	0	0	0

Table 84: Knowledge on menstruation

Indicator	**Cox's Bazar Sadar (N=201)**	**Kutubdia (N=175)**	**Chakoria (N=198)**	**Pekua (N=202)**	**Maheshkhali (N=200)**	**Ramu (N=194)**	**Ukhiya (N=195)**	**Teknaf (N=188)**	**Overall (N=1553)**
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Median (IQR) age at first menstruation **(median)**	199 (13)	170 (13)	193 (13)	198 (13)	196 (13)	190 (13)	190 (13)	183 (12)	1,519 (13)
Adolescent(age: 10-19)girls at household (N=130)	10 (4.2)	14 (6.1)	23 (9.4)	14 (5.7)	20 (8.3)	11 (4.6)	15 (6.3)	23 (9.9)	130 (6.8)
Adult (age: 19+ - 49) women (N=1,688)	216 (91)	205 (90)	216 (88)	219 (89)	205 (85)	215 (91)	216 (90)	196 (84)	1,688 (89)
Menstruation regular	169 (84)	113 (65)	134 (68)	149 (74)	160 (80)	145 (75)	151 (77)	151 (80)	1,172 (75)
Ever heard about menstruation before your first menstruation:									
Adolescent (age: 10-19)	4 (67)	9 (69)	10 (48)	6 (46)	14 (70)	8 (73)	7 (54)	5 (38)	63 (57)
Adult (age: 19+ - 49)	78 (40)	53 (33)	62 (35)	61 (32)	69 (39)	70 (38)	62 (34)	51 (29)	506 (35)
Knowledge on menstruation									
A normal phenomenon of reproductive health of a women	82 (41)	68 (39)	68 (34)	72 (36)	69 (35)	76 (39)	68 (35)	58 (31)	561 (36)
A Illness of a female	30 (15)	14 (8)	13 (7)	15 (7)	23 (12)	17 (9)	20 (10)	19 (10)	151 (10)
Curse of God	3 (1.5)	4 (2.3)	0 (0)	0 (0)	2 (1)	6 (3.1)	3 (1.5)	5 (2.7)	23 (1.5)
No idea/No experience	40 (20)	34 (19)	29 (15)	38 (19)	37 (19)	29 (15)	31 (16)	36 (19)	274 (18)
Materials used during menstruation									
Adolescent girls at household									
Cloth				13					

cloths changed per day									
Adolescent girls at household	6(1)	12(1)	18(1)	13(1)	18(1)	9(1)	11(1)	11(1)	98(1)
Adult women	163(1)	101(1)	116(1)	136(1)	142(1)	135(1)	140(1)	140(1)	1073(1)
Washed cloth with soap and improved water for repeated use**(N=871)**	N=111	N=95	N=109	N=122	N=116	N=111	N=104	N=103	N=871
Adolescent girls at household	5 (100)	6 (75)	8 (57)	5 (38)	11 (85)	7 (100)	6 (86)	5 (83)	53 (73)
Adult women	99 (93)	40 (46)	74 (78)	61 (56)	74 (72)	87 (84)	84 (87)	65 (67)	584 (73)
Dried cloth for repeated use in sunlight									
Adolescent girls at household	2 (40)	1 (13)	4 (29)	2 (15)	4 (31)	2 (29)	3 (43)	3 (50)	21 (29)
Adult women	36 (34)	25 (29)	27 (28)	30 (28)	36 (35)	33 (32)	39 (40)	32 (33)	258 (32)
Washed cloth with soap and improved water and dried in sunlight for repeated use									
Adolescent girls at household	2 (40)	1 (13)	2 (14)	0 (0)	4 (31)	2 (29)	3 (43)	3 (50)	17 (23)
Adult women	34 (32)	9 (10)	21 (22)	19 (17)	30 (29)	30 (29)	34 (35)	21 (22)	198 (25)
Stored menstrual cloth for repeated use									
Adolescent girls at household									
Normally like other cloth	1 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.4)
In hiding	4 (80)	8 (100)	14 (100)	13 (100)	13 (100)	7 (100)	7 (100)	6 (100)	72 (99)
Adult women									
Normally like other cloth	8 (7.6)	2 (2.3)	5 (5.3)	2 (1.8)	0 (0)	11 (11)	1 (1.0)	6 (6.2)	35 (4.4)
In hiding	98 (92)	85 (98)	90 (95)	107 (98)	103 (100)	93 (89)	96 (99)	91 (94)	763 (96)
Household with improved latrine									
Adolescent girls at household	8 (80)	10 (71)	16 (70)	10 (71)	6 (30)	8 (73)	9 (60)	13 (57)	80 (62)
Adult women	145 (67)	120 (59)	116 (54)	119 (54)	115 (56)	143 (67)	133 (62)	115 (59)	1,006 (60)
Household with improved latrine with soap and water available									
Adolescent girls at household	5 (50)	2 (14)	2 (9)	0 (0)	1 (5)	2 (18)	3 (20)	4 (17)	19 (15)
Adult women	70 (32)	21 (10)	37 (17)	30 (14)	29 (14)	42 (20)	50 (23)	49 (25)	328 (19)
Get information regarding menstruation									
Relatives/Friends (Mother, Father, Grandmother, aunty, sister/sister-in-law)	72 (36)	55 (31)	67 (34)	63 (31)	79 (40)	74 (38)	69 (35)	51 (27)	530 (34)
Teachers	0 (0)	0 (0)	1 (0.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.1)
Media/ Reading	6 (3)	7 (4)	4 (2)	4 (2)	4 (2)	3 (1.6)	0 (0)	4 (2.1)	32 (2.1)
Don't know about menstruation	123 (61)	113 (65)	126 (64)	135 (67)	117 (59)	117 (60)	126 (65)	133 (71)	990 (64)
Girls mentioned the implications of inadequate management of menstrual hygiene									
Pain lower abdomen /during urination	9 (4.5)	7 (4)	12 (6.1)	16 (7.9)	10 (5)	6 (3.1)	9 (4.6)	9 (4.8)	78 (5)
Anaemia/ tired/feel sleepy	0 (0)	1 (0.6)	0 (0)	2 (1)	1 (0.5)	1 (0.5)	0 (0)	0 (0)	5 (0.3)
Hampers the regular works	16 (8)	14 (8)	21 (10.6)	19 (9.4)	14 (7)	17 (8.8)	13 (6.7)	11 (5.9)	125 (8.1)
Itching/ Lumps and blister/ Redness and swelling	63 (31)	55 (31)	58 (29)	64 (32)	63 (32)	48 (25)	61 (31)	58 (31)	470 (30)

	(N=9)								
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
School has fixed place for solid waste disposal	4 (44)	7 (78)	6 (67)	7 (78)	6 (67)	4 (44)	8 (89)	6 (67)	48 (67)
Types of solid waste disposal									
Drum/ Pit	3 (75)	1 (14)	1 (17)	2 (29)	3 (50)	3 (75)	6 (75)	5 (83)	24 (50)
Waste bin/busket	1 (25)	6 (86)	5 (83)	7 (100)	3 (50)	0	2 (25)	2 (33)	26 (54)
Open	0	0	0	0	0	1 (25)	0	0	1 (2)
Students disposed waste in right way	1 (25)	2 (29)	1 (17)	2 (29)	0	0	3 (38)	2 (33)	11 (23)
Class rooms were cleaned	N=9 2 (22)	N=9 1 (11)	N=9 2 (22)	N=9 0	N=9 0	N=9 0	N=9 1 (11)	N=9 2 (22)	N=72 8 (11)
School compound area were cleaned	2 (22)	2 (22)	2 (22)	2 (22)	0	0	2 (22)	0	10 (14)

Table 86: Environmental hygiene at hospital

Indicator	Cox's Bazar Sadar (N=7)	Kutubdia (N=6)	Chakoria (N=7)	Pekua (N=7)	Maheshkhali (N=5)	Ramu (N=7)	Ukhiya (N=7)	Teknaf (N=6)	Overall (N=52)
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Health care facilities others exists drainage system									
No drain	4 (57)	3 (50)	4 (57)	2 (29)	2 (40)	5 (71)	5 (71)	6 (100)	31 (60)
Pukka drain/piped	2 (29)	3 (50)	3 (43)	2 (29)	2 (40)	1 (14)	1 (14)	0 (0)	14 (27)
Katcha drain	1 (14)	0 (0)	0 (0)	1 (14)	0 (0)	1 (14)	1 (14)	0 (0)	4 (8)
Soak pit	0 (0)	0 (0)	0 (0)	2 (29)	1 (20)	0 (0)	0 (0)	0 (0)	3 (6)

Upazila specific institution based demand

Upazila Name: Maheshkhali

Table 87: Current situation and demand of drinking water, sanitation and handwashing facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Bara Maheshkhali	4	4	0	4	0	2	2
Choto Maheshkhali	2	1	1	2	0	0	2
Saplapur	4	4	0	4	0	1	3
Kutibjom	4	2	2	4	0	1	3
Hoyanok	9	9	0	9	0	1	8
Kalarmarchara	7	7	0	7	0	0	7
Matarbari	5	5	0	5	0	1	4
Dholghata	3	3	0	3	0	0	3
Municipal	5	5	0*	5	0*	1	4
Total	43	40	3 (New)	43	0	7	36

*Note: * Respective official mentioned the current number of drinking water facilities and sanitation facilities in the Health Centre of Municipal area is not adequate compare to the number of population*

facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Bara Maheshkhali	1	1	0	1	0	1	0
Choto Maheshkhali	0	0	0	0	0	0	0
Saplapur	1	1	0	1	0	0	1
Kutibjom	1	1	0	1	0	1	0
Hoyanok	1	1	0	1	0	1	0
Kalarmarchara	0	0	0	0	0	0	0
Matarbari	1	1	0*	1	0	1	0
Dholghata	1	1	0*	1	0	0	1
Total	6	6	0	6	0	4	2

*Note: * Respective official mentioned the current number of drinking water facilities in the Union Health and Family Welfare Centre of Matarbari and Dholghata union is not adequate compare to the number of population.*

Table 89: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Bara Maheshkhali	11	11	0	9	2	9	2
Choto Maheshkhali	5	5	0	4	1	4	1
Saplapur	7	7	0	5	2	6	1
Kutibjom	7	6	1	5	2	6	1
Hoyanok	10	8	2	8	2	9	1
Kalarmarchara	10	9	1	8	2	8	2
Matarbari	9	9	0	8	1	8	1
Dholghata	4	3	1	1	3	1	3
Municipal	7	6	1	3	4	3	4
Total	70	64	6	51	19	54	16

Table 90: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Bara Maheshkhali	4	4	0	4	0	2	2
Choto Maheshkhali	2	2	0	2	0*	0	2
Saplapur	4	4	0	4	0	1	3
Kutibjom	4	4	0	4	0	1	3
Hoyanok	9	9	0	9	0	1	8
Kalarmarchara	7	7	0	7	0	0	7
Matarbari	5	5	0	5	0	1	4
Dholghata	3	3	0	3	0	0	3
Municipal	5	5	0	5	0	1	4
Total	43	43	0	43	0	7	36

*Note: * Respective official mentioned the current number of sanitation facilities in the Secondary Education Institutions of Choto Maheshkhali Union is not adequate compare to the number of students.*

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Islampur	3	3 (Good)	0*	3 (not good)	3 (repair)**	3 (not good)	3 (repair)**
Pokakhali	3	3 (out of order)	3 (new)	3 (not good)	3 (repair) **	3 (not good)	3 (repair) **
Islamabad	3	3 (Good)	0*	3 (not good)	3 (repair) **	3 (not good)	3 (repair) **
Idgaon	3	3 (Good)	0	3 (not good)	3 (repair) **	3 (not good)	3 (repair) **
Choufolandi	5	5 (out of order)	5 (new)	5 (not good)	5 (repair) **	5 (not good)	5 (repair) **
Jalalabad	2	2 (Good)	0*	2 (not good)	2 (repair) **	2 (not good)	2 (repair) **
Varuakhali	4	4 (Good)	0*	4 (not good)	4 (repair) **	4 (not good)	4 (repair) **
PM Khali	6	6 (Good)	0*	6 (not good)	6 (repair) **	6 (not good)	6 (repair) **
Khurushkul	4	4 (Good)	0*	4 (not good)	4 (repair) **	4 (not good)	4 (repair) **
Jhilonjha	3	3 (Good)	0*	3 (not good)	3 (repair) **	3 (not good)	3 (repair) **
Total	36	36 (28 good, 8 out of order)	8 New install	36 (not good)	36 (repair) **	36 (not good)	36 (repair) **

*Note: * Respective official mentioned the current number of drinking water facilities in many health centres are good in condition but not adequate compare to the number of population.*

***Sanitation and handwashing facilities of all unions are not in good condition, which needs to be repaired; also, mentioned existing number of sanitation facilities are inadequate.*

Table 92: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Islampur	0	0	0	0	0	0	0
Pokakhali	0	0	0	0	0	0	0
Islamabad	1	1 (Shallow Tube well)	1 (Deep Tube well)	1 (Out of Order)	1 (New)	0	1
Idgaon	0	0	0	0	0	0	0
Choufolandi	1	1	0	1 (Out of Order)	1 (New)	0	1
Jalalabad	1	1 (Shallow Tube well)	1 (Deep Tube well)	1 (Good)	0*	0	1
Varuakhali	1	1	0*	1 (not good)	1(repair)	0	1
PM Khali	1	1	0	1 (Out of Order)	1 (New)	0	1
Khurushkul	1	1 (Shallow Tube well)	1 (Deep Tube well)	1 (Out of Order)	1 (New)	0	1
Jhilonjha	0	0	0	0	0	0	0
Total	6	6	3 (Deep Tube wells)	1 (Good)	5 (4 New, 1 repair)	0	6 (basins and pipeline)

** Respective official mentioned the current drinking water facilities in Varuakhali health centre are good in condition, but not adequate compare to the number of population. Similar is appropriate for sanitation facilities in Jalalabad health canter.*

Table 93: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Islampur	5	0	5	2	3	3	2
Pokakhali	8	0	8	3	5	5	3

Jhilonjha	9	0	9	3	6	3	4
Municipal	17	0	17	6	11	10	7
Total	103	0	103	36	67	60	43

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

Table 94: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Islampur	2	0	2	0	2	0	2
Pokakhali	6	0	6	2	4	0	6
Islamabad	3	0	3	1	2	0	3
Idgaon	4	0	4	1	3	0	4
Choufolandi	5	0	5	2	3	0	5
Jalalabad	3	0	3	1	2	0	3
Varuakhali	3	0	3	1	2	0	3
PM Khali	5	0	5	2	3	0	5
Khurushkul	6	0	6	2	4	0	6
Jhilonjha	8	0	8	3	5	0	8
Municipal	19	0	19	6	13	1	18
Total	64	0	64	21	43	1	63

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Dakkhin Mithachari	3	3	0	3	0	3	0
Chakmarkul	3	3	0	3	0	3	0
Rajarkul	1	1	0	1	0	1	0
Ghuniyapalong	3	3	0	3	0	3	0
Rashidnagar	2	2	0	2	0	2	0
Idgar	2	2	0	2	0	2	0
Gorjonia	3	3	0	3	0	3	0
Kocchopia	2	2	0	2	0	2	0
Kauarkhop	2	2	0	2	0	2	0
Joarianala	3	3	0	3	0	3	0
Fatekharkul	5	5	0	5	0	5	0
Total	29	29	0	29	0	29	0

Table 96: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Dakkhin Mithachari	1	1	0* (water pump required)	1 (not good)	1 (repair)	1 (not good)	1 (repair)
Chakmarkul	0	0	0	0	0	0	0
Rajarkul	1	1	0* (water pump required)	1 (Good)	0	0	1 ** (New)
Ghuniyapalong	1	1	0* (water pump required)	1 (not good)	1 (repair)	1 (not good)	1 (repair)
Rashidnagar	1	1	0	1 (Good)	0	1 (not good)	1 (repair)
Idgar	1	1	0	1 (not good)	1 (repair)	1 (not good)	1 (repair)
Gorjonia	1	1	0	1 (Good)	0	0	1 ** (New)
Kocchopia	1	1	0* (water pump required)	1 (Good)	0	0	1** (New)
Kauarkhop	1	1	0	1 (not good)	1 (repair)	0	1 ** (New)
Joarianala	0	0	0	0	0	0	0
Fatekharkul	1	1	0	1 (Good)	0	0	1 ** (New)
Total	9	9	0	5 (Good)	4 repair	0	9 (5 new, 4 repair)

** Respective official mentioned the current drinking water facilities (tube wells) in certain unions are in good condition, but they need water pumps.*

*** Have basins but running water facilities needs for handwashing.*

Table 97: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Dakkhin Mithachari	7	7	0	7	0	0	7
Chakmarkul	5	5	0	5	0	0	5
Rajarkul	7	7	0	7	0	0	7

Total	85	85	0	85	0	0	85

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

Table 98: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Dakkhin Mithachari	2	2	0*	2	0*	2	0*
Chakmarkul	3	3	0*	3	0*	3	0*
Rajarkul	6	6	0*	6	0*	6	0*
Ghuniyapalong	4	1	3*	3	1*	1	3
Rashidnagar	2	0	2	1	1	0	2
Idgar	2	0	2	1	1	0	2
Gorjonia	4	0	4	3	1	1	3
Kocchopia	3	3	0*	3	0*	3	0*
Kauarkhop	2	2	0*	2	0*	1	1*
Joarianala	2	2	0*	2	0*	1	1
Fatekharkul	4	4	0*	4	0*	2	2*
Total	34	23	11	30	4	20	14

** Respective official mentioned the current facilities (drinking water, sanitation and handwashing) in certain unions are in good condition, but they are inadequate compare to the number of students.*

Upazila Name: Pekua

Table 99: Current situation and demand of drinking water, sanitation and handwashing facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Mognama	2	1 (Good)	1 (repair)	2 (out of order)	2 (New)	2 (out of order)	2 (New)
Rajakhali	2	1 (Good)	1 (repair)	1 (Good)	1 (repair)	1 (Good)	1 (repair)
Tetong	1	1 (out of order)	1 (New)	1 (out of order)	1 (New)	1 (out of order)	1 (New)
Pekua Sadar	4	1 (Good)	3 (repair)	1 (Good)	3 (repair)	1 (Good)	3 (repair)
Shilkhali	3	3 (out of order)	3 (New)	3 (out of order)	3 (New)	3 (out of order)	3 (New)
Ujantia	2	1 (Good)	1 (repair)	1 (Good)	1 (repair)	1 (Good)	1 (repair)
Barbakia	3	3 (out of order)	3 (New)	3 (out of order)	3 (New)	3 (out of order)	3 (New)
Total	17	4 (Good)	13 (6 Repair, 7 New installation)	3 (Good)	14 (5 repair, 9 New installation)	3 (Good)	14 (5 repair, 9 New installation)

Table 100: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand

Shilkhali	1	1 (good)	0	1 (good)	0	1 (good)	0
Ujantia	0	0	0	0	0	0	0
Barbakia	0	0	0	0	0	0	0
Total	5	4	1 New Installation	3	2 New Installation	4	1 New Installation

Table 101: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Mognama	9	5 (good)	4 (repair)	5 (good)	4 (repair)	4 (good)	5 (repair)
Rajakhali	9	6 (good)	3 (repair)	6 (good)	3 (repair)	4 (good)	5 (repair)
Tetong	6	5 (good)	1 (repair)	6 (good)	0 (repair)	5 (good)	1 (repair)
Pekua Sadar	12	10 (good)	2 (repair)	10 (good)	2 (repair)	10 (good)	2 (repair)
Shilkhali	8	5 (good)	3 (repair)	7 (good)	1 (repair)	5 (good)	3 (repair)
Ujantia	7	5 (out of order)	2 (New)	4 (good)	3 (repair)	4 (good)	3 (repair)
Barbakia	5	4 (good)	1 (repair)	4 (good)	1 (repair)	4 (good)	1 (repair)
Total	56	40 (Good)	16 (14 repair, 2 New install)	42 (Good)	14 (repair)	36 (Good)	20 (repair)

Table 102: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Mognama	2	2	0	2	0	1	1
Rajakhali	4	3	1	3	1	3	1
Tetong	2	0	2	0	2	0	2
Pekua Sadar	6	3	3	3	3	3	3
Shilkhali	1	1	0	1	0	1	0
Ujantia	2	0	2	0	2	0	2
Barbakia	3	3 (not good)	3 (repair)	3 (not good)	3 (repair)	3 (not good)	3 (repair)
Total	20	12 (3 not good)	8 New install (3 repair)	12 (3 not good)	8 New install (3 repair)	11 (3 not good)	9 New install (3 repair)

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Harbang	3	2 (Good)	1 (repair)	2 (Good)	1 (repair)	2 (Good)	1 (repair)
Khutakhali	4	2 (Good)	2 (repair)	2 (Good)	2 (repair)	2 (Good)	2 (repair)
Laikkhachar	2	2 (out of order)	2 (New)	2 (out of order)	2 (New)	2 (out of order)	2 (New)
Saharbil	1	1 (out of order)	1 (New)	1 (out of order)	1 (New)	1 (out of order)	1 (New)
Chiringa	3	3 (out of order)	3 (New)	3 (out of order)	3 (New)	3 (out of order)	3 (New)
Boroitoli	3	2 (Good)	1 (repair)	2 (Good)	1 (repair)	1 (Good)	2 (repair)
Demusia	2	2 (Good)	0	1 (Good)	1 (repair)	1 (Good)	1 (repair)
Bamu Bilchori	2	0	2 (New)	0	2 (New)	0	2 (New)
Purba Bara Bheola	2	2 (Good)	0	1 (Good)	1 (repair)	0	2 (New)
Sureshpur	3	3 (Good)	0	1 (Good)	2 (repair)	1 (Good)	2 (repair)
Konakhali	2	1 (Good)	1 (repair)	1 (Good)	1 (repair)	0	2 (New)
Fasiakhali	4	4 (Good)	0	1 (Good)	3 (repair)	1 (Good)	3 (repair)
Bodorkhali	3	3 (Good)	0	1 (Good)	2 (repair)	0	3 (New)
Dulahazra	2	2 (Good)	0	1 (Good)	1 (repair)	0	2 (New)
Pashchim Bara Bheola	2	2 (Good)	0	1 (Good)	1 (repair)	1 (Good)	1 (repair)
Manik Char	2	1 (Good)	1 (repair)	1 (Good)	1 (repair)	1 (Good)	1 (repair)
Koiar Bil	2	0	2 (New)	1 (Good)	1 (repair)	0	2 (New)
Kakhara	2	2 (Good)	0	1 (Good)	1 (repair)	0	2 (New)
Total	44	28 (Good)	16 (6 repair, 10 new install)	17 (Good)	27 (19 repair, 8 New install)	10 (Good)	34 (13 repair, 21 New install)

Table 104: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Harbang	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Khutakhali	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Laikkhachar	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Saharbil	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Chiringa	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Boroitoli	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Demusia	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Bamu Bilchori	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Purba Bara Bheola	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Sureshpur	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Konakhali	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Fasiakhali	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Bodorkhali	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Dulahazra	1	1 (Good)	0	1 (Good)	0	1 (Good)	0
Pashchim Bara Bheola	1	1 (Good)	0	1 (Out of order)	1 (New)	1 (Good)	0
Manik Char	1	1 (Good)	0	1 (Out of order)	1 (New)	1 (Good)	0
Koiar Bil	1	1 (Good)	0	1 (Out of	1 (New)	1 (Good)	0

facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Harbang	17	17	0	17	0	0	17
Khutakhali	13	13	0	13	0	0	13
Laikkhachar	6	6	0	6	0	0	6
Saharbil	7	7	0	7	0	0	7
Chiringa	11	11	0	11	0	0	11
Boroitoli	16	16	0	16	0	0	16
Demusia	8	8	0	8	0	0	8
Bamu Bilchori	4	4	0	4	0	0	4
Purba Bara Bheola	7	7	0	7	0	0	7
Sureshpur	10	10	0	10	0	0	10
Konakhali	9	9	0	9	0	0	9
Fasiakhali	13	13	0	13	0	0	13
Bodorkhali	16	16	0	16	0	0	16
Dulahazra	22	22	0	22	0	0	22
Pashchim Bara Bheola	6	6	0	6	0	0	6
Manik Char	12	12	0	12	0	0	12
Koiar Bil	14	14	0	14	0	0	14
Kakara	13	13	0	13	0	0	13
Municipal	31	31	0	31	0	0	31
Total	235	235	0	235	0	0	235

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

Table 106: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Harbang	3	2	1	3	0	0	3
Khutakhali	6	3	3	5	1	0	6
Laikkhachar	1	1	0	1	0	0	1
Saharbil	3	2	1	3	0	0	3
Chiringa	1	1	0	1	0	0	1
Boroitoli	5	3	2	4	1	0	5
Demusia	2	1	1	2	0	0	2
Bamu Bilchori	0	0	0	0	0	0	0
Purba Bara Bheola	2	1	1	2	0	0	2
Sureshpur	4	2	2	3	1	0	4
Konakhali	2	1	1	2	0	0	2
Fasiakhali	3	2	1	3	0	0	3
Bodorkhali	4	2	2	3	1	0	4
Dulahazra	7	4	3	6	1	0	7
Pashchim Bara Bheola	2	1	1	2	0	0	2
Manik Char	1	1	0	1	0	0	1
Koiar Bil	1	1	0	1	0	0	1
Kakara	3	2	1	3	0	0	3
Total	50	30	20	45	5	0	50

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Jaliapalong	4	4	0	4	0	0	4
Palongkhali	2	2	0	2	0	0	2
Ratna Palong	4	4	0	4	0	0	4
Raja Palong	6	6	0	6	0	1	5
Holdia Plaong	5	5	0	5	0	0	5
Total	21	21 (good)	0	21 (good)	0	1 (good)	20

Table 108: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Jaliapalong	1	1	0	1	0	1	0
Palongkhali	1	1	0	1	0	1	0
Ratna Palong	1	1	0	1 (out of order)	1 (repair)	1 (out of order)	1 (repair)
Raja Palong	0	0	0	0	0	0	0
Holdia Plaong	0	0	0	0	0	0	0
Sadar Clinic (MCH)	1	1	0	1 (out of order)	1 (repair)	1 (out of order)	1 (repair)
Total	4	4 (good)	0	2 (good)	2 (repair)	2 (good)	2 (repair)

Table 109: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Jaliapalong	17	0	17	17	0	1	16
Palongkhali	9	6	3	9	0	0	9
Ratna Palong	17	0	17	17	0	1	16
Raja Palong	25	17	8	17	8	0	25
Holdia Plaong	15	0	15	15	0	1	14
Total	83	23	60	75	8	3	80

Note: Except two union (i.e. Palongkhali and Raja Palong), WASH demand is set with the survey results due to lack of actual information on current situation and demand.

Table 110: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Jaliapalong	5	5	0	5	0	5	0
Palongkhali	6	6	0	6	0	6	0
Ratna Palong	5	5	0	5	0	5	0
Raja Palong	10	10	0	10	0	10	0
Holdia Plaong	9	9	0	9	0	9	0
Total	35	35 (good)	0*	35 (good)	0*	35 (good)	0*

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Sadar	3	1 (Good)	2	3 (Good)	0	3 (Good)	0
Hoyaikong	4	2 (Good)	2	2 (Good)	2	2 (Good)	2
Nhila	3	1 (Good)	2	1 (Good)	2	1 (Good)	2
Sarbang	2	1 (Good)	1	1 (Good)	1	1 (Good)	1
Baharchara	2	1 (Good)	1	1 (Good)	1	1 (Good)	1
St. Martin	0	0		0		0	
Total	14	6	8 (repair)	8	6 (repair)	8	6 (repair)

Table 112: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Sadar	1 Sadar Clinic	1 (out of order)	1 (New)	1 (out of order)	1 (New)	1 (out of order)	1 (New)
Hoyaikong	1	0	1 (New)	1 (out of order)	1 (New)	1 (out of order)	1 (New)
Nhila	1 (Rural Dispensary/Sub Centre)	0	1 (New)	1 (out of order)	1 (New)	1 (good)	0
Sarbang	1	1 (out of order)	1 (New)	1 (out of order)	1 (New)	1 (good)	0
Baharchara	1	1 (out of order)	1 (New)	1 (Good)	0	1 (out of order)	1 (New)
St. Martin	0	0		0		0	
Total	5	3	5 (New install)	5	4 (New Install)	5	3 (needs basins)

Table 113: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Sadar	15						
Hoyaikong	16						
Nhila	10						
Sarbang	12						
Baharchara	10						
St. Martin	1						
Total	64						

Note: Due to lack of actual information on current situation and demand, and absence of sample in Primary School in Teknaf during survey, WASH demand could not be set.

Table 114: Current situation and demand of drinking water, sanitation and handwashing facilities – Secondary Education Department

Name of Union	# of Secondary Education	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand

Total	32	28	4	32	0	3	29

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

facilities - health centers (Community Clinic and others)

Name of Union	# of Health Centre/CC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Uttar Dhurung	2	2	2	2 (Good)	0	2 (Good)	0
Dakkhin Dhurung	2	2	2	2 (Good)	0	2 (Good)	0
Lemshikhali	2	2	2	1 (Good)	1	1 (Good)	1
Koiyarbil	2	2	2	1 (Good)	1	1 (Good)	1
Bara Ghop	3	2	2	1 (Good)	2	1 (Good)	2
Ali Akbar Deli	1	2	2	1 (Good)	0	1 (Good)	0
Total	12	12 (Good)	*12 (New Installation)	8 (Good)	4 (New Installation)	8 (Good)	4 (New Installation)

Note: *Deep Tube wells required for each union in replacements of all shallow tube wells.

Table 116: Current situation and demand of drinking water, sanitation and handwashing facilities – Family Planning Sector (UHFWC)

Name of Union	# of UHFWC	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Uttar Dhurung	1	1 (Good)	0	1 (Good)	0	1 (Out of order)	1 (New)
Dakkhin Dhurung	1	0	1 (New Installation)	0	1 (New)	1 (Out of order)	1 (New)
Lemshikhali	1	1 (Good)	0	1 (Out of order)	1 (New)	1 (Out of order)	1 (New)
Koiyarbil	1	1 (Good)	0	1 (Good)	0	1 (Out of order)	1 (New)
Bara Ghop	1 Sadar Clinic	1 (Shallow tube well)	1 (Deep tube well)	1 (Good)	0	0	1 (New)
Ali Akbar Deli	1	1 (Good)	0	1 (Out of order)	1 (New)	1 (Good)	0
Total	6	5	2 (New Installation)	5	3 (New Installation)	5	5 (New Installation)

Table 117: Current situation and demand of drinking water, sanitation and handwashing facilities – Primary Education Department

Name of Union	# of Primary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Handwashing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Uttar Dhurung	14	9	5	0	14	1	13
Dakkhin Dhurung	7	5	2	0	7	0	7
Lemshikhali	11	7	4	0	11	1	10
Koiyarbil	4	3	1	0	4	0	4
Bara Ghop	11	7	4	0	11	1	10
Ali Akbar Deli	4	3	1	0	4	0	4
Total	51	34	17	0	51	3	48

Note: Due to lack of actual information on current situation and demand, WASH demand is set with the survey results

Name of Union	# of Secondary Education Institutes	Drinking Water Facilities		Sanitation Facilities		Hand Washing Facilities	
		Current Situation	Demand	Current Situation	Demand	Current Situation	Demand
Uttar Dhurung	3	3	3	3 (out of order)	3 (New)	0	3
Dakkhin Dhurung	2	2	2	2 (out of order)	2 (New)	0	2
Lemshikhali	3	3	3	3 (out of order)	3 (New)	0	3
Koiyarbil	3	3	3 (with IRP)	3 (out of order)	3 (New)	0	3
Bara Ghop	4	4	4	1 (Good)	3 (repair)	0	4
Ali Akbar Deli	4	1	4	1 (Good)	3 (repair)	1	3
Total	19	16 (all shallow tube wells)	19 Deep tube wells with 3 IRP needed	2 Good	11 New installation, 6 repair	1	18 (New Installation)

Key questions:

1. **Enabling Environment (policy strategy, organizational mandates and framework):**
    a. What are the existing policies, strategies and regulatory framework for providing sustainable WASH services at the Upazila level? (list down the policies)
    b. Are the existing policy, strategies and regulatory framework being conducive or favorable for providing sustainable WASH services at the Upazila level? (e.g. promotes collaboration, supportive policy, local strategies, emergency preparedness etc)
    c. What other policies, strategies and regulatory framework are needed towards achieving SDGs and national targets?
2. **Organizational arrangement/structure (planning, coordination, monitoring, and reporting)**
    a. What will be the priority for planning issues on WASH for respective area (community, educational institutions, health centres and growth centres) in the upcoming years? (in line with SDGs)
    b. How effective are the existing planning and other procedures? (planning, need based or priority-based target setting, top down or bottom up approach, how do they minimize the overlapping in the programmes).
    c. How effective are the existing coordination procedures? (e.g. listing the coordination committees relevant to WASH, are they actively functional (WATSAN, LGI standing committees), regular meetings of those committees, implementation according to the decisions made in the respective committees)
    d. How effective are the existing monitoring and reporting procedures? How they ensure the accountability of all organization?
    e. What are the emerging issues or key challenges? What are the institutional capacities to address those identified challenges?

c. What are the potentials/required actors or technical experts to address the emerging issues or identified challenges?

d. What is the mechanism of fund allocation and use, (e.g. demand based allocation or top down budgeting)? Use of allocation.

Annex-8.b: Roles of the Different Institutions in WASH

1. *Role of DPHE*

Table 119: Role of DPHE

Water	Sanitation	Hygiene
• Department of Public Health Engineering (DPHE) is the lead agency for drinking water supply. • DPHE ensures clean water, establishing iron and arsenic removal plant. • DPHE identifies underprivileged population and unsuccessful areas, where safe water layer is not available. • DPHE allocates water sources as per demand and install at community and primary schools. • Coordinate and maintain liaison with the Upazila Administration, Upazila Parishad, Union Parishads and other relevant government and non-government organizations. • Test water quality during installation. • Assist community people/education institutions to repair water sources.	• Department of Public Health Engineering (DPHE) is the lead agency for sanitation. • DPHE allocate budget and construct WASH block in Primary Schools under PEDP-3 (Primary school development program). • Facilitate and organize sanitation month observation program with the participation of different organizations.	

2. *Role of Department of Health*

Table 120: Role of Department of Health

Water	Sanitation	• Hygiene
		• Sanitation Inspectors motivates community people about hygiene and conducts regular meeting on hygiene issues at the growth centers. • Monitor waste management at growth centers, slaughterhouse and fish markets. In addition, they monitor food safety and hygiene of food court and food shops. • Health staff supposed to discuss WASH issues during routine EPI sessions; however, this often overlooked due to workloads of EPI.

3. *Role of Department of Health and Family Planning*

Table 121: Role of Department of Health and Family Planning

Water	Sanitation	• Hygiene
		• Family Planning staff conducts hand-washing session to the students at secondary schools. • Conducts courtyard meeting about personal hygiene (one per union per month).

4. *Role of Department of Primary Education*

Table 122: Role of Department of Primary Education

Water	• Sanitation	• Hygiene

5. *Role of Department of Secondary Education*

Table 123: Role of Department of Secondary Education

Water	• Sanitation	• Hygiene
Department of Secondary Education guides Head Teacher and Chairman of SMC to ensure safe drinking water for the students.	• Monitor WASH facilities to keep clean, hygienic and functional and conducts feedback session according to the identified situation. • Follow-up about the raising fund of own institution and it's use in the cleaning of WASH facilities.	• Ensure disseminating WASH related message during assembly session. • Ensure cleaning of school premises every Thursday at every school. • WASH issues are discussed during meetings of school management committees.

6. *Role of Department of Private Sector*

- The private sectors of Bangladesh are mainly involved in water and sanitation business. Some cases they are working jointly with Union Parishad and NGOs. Hygiene promotion also as a part of their marketing policy. Private sector mainly produces soaps, latrine cleaning products, water storage tanks, pipes, water filters, tube wells, submersible pumps, SaTo pan, ceramic pan, ring, slab etc.
- Both types of customers (individual and organizational or NGOs) buy sanitation services.

7. *Role of Department of Union Parishad in WASH*

The Union WATSAN Committees are supposed to implement and monitor WASH activities. With Union Parishads and other national agencies, the Upazila Parishad is mandated to coordinate water, sanitation and hygiene activities under their respective authority.

1.1 Exercise Notes on Enabling Environment with DPHE

Table 124: Exercise Notes on Enabling Environment with DPHE

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
Most of the participants are not aware of policies, frameworks and guidelines. However, their key activities include ensuring clean water, managing advanced sanitation system, establishing iron and arsenic removal plant. In addition, DPHE identifies underprivileged villages to render sustainable WASH services. Through coordination with the Upazila administration (elected UP chairman, members), DPHE allocated tubewells and toilets according to demand generated from the community people. Poor and unprivileged people of remote village gets priority based on the field survey data.	• Most of the participants are not informed about any specific policies, framework and guideline those are followed at Upazila level. • DPHE has provision of formation of a committee with Upazila Chairman and Union Parishad (UP) Chairman. In this committee meeting, problems related to water of each union supposed to be discussed. • DPHE identifies poor and unprivileged people through locally elected members and then they distribute toilets or tube wells. • DPHE constructs WASH blocks for ensuring proper and advanced sanitation system in both community and primary schools. • Among the entire budget allocation at Upazila level, 50% has been distributed by the UNO, Upazila and UP Chairman. The rest has been distributed by the MPs.	• Budgeting system proposed to be changed. For an example, 40% should be decided by the MPs, 40% by the WATSAN committee members and rest 20% should be kept preserved for the institution to decide. • Suitable technology for installing/establishing tube wells should be depended on the demand and nature of that particular area. • A revised policy is required for water supply. • A revised sanitation policy is required to align with SDG's safely managed sanitation. • In order to successful installation of tube wells, an implementation guideline for the private mechanics and entrepreneurs is required. • Strategy on Operations and Monitoring (O&M) of WATSAN for the facility at school and community level. • A policy for community involvement for preparing participatory plan at Union and Upazila level is required. • Menstrual Hygiene Management (MHM) strategies should be introduced and emphasized at the schools.

1.2 Exercise Notes on Institutional Arrangement with DPHE

Table 125: Exercise Notes on Institutional Arrangement with DPHE

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous situation	Coordination committees	Monitoring and reporting

• Existing workforce are unable to perform WASH monitoring and reporting activities • Lack of appropriate technologies to get water from decreasing level of natural water sources • Lack of awareness on WASH and negligence about maintaining hygiene • Poor condition, uncleanliness, inadequate or no arrangements for gender-segregated toilets resulted negligence in using the cyclone shelters during disaster along with their personal property issues.	with running water • More toilets in cyclone shelters • Gender segregated toilets in secondary schools and cyclone shelters • Fecal Sludge Management (FSM) is needed at municipality • Emphasized on courtyard meeting to raise awareness among community people • Proper monitoring and repairing system in the schools for sustaining the toilets • Introducing hygiene maintenance curriculum in schools • Survey for listing of unprivileged people including elderly and disable people • Increasing transportation facility • Take along advanced technology for water testing, arranging training for mechanics, digitized reporting system • Establishment of iron removal and desalination plants	planning. However, need based, bottom up approach should be followed according to the participants. The plan should be developed in coordination with the education and health. • The WATSAN committees of union and Upazila level needs more active planning and participation to implement necessary WASH service.	or emerging situations, other than Disaster Management Committee, which mainly takes some measurements during emergencies (e.g. distribution of water refining tablets, clean water, and hygiene kit box among the disaster-affected people). • Sometimes WATSAN committee met during emergencies; however, that plan or meeting does not always proven helpful. • UNO officials collected information on damaged toilets and tube wells; DPHE takes initiative based on that information. In few places (rare cases), latrine or tube wells are established above flood level.	However, lack of coordination among the committees hampered the smooth implementation of WASH services sometimes. Therefore, participants suggested taking measures to make the committees more functional and accountable.	WASH activities is hampered. • Since SAEs are in-charge for each union, and the member secretary of WATSAN committee, they can act appropriately to ensure the accountability of all sectors including the NGOs. Tube well Mechanics can assist the SAEs in this regard. • Union WATSAN committee can inform the mechanics about their own sectors (Education, Health and NGO) and they can compile the information and report to the SAEs. Besides, SAE can also gather information from the school management committee (SMC) regarding WASH. • To monitor WASH activities, regular coordination and monthly meetings of standing and WATSAN committee should be arranged at both union and Upazila level.

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• Average 6-8 persons are available to provide WASH services. • Training on water level and modern technology, advance sanitation system, sustainable WASH services, monitoring system, and reporting (includes data compilation). Training needed for all types of workers.	All of them emphasized on increasing the number of expert mechanics for service provision, who are technologically sound. Besides, Clerk cum Typist (CCT), office assistant (MLSS) are their workforce requirements.	• Participant from five Upazilas are not aware to this process, and one participant was absent, other two participants did not answer correctly. • Local office do not have any role in budget preparation (top-down approach).	• Most of the participants could not informed about the target and budget allocation in current fiscal year. • Representative of Sadar Upazila reported about overall budget, which is 3.5 crore taka. 200 water resources and 50 improved house latrines and 1 piped water network system is proposed under this budget, he added. • Representative of Ramu Upazila reported, the allocation for this year is yet to receive.	Vehicles needed for the SAE and the Mechanics for perform duties and monitoring activities.

2. Capacity Assessment of the Department of Health

2.1 Exercise Notes on Enabling Environment with Department of Health

Table 127: Exercise Notes on Enabling Environment with Department of Health

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
Participants were not interested to share anything regarding policies.	Participants were not interested to share anything regarding policies.	• The participants proposed to have certain policies or regulations for law enforcement to smooth their activities. Since they have to conduct any mobile courts through Local Government Institutes (LGI) i.e. UNO officials, it takes long to ensure food hygiene safety. Hence, they (UHFPOs) asked to fix this issue to have a balanced way of applying laws in a small scale in order to take appropriate measures wherever necessary, thus it would save their time. • Sanitary Inspectors suggested that they need guidelines on WASH to teach the adolescent boys and girls of schools about this. • All participants agreed to have a separate guideline for the staff of hotels and restaurants on food hygiene. • Increase workforce to ensure the quality of service (Workload is three times compared to the existing workforce and so the quality of the service is questionable).

2.2 Exercise Notes on Institutional Arrangement of the Department of Health

Table 128: Exercise Notes on Institutional Arrangement of the Department of Health

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous	Coordination committees	Monitoring and reporting

suppliers of entrepreneurs. • Lack of inspection in market places for waste management, e.g. fish market, slaughter house. • Lack of counseling for WASH in EPI centres. • Inadequate WASH practices in public places, growth centres and community clinics.	• Audio visual awareness program • Restoration of tube wells in community clinics • Increasing number of toilets in public places with running water • Increasing number of workers for overall sanitation maintenance	planning. However, need based, bottom up approach should be followed according to the participants. The plan should be developed in coordination with the DPHE and education sector.	education.	Health, Education and Local Government, WATSAN committee is not functional at each Upazila.	issues. proper waste management at growth centers, slaughter house and fish markets; • Safe water supply; health education especially on MHM to the adolescent girls; maintenance of hygiene in delivery practices (home delivery) also monitored by the health staff. • Health staff monitored food safety and hygiene of food courts and food shops are monitored, food and water sample also tested sometimes. • Hygiene in the community clinics and schools are also monitored. • Participants suggested introducing Quality Monitoring System.

2.3 Exercise Notes on Resource Management of the Department of Health

Table 129: Exercise Notes on Resource Management of the Department of Health

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• There is no specific workforce for performing WASH related activities in Health sectors, • WASH training is required for providing effective WASH services to all relevant staff/officials.	WASH specific workforce is needed in order to ensure food hygiene. Existing workforce faced difficulties in managing and completing all the WASH related tasks beside their existing works.	Top down budgeting system is present. However, participants opined that planning should be done first and then budgets and targets should be fixed accordingly.	No one was interested to comment on this topic.	• There is no specific workforce for performing WASH related activities in Health sectors, • WASH training is required for providing effective WASH services to all relevant staff/officials.

Planning

Table 130: Exercise Notes on Enabling Environment with Department of Health & Family Planning

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
• Health Policy-2019 • Population Healthy-2019 (the issues which are related to WASH) • Family Planning Manual (the issues which are related to WASH) • FWA- Job description includes few activities related to WASH (e.g. counseling)	Participants were not aware about specific policies those are implemented at Upazila level.	• Model WASH room or WASH block is required at all facilities. • Guideline on WASH in health and family welfare centre.

3.2 Exercise Notes on Institutional Arrangement of the Department of Health & Family Planning

Table 131: Exercise Notes on Institutional Arrangement of the Department of Health & Family Planning

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous situation	Coordination committees	Monitoring and reporting
• Lack of human resources to implement existing policy. • Cultural, socio-economic barriers often hindered doing job responsibilities properly. E.g. Illiterate people are less aware of personal hygiene. • Insufficient WASH facility in the cyclone shelters. • Inadequate service at remote area. • Lack of proper maintenance 50% WASH facilities are unhygienic. • At 20% FWC, no supply of running water. • Toilets, tube wells are often damaged in flood prone areas. • Lack of fecal sludge management	• Supply safe drinking water to Health care centers, schools and household level. • Need to set up hygienic latrine at Health care centers, schools, household level as well as growth centers. • Improve personal hygiene (including MHM and hand wash) practice through more awareness raising programs at the community and schools. • Wash information pack including audiovisual van at each Upazila. These vans will help to organize session at school, market and community level. Use of billboards at FWC could be another supportive action. • Restoration of WASH facilities and Proper WASH maintenance plan for FWC. • Hygienic facility and environment delivery	Currently target based year wise plan is prepared by the field workers. Each centre/facility makes their work plan, compiled at the Upazila level and send to the district. Result based planning need to be developed.	Assessment of WASH facilities and take initiative in coordination with DDR committee.	Assessment of WASH facilities and take initiative in coordination with DDR committee.	• Household visit and facility-based services are monitored with formatted checklist. • No WASH specific monitoring or reporting checklist is available, but in existing format has some points on WASH. • UFPO and MO(MCH-FP) visits FWC following the checklists. • The reports are sent from union to institutions and Upazila, then compiled report are sent to district and district sends the compiled report to the directorate. • Issues are

Manesikhali Upazila.					department wise work distribution is recommended by the participants.

3.3 Exercise Notes on Resource Management of the Department of Health & Family Planning

Table 132: Exercise Notes on Resource Management of the Department of Health & Family Planning

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• At Union Health & Family Welfare Centre (UH&FWC) five person • At Upazila Family Planning Office, there are 14 personnel • Training needs are following, i) Facilitation skill training for FWA, FPI, FWV and SACMO; ii) Monitoring training for FWA, FPI, FWV and SACMO, AFWO, AUFPO, UFPO and MO(MCH-FP). iii) Training on WASH issue for FWA, FPI, FWV and SACMO.	Did not mention about workforce needed for managing emergency situations	There are no separate budget allocation for WASH related activities.	Monthly BDT. Seven Hundred for every FWC for cleanliness.	• The participants mentioned they need more budget for cleanliness and maintenance.

4. Capacity Assessment of the Department of Primary Education

4.1 Exercise Notes on Enabling Environment with Department of Primary Education

Table 133: Exercise Notes on Enabling Environment with Department of Primary Education

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
Participants were not interested to share anything regarding policies.	Participants were not interested to share anything regarding policies.	• For Primary Education Development Program (PEDP), Upazila specific separate guidelines are needed for modified WASH blocks. • Upazila based coordinated guideline (education, health, DPHE) is necessary for WASH activities implementation. • Generally, national policies are requested to prepare in bottom up approach, which are generally prepared in top down approach.

4.2 Exercise Notes on Institutional Arrangement of the Department of Primary Education

Table 134: Exercise Notes on Institutional Arrangement of the Department of Primary Education

key challenges for implementation	Issues are need to be incorporated in improving	Planning	WASH management	Coordination committees	Monitoring and reporting

became damaged and useless. • The quality of the materials used in construction of structures are very low. • In many cases, construction site for the WASH blocks are not consulted with the school authority, which causes inappropriate placement of the WASH blocks. • In Pekua, most of the WASH blocks constructed in 2013-15 became unusable due to damage causes in flood. • In Ukhiya, people do not get same flow of water all the year round since the water level is low and that causes problems in using WASH blocks and collecting safe drinking water.	that particular place. • Establishing Iron Removal Plant (IRP) in the water sources using in the WASH blocks. • Stainless steel should be used in the building materials of WASH blocks, since iron cause rust in the materials. • Surface water can be used and distribute through pipeline network and some budgets can be allocated through SMC. • Natural source of water (rainwater) can be collected and supplied through pipeline in the schools. Besides, few schools together can arrange this system on their own. • Area context, source of water, water and flood level, should be considered before constructing any toilets or WASH blocks. • Initiatives needed to aware students and teachers about WASH • SMC should be allocated some funds for repair damages of WASH blocks after any disaster. • Menstrual Hygiene Management (MHM) needs to be considered during construction of WASH blocks in schools. Emergency sanitary napkins can be arranged for the WASH blocks with the help of SLIP fund. • In Ukhiya, the rocky soil causes problems in constructing deep tube well. More budget needs to be allocated to cut the soil deeply using drill machine.	Improvement Plan (SLIP) and they plan individually according to the allocation. • Schools receives fund from PEDP to construct and repair structures. • Upazila Education Officer sends proposal for new construction of any structures in the school with the help of DPHE.	separate plan for WASH management during emerging or disastrous situation.	all WASH activities; however, Upazila standing and education committee are currently executing the responsibility instead of them.	schools and informed to the head teacher regarding the maintenance and usage of toilets. • During construction, sites are being visited and observed but often these feedbacks are not reflected in plans.

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• Existing workforce is sufficient but they need more training to implement WASH activities properly. • Teachers should be trained on proper use of WASH blocks so they can teach the students.	School council should be activated or more functional to monitor hygiene of WASH blocks.	Top down budgeting system is present.	Budget is allocated centrally to the Upazila Education Office for repairing the existing structures. However, for new construction the budget is directly allocated to DPHE.	Participants mentioned about budget requirements for WASH activities.

5. Capacity Assessment of the Department of Secondary Education

5.1 Exercise Notes on Enabling Environment with Department of Secondary Education

Table 136: Exercise Notes on Enabling Environment with Department of Secondary Education

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
Education Policy-2010 [Doc review: Building up elementary hygienic awareness among the learners (such as, trimming the nails, washing the hands, cleaning the teeth etc. page 10)]	Participants were not interested to share anything regarding policies.	• Need guideline to implement the WASH issues that are included in the Education policy-2010. • Guideline dissemination to the teacher and School Managing Committee (SMC)

5.2 Exercise Notes on Institutional Arrangement of the Department of Secondary Education

Table 137: Exercise Notes on Institutional Arrangement of the Department of Secondary Education

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous situation	Coordination committees	Monitoring and reporting
• More users compare to inadequate WASH facilities, which resulted difficulty in cleanliness and maintenance • Institutional head do not take action for maintenance and cleanliness for WASH facilities. • No budget for	• Need to consult with education engineer while setting up WASH facility in the institution • For every 40-50, students need a WASH block. • Need MHM facilities in schools. • Need training for the schoolteachers about WASH. • Students cabinet and scout group could be trained and functional enough to aware school students about WASH	There is no specific plan for WASH. Need result-based planning for smooth implementation of WASH activities.	Secondary Education Office does not perform any separate WASH activities other than the activities in co-ordination with disaster co-ordination committee.	There are Upazila coordination committee, Upazila WATSAN committee and School Management Committee (SMC); however, these committees are not active at all Upazila.	• Monitoring is done based on the monitoring checklist or reporting format.

			disastrous situation		
• No supply of running water at WASH block. • Presence of iron causes the water unusable and undrinkable • Lack of co-ordination between institutional head and SMC. • Female student attendance is low due to lack of MHM facilities at the schools.	DEO for taking further initiative to develop WASH facilities. • Need coordination between of Education Office and Upazila Parishad.				

5.3 Exercise Notes on Resource Management of the Department of Secondary Education

Table 138: Exercise Notes on Resource Management of the Department of Secondary Education

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation & expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• At Upazila level, seven personnel are supposed to be employed according to policy. Those are, Upazila Secondary Education Officer (USEO), Assistant Upazila Secondary Education Officer (AUSEO), Upazila assistant Supervisor (UAS), Accountants, Office assistant/ Computer operator, MLSS and Guard. • Need training about WASH for USEO, AUSEO and UAS, as they	No separate budget system for WASH related activities.		• No budget is allocated specific to WASH related activities • Need participation of Education Officer during allocation of ADP budget since 15% of ADP budget is supposed to be used in developing WASH facilities in the School.	• At Upazila level, seven person are supposed to be employed according to policy. Those are, Upazila Secondary Education Officer (USEO), Assistant Upazila Secondary Education Officer (AUSEO), 3. Upazila assistant Supervisor (UAS), Accountants, Office assistant/ Computer operator, MLSS and Guard. • Need training about WASH for USEO, AUSEO and UAS, as they are involved in the field level activities.

Table 139: Exercise Notes on Enabling Environment with Union Parishad

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
Participants had no idea about policies	Participants had no idea about policies	Need sustainable WASH policies

6.2 Exercise Notes on Institutional Arrangement with Union Parishad

Table 140: Exercise Notes on Institutional Arrangement with Union Parishad

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous situation	Coordination committees	Monitoring and reporting
• Most of the population are poor in this union (70% are landless) • Flood and cyclone affected area, water logging is a common problem during rainy season. • Water salinity and iron is high • Lack of adequate budget. All Upazila gets equal budgets. Since Chakaria is a large Upazila with 18 union, it receives less than adequate budget. • About 33% population use safe latrine. In ward-3 and 4 there is 100% sanitation coverage. (Offset one pit latrines are available with SaTo Pan with no running water inside the latrine. • Poor transport facilities	• Need to establish deep tube well, to avoid the saline water level. • Need to establish latrine at growth centers such as market and education institute. • Need more coordination with NGOs (e.g. VERC, IDE are currently working in this area)in the WASH program. • Need more tube wells for the community • Need supply of running water at household, schools, markets, hospitals etc. • Need safe and sustainable latrines (twin pit is recommended) with access of running water. Need construction of latrines	• Each union has 5 years plan and a yearly plan by LGSP. • Finalize the work plan by coordination meeting at union council, informed community demands in ward meetings. • Works plans are sent to UNO • Implementation of project upon approval of district level after reviewing by Upazila council. • Implementation are done according to priority and budget received.	• WASH management plans are prepared after receiving budgets for emerging or disastrous situation	• At union level, there are Standing Committee (inactive), Coordination Committee, Disaster Management Committee, WATSAN committee. • At Upazila level, there is Upazila Coordination Committee	• Union Parishad does not have any separate reporting and monitoring system. • UP are accountable to the people, to the authority of LGSP; and to the project of TR, food for work since receives fund from these • Union council and DPHE work with coordination but do not have institutional accountability.

their hand after using latrine, 20% peoples not used to wash their hand 5 important times.	water dry easily and easy to clean. • Arrangement of handwashing facility at dining and kitchen.				

6.3 Exercise Notes on Resource Management with Union Parishad

Table 141: Exercise Notes on Resource Management with Union Parishad

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• Need training on basics on WASH, technologies according to SDGs, and WASH policies.	Existing workforce needs training	• UP receives fund from LGSP, food for work, ADP, UDF Other income source of UP is 1% land exchange vat, donation from district/Upazila level (few cases), projects of different NGOs.	• 135588 BDT for sewerage connection • 500507 BDT for water supply	• Need training on basics on WASH, technologies according to SDGs, and WASH policies.

7. Capacity Assessment of the Private Sector

7.1 Exercise Notes on Enabling Environment with Private Sector

Table 142: Exercise Notes on Enabling Environment with Private Sector

Existing policies, organizational strategies, guidelines and regulatory framework	Policies followed for program implementation at Upazila level	Required policies for improved WASH situation at Upazila level
The participants do not know about any policy/strategy for management of WASH business.	N/A	Need policy/strategic guideline for management of WASH business.

7.2 Exercise Notes on Institutional Arrangement with Private Sector

Table 143: Exercise Notes on Institutional Arrangement with Private Sector

key challenges for implementation	Issues are need to be incorporated in improving current WASH situation	Planning	WASH management for emerging or disastrous situation	Coordination committees	Monitoring and reporting

existing WASH products. They mentioned despite having more awareness than previous people are facing problems with three rings and one slab latrine. It fills up quickly and since there is no systematic removal system, breaks down and pollute environment so often.	plant need to be established. In addition, it is important to use surface water with pipeline supply network. It is difficult to get enough water from tubewells for handwashing and other household chores. • In areas such as Maheshkhali (Kalarmarchara union) and Ramu (Joariyanala union), spring layer could be used through pipeline supply network since automatic water supply from ground is available. • Considering area-based compatibility, five-ring slab latrine or offset pit latrine with syphon ceramic pan is more appropriate. Since Cox's Bazar is a disaster-prone area (flood, cyclone), latrine needs to be set up above flood level with concrete or tin wall to ensure sustainability. • To ensure proper hygiene practice, latrine, kitchen and handwashing places must have running water supply.				their business. They will lose customers if failed to provide good products or services. • They have accountability to Government as well. • There is no mechanism for quality assurance accountability. Some local trader or entrepreneurs producing low quality products for more profit, which are not sustainable • Need to form a mechanism for quality assurance from government.

7.3 Exercise Notes on Resource Management with Private Sector

Table 144: Exercise Notes on Resource Management with Private Sector

Existing workforce and training needs	Types of skilled workforce needed to manage the identified emerging challenges/issues	Allocation and expenditure process of budgets	Target and budget allocation in current FY	Other requirements
• On an average, there are two businesspersons in a union. • The participants said that they got training from ASHA, BRAC, IDE and save the children about hygienic latrine; however, no training receives from the government. • Need workshop for the traders about sustainable WASH service.	Need a mechanism where union wise training would provide from government	N/A	N/A	• The participants mentioned about the need of collaboration among all in order to prepare area specific plan and inform to all the traders for working according to it. • Raising awareness among traders and companies to produce sustainable WASH products is recommended. • Need loan with less interest rate. • Need workshop at the community level for demand generation of sustainable and safe latrine. • Government should implement the existing law about WASH.

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