FINAL REPORT

CAPACITY DEVELOPMENT IN WASH SECTOR IN BANGLADESH: CLIMATE CHANGE ADAPTATION, DISASTER RISK REDUCTION, AND WASH IN EMERGENCY PREPAREDNESS AND RESPONSE

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1. Introduction

Bangladesh is among the countries that experience frequent natural disasters due to climate change where the country's vast population is extremely vulnerable to cyclones, floods, droughts, and the danger of saline water intrusion into sweet water zones and the agricultural areas due to sea level rise. Over the past three decades, Bangladesh has experienced around 200 natural disasters as the nation gets exposed to several natural hazards every year because of its low-lying topography, proximity to the Bay of Bengal, and monsoon season.

The frequency of hazards and disasters has been increasing due to climate change, which has had a serious impact on the WASH sector in Bangladesh. As a result, climate-resilient WASH infrastructures are required to deal with the effects of climate change. Furthermore, it is critical to raise awareness among government policymakers and WASH program implementers to deal with climatic realities to turn WASH infrastructures into climate-resilient facilities that can also withstand the effects of disasters.

Under the joint initiatives of the Department of Public Health Engineering (DPHE) and UNICEF, the WASH Cluster has been functioning in Bangladesh since 2008, following Cyclone Sidr, to bring together the active partners working in the WASH sector. The WASH Cluster is a component of the international cluster strategy and the broader national Humanitarian Coordination Task Team (HCTT) to facilitate strategic collaboration in disaster planning and response within the WASH sector. The WASH Cluster seeks to guarantee a better coordinated and successful response by enlisting the help of the Ministries of the Government and their line agencies, UN organizations, INGO, and civil society organizations.

The WASH Cluster is specifically focused on: (i) using the Humanitarian Development Nexus to promote comprehensive WASH services and mainstream disaster risk reduction (DRR) in the WASH sector; (ii) bolstering national and local coordination mechanisms that involve all relevant stakeholders to improve the effectiveness of emergency and humanitarian response; (iii) enhancing local capacity in terms of WASH in emergency preparedness and response; and (iv) ensuring cooperation for collective action by its members. To meet these targets, along with other programs, the experts of the WASH sector are committed to continuing training initiatives for promoting climate-resilient approaches to deal with the changing climate and its impacts on the environment, especially in Bangladesh's many affected geographical areas.

Therefore, DPHE and UNICEF have planned to jointly organize divisional training events, titled "Capacity Development in WASH Sector in Bangladesh: Climate Change Adaptation, Disaster Risk Reduction, and WASH in Emergency Preparedness and Response", for capacity building of DPHE officials, NGO representatives, and Government officials who play important roles in

WASH service delivery during disasters and in emergency preparedness and response in the affected areas of Bangladesh. To accomplish the objectives of the capacity building program, DPHE and UNICEF worked jointly where UNICEF Bangladesh provided guidance and DPHE implemented the activities that included the development of a training module, organizing meetings and consultations with stakeholders, organizing WASH Cluster meetings, and facilitation of the training events at the divisional level.

Following the development of the training module for a 2-day training program and a Training of Trainers (ToT) event in Dhaka, the trainings at the divisional level started in November 2023. Five batches of the training program in Barishal, Mymensingh, Khulna, Rangpur, and Dhaka for the respective DPHE circles were organized.

2. Objectives of the Training

The main objective of the capacity development training program was to improve and strengthen the technical capacity of WASH professionals as well as to raise awareness among the stakeholders at the district level, focusing on Climate Change Adaptation (CCA), Disaster Risk Reduction (DRR), and Emergency Preparedness and Response in WASH, in different climate affected regions of Bangladesh. The specific objectives of the training were:

- Strengthening the capacity of WASH sector professionals on disaster and emergency preparedness and response, and planning and delivering climate resilient WASH services focusing on both government partners and non-governmental organizations for efficient and effective implementation of emergency preparedness and response programs in vulnerable districts.
- Promoting awareness of Disaster Risk Reduction (DRR) in WASH and developing sector capacity on the integration of DRR and climate-resilient approaches into WASH programs across the country.
- Addressing disaster and climate change impacts in the WASH sector and mainstreaming DRR mechanisms into WASH programming.
- Identifying gaps between current activities (capacity) and opportunities to make the WASH service climate resilient in different geographical contexts and developing a set of recommendations, based on gap assessment, to better align ongoing activities with the disaster resilient WASH approaches.
- Improving the local level WASH cluster coordination to capacitate the WASH service providers in emergencies.

3. Participants

The 5 training programs along with a ToT session were conducted for participants of 26 districts under 5 circles of DPHE. The list of the districts from which DPHE officials participated in the training is provided in Table 1.

Table 1: List of participating districts in the training

Sl. No.	DPHE Cirle	Participating Districts
1	Training of Trainers (ToT)	Chattogram, Rangpur, Netrokona, Barishal, Sirajganj, Sylhet, Jashore
2	Barishal	Barishal, Bhola, Patuakhali, Pirojpur, Barguna, Jhalokathi
3	Mymensingh	Mymensingh, Netrokona, Sherpur, Jamalpur
4	Khulna	Khulna, Kushtia, Bagerhat, Jashore, Satkhira
5	Rangpur	Rangpur, Gaibandha, Kurigram, Lalmonirhat
6	Dhaka	Dhaka, Manikganj, Tangail, Munshiganj, Kishorganj

A total of 210 participants attended the training program including DPHE engineers, officials from different departments of the government, and NGO representatives who are major stakeholders in WASH sectors, especially during disasters and emergencies.
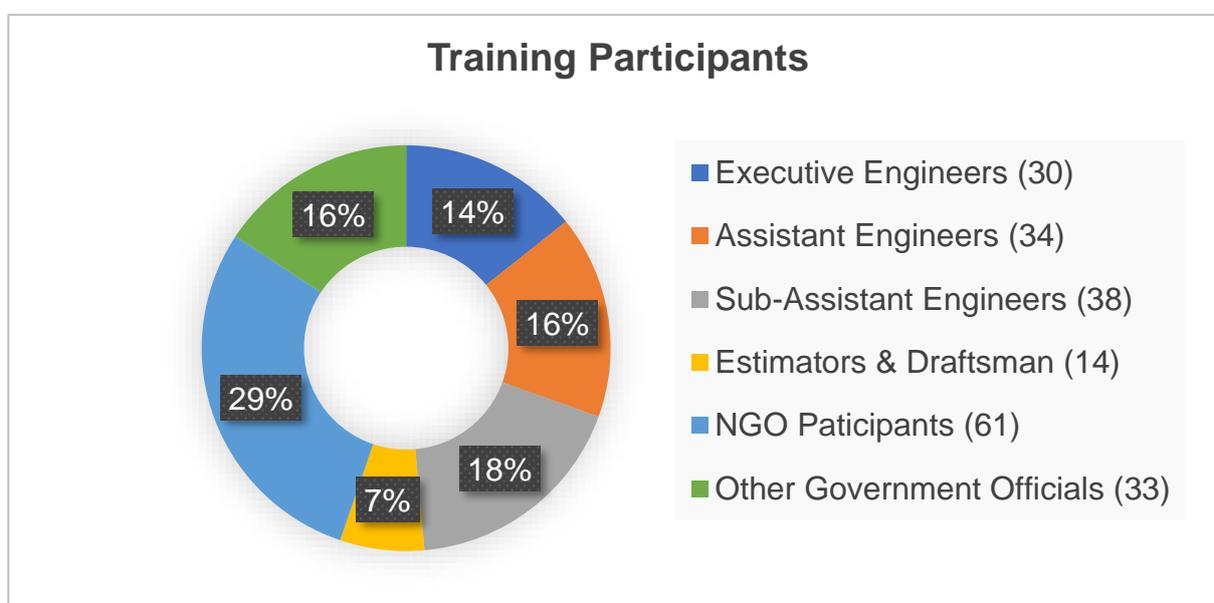
Figure 1: Profile of the training participants

Among the participants, there were 30 Executive Engineers, 34 Assistant Engineers, 38 Sub-Assistant Engineers, and 14 Estimators and Draftsmen of DPHE as trainees. In addition, 61 NGO representatives and 33 officials from other departments of government participated in the program. The profile of the participants is presented in Annex 5.

4. Activity Overview:

A training module was created for the divisional-level training program to help capacity development of the WASH professionals. A Training of Trainers (ToT) session was held in Dhaka for the training facilitators following the development of the training module. After the ToT, the divisional training took place for the DPHE circles; five batches of the training program were arranged in Barishal, Mymensingh, Khulna, Rangpur, and Dhaka. As part of the training, a WASH cluster meeting was organized for the districts of Barishal, Jamalpur, Khulna, Gaibandha, and Dhaka.

5. Training of Trainers:

After the development of the training module, a Training of Trainers (ToT) for two days from November 3-4, 2023 was arranged at DPHE Bhaban in Dhaka before the start of the training at the divisional level. The particular objectives of the ToT program were (a) to capacitate the DPHE professionals to lead training at the divisional level, and (b) to find any gaps in the training module and address them as appropriate. A total of 24 participants attended the ToT program, including DPHE officials and NGO representatives. Among them, there were 2 Superintendent Engineers, 12 Executive Engineers, 3 Assistant Engineers, 2 participants from NGOs, and 5 other Government officials. The list of Participants is attached in Annex 2. The ToT program was facilitated by A.H.M. Khalequr Rahman, Superintending Engineer, Store Circle, DPHE, and Maharam Dakua, Consultant, DPHE. A separate session on the WASH Cluster was facilitated by Saleha Khatun, Cluster Coordinator – WASH in Emergencies Specialist, UNICEF.

Figure 2: Training of Trainers (ToT) program held at DPHE Bhaban, Dhaka

6. Divisional Training

Training at the divisional level began in November 2023. The training program was arranged in five districts at Barishal, Mymensingh, Khulna, Rangpur, and Dhaka, representing their respective DPHE circles. A brief overview of the training program is provided in this section.

6.1. Divisional Training Facilitators

The 2-day training program with several engaging sessions was facilitated by experts working in the WASH sector of Bangladesh with a specialty in climate change adaptation, disaster risk reduction, and WASH in an emergency. The facilitators of the 2-day training program were:

- A.H.M. Khalequr Rahman, Superintending Engineer, Store Circle, DPHE, Dhaka
- Maharam Dakua, Consultant, DPHE
- Dr. Md. Imran Kabir, Professor, Department of Civil Engineering, SUST
- Md. Yasin Arafat, Executive Engineer, Store Division, Dhaka
- Md. Zahid Parvez, Executive Engineer, DPHE, Jashore
- AKM Ibrahim, Ex-Additional Chief Engineer, DPHE
- Rebeka Ahsan, Executive Engineer, DPHE, Chattogram (Store Division)
- Pankaj Kumar Saha, Executive Engineer, DPHE, Rangpur
- Dilruba Farzana, Executive Engineer, DPHE, Dhaka
- Md. Samiul Hoque, Executive Engineer, DPHE, Sherpur

6.2. Training Sessions

The 2-day training program was comprised of seven sessions in addition to an opening and a closing session. There were several group works in the training program. The training schedule

is attached as Annex-1. A brief description of each of the sessions in the training program is presented in this section.

6.2.1. Opening Session

The training started with the opening session where the Executive Engineer of the host district acted and provided the welcome speech where he addressed the guests, the resource persons of the program, and the participants. After the welcome speech, A.H.M. Khalequr Rahman, Superintending Engineer, Store Circle, DPHE presented the objectives of this training, provided an overview of the contents of the sessions, and highlighted the importance of capacity development in the WASH sector for emergency preparedness and response. The Chief Field Officer of UNICEF and the Superintendent Engineer of the DPHE Circle also gave their speeches. Finally, the Superintending Engineer of the DPHE Circle announced the opening of the program.

Figure 3: Opening Session of the training program in Khulna (left) and Rangpur (right)

6.2.2. Sessions of Day 1

There were seven sessions in the 2-day training program. Five sessions were conducted on day 1 and the remaining two sessions were conducted on day 2. A brief overview of the contents covered in each session is provided below.

Session 1: Climate Change and Its Impacts on Water, Sanitation and Hygiene (WASH)

At first, the facilitator discussed the outline and the outcomes of the session

Outline of the session:

- Introduction to Climate Change and its Causes
- Elements of climate, how they interact, and consequences of Climate Change
- Identifying Impacts of Climate Change on WASH in Bangladesh

Outcome of the session:

- Understanding of the basics of climate change

- Understanding of the consequences of climate change
- Understanding of the impacts of climate change on WASH in Bangladesh

Figure 4: Facilitator discussing the basic elements of climate during session 1 in Rangpur

This session provides a brief overview of weather, climate, and climate change. It covers a wide range of topics, including the differences between weather and climate, the causes and effects of climate change, and the impact of climate change on various sectors such as agriculture, water, and health. The session also highlights the impact of climate change in different areas and on vulnerable populations such as low-income communities. A video on the effect of the greenhouse on the earth was shown to the participants. There was a quiz for the trainees which was conducted through Mentimeter. The participants were also given a groupwork for identifying indicators of climate change and finding its outcomes, consequences, and impacts.

(a)

(b)

(c)   (d)

Figure 5: Group work of session 1 on identifying indicators, outcomes, consequences, and impacts of climate change in ToT(a), Barishal(b), Mymensingh(c), and Dhaka(d)

Session 2: Disasters and Impacts on WASH Infrastructures in Bangladesh

The session focuses on disasters and their impacts on WASH infrastructures in Bangladesh.

Outline of the session:

- Disasters in the WASH sector in Bangladesh
- Impacts of disasters on WASH infrastructures in Bangladesh
- Disaster management cycle and activities

Outcome of the session:

- Understanding of the main disasters in the WASH sector in Bangladesh
- Understanding of the main impacts of disasters on WASH infrastructures in Bangladesh
- Understanding of the steps and activities of disaster management in WASH

Figure 6: Participants learning the terminologies used in disaster risk reduction in WASH in session 2 in Mymensingh (left) and Barishal (right)

The session discussed the steps involved in disaster management for WASH infrastructures in Bangladesh. Participants learned about the different phases of the disaster management cycle, including preparedness, response, recovery, and rehabilitation, and the specific activities that are involved in each phase of the cycle. Participants also learned about the terminologies related to disaster risk reduction. During the session, the different types of disasters and their

impacts on WASH infrastructures were also discussed. Participants were also given a task in the form of group work about disaster management activities where they had to relate what kind of activities are necessary at what phase of a disaster.

Figure 7: Group work of session 2 on disaster management activities in Rangpur

Session 3: Stakeholders' Roles in DRR and Emergency Preparedness and Response in WASH

The session focused on Stakeholders' Roles in DRR and Emergency Preparedness and Response in WASH.

Outline of the session:

- Identification of the stakeholders in DRR, and emergency preparedness and response in WASH
- Roles of stakeholders and their working areas
- DPHE's role in DRR, and emergency preparedness and response
- Coordination mechanisms among the stakeholders

Outcome of the session:

- Identified the stakeholders involved in WASH in DRR and emergency response, and their respective roles
- Understanding of the DPHE's role in disaster risk reduction, and emergency preparedness and response
- Understanding of the coordinating mechanisms among the stakeholders

The session discusses the organizations involved in disaster management, including the government, non-governmental organizations, and community-based organizations. The session also covered the Standing Orders on Disaster (SOD), which is a set of guidelines for disaster management in Bangladesh. The SOD aims to ensure a coordinated and effective response to disasters by all stakeholders. The session also discusses the formulation of the

WASH Cluster, its aims and objectives, and how to operationalize the WASH Cluster through meetings. The session also discussed about WASH cluster and the participants were informed about the WASH cluster meeting that took place at the end of the training session.

Figure 8: Participants understanding of the role of stakeholders and the coordinating mechanisms among them in session 3 at Barishal (left) and Dhaka (right)

Session 4: Standards and Guidelines for WASH during Disasters and Emergency Response

Outline of the session:

- Overview of the regulatory framework and code of conduct for disaster management in Bangladesh in the WASH sector.
- Guidance on preparedness for WASH in emergency response, and early recovery interventions in disaster situations.
- Standards for WASH services during emergency response.

Outcome of the session:

- Understanding of the regulatory framework and code of conduct for disaster management in WASH.
- Understanding of the standards and guidelines for WASH services in an emergency.

Figure 9: Facilitator discussing the standards and guidelines for WASH services in an emergency in Dhaka

This session gave an overview of the regulatory framework and code of conduct for disaster management in Bangladesh in the WASH sector, guidance on preparedness for WASH in emergency response, and early recovery interventions in disaster situations, standards for WASH services during emergency response. The participants were given a small task to answer some questions and to identify some statements whether they were true or false. It is added as Annex 3 in the annexure. A quiz was also taken through Mentimeter.

Figure 10: Participants engaging in group work on Sphere Standards in session 4 (Dhaka)

Session 5: Climate Resilient WASH Technologies

Outline of the session:

- Importance of adaptation and mitigation in building climate resilience into the WASH system
- Climate change adaptation in water and sanitation technologies

Outcome of the session:

- Understanding of the importance of adaptation and mitigation in building climate resilience into the WASH system
- Learning of the best practices for climate-resilient WASH technologies

In this session, the participants were provided with real examples to get an understanding of the importance of adaptation and mitigation in building climate resilience in the WASH system. The session covered examples of climate-resilient WASH technologies and the participants

learned about the climate-resilient features of the technologies. They also learned about the different strategies that can be used to address these challenges and improve the resilience of WASH systems. The participants were encouraged to share their experiences at the field level as well. There was a quiz that was conducted through Mentimeter.

Figure 11: Facilitator discussing the climate-resilient WASH technologies (Barishal)

6.2.3. Sessions of Day 2

At the start of Day 2, there was a review session where a brief review of the previous day was given by the facilitator. The participants were asked some questions about what they learned on the previous day. After the review session, the remaining sessions of the training started.

Session 6: WASH Services in Disasters and Emergency Response

In this session, the participants learned about the technologies used for water supply sanitation, and hygiene during disasters and the operation & maintenance of water, sanitation, and hygiene facilities during and after disasters. The outline of the session includes:

- Technologies used for water supply, sanitation, and hygiene during disasters
- Operation and maintenance of water, sanitation, and hygiene facilities during and after disasters

Outcome of the session:

- Learning effective water supply, sanitation, and hygiene technologies for disaster risk reduction
- Understanding the operation and maintenance of water supply, sanitation, and hygiene systems during and after disasters

Some real-life problems were also discussed during this session and some suggestions came up to take steps to fix those problems.

Figure 12: Facilitator discussing the operation and maintenance of water supply, sanitation, and hygiene systems during and after disasters (Dhaka)

Session 7: Emergency Response Planning and Implementation in WASH

The last session of the training discussed the importance and steps of emergency preparedness and response plans in the context of WASH, and the key principles that should guide emergency response efforts.

The SOS and D-Forms were discussed, and later a demo of a digital data collection tool was introduced to the participants which was developed using Kobo Toolbox by which one can quickly share information about the current status of the WASH technologies of an area. After using the tool, the participants were requested to provide feedback about the tool for further improvement of the tool.

The steps for developing an inclusive emergency response plan and a contingency plan were discussed. Later, the groups were provided with a task to write down the steps for developing an emergency response plan and contingency plan. In the end, the participants were asked to make a presentation of their group work on a contingency plan or emergency response plan.

Figure 13: The last session of the training on emergency response planning and implementation in WASH (Dhaka)

(a)

(b)

(c)

(d)

Figure 14: Participants preparing their group work for presentation at Dhaka (a, b) and Barishal (c, d)

Figure 15: Group presentation on the steps for developing an inclusive contingency plan and emergency response plan at Khulna(a), Mymensingh(b), Dhaka(c) and Barishal(d)

7. WASH Cluster Meeting:

A WASH cluster meeting was arranged at the end of the sessions of each of the five divisional training. The meeting was organized for Barshial, Jamalpur, Khulna, Gaibandha, and Dhaka districts where the participants from these districts, who attended the training, took part. The members of the meeting were the DPHE Executive Engineer, Assistant Engineers, Sub-Assistant Engineers of DPHE, Estimators and draftsmen, UNICEF representatives, and NGO representatives who are members of the WASH Cluster. The profile of the participants is presented in Annex-6. At the beginning of the meeting, a brief overview of the objectives of the WASH Cluster and its scope of work as outlined by the Standing Orders on Disaster (SOD) and other guidelines was provided by Maharam Dakua. The WASH Cluster meetings were chaired by the Executive Engineer of DPHE. The agenda of the meetings were:

- Identifying members of the WASH Cluster at the district level
- Discussion on the structure of the WASH Cluster at the district level (what will be the committee structure, member/member secretary, etc.)
- Frequency of WASH Cluster meetings and mechanisms for arranging the meetings
- Identify the scope of work for the WASH Cluster (what activities we should aim for at this stage, how can we start the coordination through the Cluster approach, etc.)

Figure 16: WASH Cluster meeting conducted for the districts Barishal (a), Jamalpur(b), Khulna(b), Gaibandha(d), and Dhaka(e)

After the end of the meeting, the following decisions were taken:

- Submission of the 5W matrix: The members of the meeting decided that they will submit the 5W matrix to specify WHO is working, WHERE are they working, WHEN are they working, WHAT are they doing, and for WHOM are they working.
- Schedule for the next meeting: The members decided that there will be a WASH Cluster meeting every 3 months.

8. Evaluation of Training

The participants were instructed to participate in a number of tasks including quizzes and group work which was used to evaluate their understanding of the training contents. The facilitators

monitored the trainees' performance in those tasks, quizzes, and group works using the following metrics:

- Highly satisfactory: >90% of participants provided the correct answer.
- Satisfactory: 80-90% of participants provided the correct answer.
- Moderately satisfactory: 70-80% of participants provided the correct answer.
- Unsatisfactory: <70% of participants provided the correct answer.

The first task that was given was group work in session 1 to identify the indicators, outcomes, consequences, and impacts of climate change. Participants were given some piece of paper and they were told to identify the indicators, outcomes, consequences, and impacts of climate change. According to the facilitators, the performance was "moderately satisfactory" as 70-80% of the participants provided correct answers.

The second task was group work in session 2 on disaster management activities. Participants had to relate what kind of activities are necessary at what phase of a disaster. As per the evaluation of the facilitator, the performance was "highly satisfactory" as more than 90% of the participants provided correct answers.

The third task was group work in session 4 based on the sphere standards 1.1, 1.2, and 1.3. Participants were asked to answer some questions regarding the standards. The facilitator of the session evaluated the performance of the participants as "satisfactory" as 80-90% of the participants provided correct answers.

The fourth task was an assignment for each participant in session 4 on the indicators of sphere standards. Participants were told to go through the sphere standards 2 to 6 and answer the queries whether they were true or false According to the facilitator, the performance was "satisfactory" as 80-90% of the participants provided correct answers.

The fifth and final task was a group presentation where the participants were divided into groups and were asked to write down the steps for developing either an emergency response plan or a contingency plan. In the end, the participants were asked to present their group work. As per the evaluation of the facilitator, the performance was "satisfactory".

Apart from these tasks, participants also took part in quizzes in sessions 1, 4, 5, and 7. The quizzes were taken through Mentimeter. The facilitators of these sessions evaluated the performance of the participants as "highly satisfactory" as more than 90% of the participants provided correct answers.

9. Participant Feedback

In addition to providing some insights on the contents of the capacity-building training, participants were asked to share the scope for further improvement in the training by providing specific feedback at the end of the training. Here are some comments presented on different aspects of the training:

9.1. Relevance of training

After completion of the training program, the participants largely expressed their satisfaction over the 2-day long training program and appreciated the contents of the training module. A few feedback from the participants are presented here:

- "We gained fresh knowledge from this training. We gained a better understanding of the significance of adaptation and mitigation in integrating climate resilience into the WASH system thanks to the training. We were aware of the requirements and policies for WASH services in an emergency. The functions of stakeholders and the systems for coordination between them were explained to us. We want to use what we've learned in our programs." - Md. Duke Ivn Amin, Director, Jago Nari, Barguna.
- "We learned steps for developing an inclusive emergency response plan and a contingency plan. After session seven, we understood the importance of developing an inclusive emergency response plan and a contingency plan" - Badhon Chiron, Caritas Mymensingh Region Focal Person.

9.2. Training Organization and Facilitation

- "UNICEF training courses are always engaging and very practical. The group work sessions were very interesting." - Rekha Yesmin, Project Coordinator, Shushilan, Barguna.
- "The facilitation of the sessions was very satisfying. The facilitation team and the resource persons were very professional. I think we enjoyed this 2-day training program and learned well " - Bashir Ahammed, Executive Engineer, DPHE, Dhaka
- "The training needs to be organized at the Upazila level with a simplified version of the training module developed for the Upazila level that would be easy for the participants. Also, the training module for the Upazila level should be in Bengali and the training duration should be three days." - Md. Azizur Rahman, Research Officer, ITN-BUET.

Figure 17: Participants sharing feedback during the closing session in Dhaka (left) and Barishal (right)

9.3. Challenges

- "Data management is often a challenging task for us. We need to be more cautious over data entry and management. We need more training in data management. The digital data collection tool in the Kobo toolbox needs to be developed so that during disaster less pressure comes to our shoulders. Otherwise, it becomes unbearable when the SOS forms and D forms from all the unions come to the District Relief & Rehabilitation Office all at once." - Ranjit Kumar Sanker, DRRO, Barishal, DC Office.

- "An Operating Manual for district offices for maintaining the WASH technologies used during and after disasters is very much needed. Allocating a dedicated disaster relief and rehabilitation fund for the WASH sector is needed so that we do not have to search for funds during the stage of implementation." - Md. Tareq Aziz, Estimator, DPHE, Bagerhat.

- "It is necessary to influence DPHE decision-makers to include inclusive emergency response in WASH projects. Projects should take into account the best method for site selection and technology selection during central planning." - Engr. Md. Shayhan Ali, Executive Engineer, DPHE, Gaibandha.

- "The digital data collection tool developed in the Kobo Toolbox should be further developed and provided for use. There should not be any software malfunction otherwise it can cause difficulties while implementing during an emergency" - Mahmudul Hasan, Emergency officer, UNICEF.

9.4. Specific Feedback from Divisional Training:

The feedback from the participants from the divisional training of Barishal, Mymensingh, Khulna, Rangpur, and Dhaka are presented here:

9.4.1. Barishal

- Participants expressed concern over the maintenance of WASH technologies that are used only during the time of disasters but not used for the rest of the year. They asked for the development of maintenance guidelines for these WASH technologies when they are left idle.
- Participants suggested that the data collection toolbox for Rapid Assessment should be developed for all the Upazila and Unions of Bangladesh.
- The DRRO suggested that the digital data collection toolbox will help during/after a disaster because it will simplify compiling all the information that comes to him from the disaster-affected areas.

9.4.2. Mymensingh

- Participants requested to conduct research on developing an emergency response plan considering some major factors such as the availability of standby vehicles and boats as resources for use at the time of disaster response.
- The participants also address allocating a disaster relief and rehabilitation fund for only the WASH sector so that they don't have to search for funds or donations during the stage of implementation.
- It was suggested to conduct these training courses every year for the WASH sector officials working in different districts in the Barishal division.

9.4.3. Khulna

- Participants requested that the SOD should be updated with more detailed steps and instructions for DPHE. The SOD should include more specific roles for sanitation-related responses for DPHE.
- Participants stressed the importance of conducting research on disaster-resilient sanitation to improve sanitation in emergencies.
- The DPHE superintendent engineer of Khulna Circle asked to arrange training like this more regularly so that the officials of DPHE and NGOs, who are actively taking part during emergencies and disasters, could remain updated with new approaches.

9.4.4. Rangpur

- Participants requested the activation of WASH Clusters in all districts and regular monitoring of their activities at the national level to improve disaster response.
- Participants advocated the necessity of researching disaster-resilient WASH technologies to be designed with a focus on equity and inclusivity.

- The participants expressed concern about the latency with which orders are sent across the hierarchy of the organization and the time it takes to get approval. This slowing causes increased suffering and delays in receiving support for providing disaster help to the impacted communities. They also requested to revise the SOD to facilitate quick response from the higher authority.

9.4.5. Dhaka

- The participants requested the development of an Operating Manual for district offices for maintaining the WASH technologies that are used during and after disasters.
- Participants suggested that the training needs to be organized at the Upazila level with a simplified version of the training module developed for the Upazila level that would be easy for the participants. They also stated the training module for the Upazila level should be in Bengali and the training duration should be three days.
- For the group work on developing an emergency response plan and contingency plan, some tools should be developed to better guide the participants on the task.

10. Conclusion and Way Forward:

The effective execution of a two-day training program in five divisional cities for DPHE engineers. Government officials and NGO professionals across 26 districts in five batches stand as a commendable achievement. The responses observed in the performances and feedback from participants underscore the success of this initiative. These findings highlight the crucial importance of continuing capacity development in the WASH sector in Bangladesh, especially in the areas of emergency planning and response.

Considering the feedback from participants and recognizing the challenges in capacity development in the WASH sector for emergency preparedness and response in Bangladesh, here are some general recommendations for the next steps:

- Development of a training module for Upazila-level WASH professionals for capacity building in emergency preparedness and response in WASH at the local level.
- Development of an app for data collection from the affected areas before/during/after disasters that will be used by DPHE's store circle for assessment and developing response plans. A dashboard could be designed to facilitate data-driven decision-making for effective disaster management.
- Development of operation and maintenance module of WASH technologies used during disasters and emergencies. It was reported during the training that a lot of WASH

technologies get damaged because of no maintenance when not in operation during the period between the disasters.

- Conducting a study on effective fecal sludge management during disasters in shelters and affected areas and providing recommendations for national and local levels based on study findings.
- Identifying the gaps in DPHE's roles in disaster preparedness and response in the SOD and providing recommendations to address the gaps in the SOD.
- Identifying roles and responsibilities of DPHE and national-level WASH Cluster members to facilitate the operationalization of local-level WASH Clusters in affected areas.

ANNEX

Annex-1: Schedule of the Training

Capacity Development in WASH Sector in Bangladesh: Climate Change Adaptation, Disaster Risk Reduction, and Wash in Emergency Preparedness and Response

Training Schedule

Topics	Time	Session Contents
Day 1		
Opening Session	9.00 – 9.30	Registration, tea and snacks, and network building
	9:30 – 10:15	Opening Session
Section 1	10.15 – 11.00	Session 1 – Climate Change and Its Impact on Water, Sanitation and Hygiene (WASH)
	11.00 – 11.15	Tea break
	11.15 – 12.00	Session 2 – Disasters and Impacts on WASH Infrastructures in Bangladesh
Section 2	12.00 – 13.00	Session 3 – Stakeholders' Roles in Disaster Risk Reduction and Emergency Preparedness and Response in WASH
	13.00 – 14.00	Lunch and prayer break
Section 3	14.00 – 15.00	Session 4 – Standards and Guidelines for WASH during Disasters and Emergency Response
	15.00 – 15.15	Tea break
	15.15 – 16.30	Session 5 – Climate Resilient WASH Technologies
Day 2		
Review Session	9.30 – 10.00	Review of Day-1 Session's Contents
Section 4	10.00 – 11.00	Session 6 – WASH Services for Disaster and Emergency Response
	11.00 – 11.15	Tea break
	11.15 – 13.00	Session 7 – Emergency Response Planning (ERP) in WASH and Implementation
	13.00 – 14.00	Lunch and prayer break
Meeting	14.00 – 15.30	WASH Cluster Meeting
	15.30 – 15.45	Tea Break
Closing Session	15.45 – 16.30	Closing Remarks and Certificate Distribution

Annex-2: List of Participants

Table A 1: Participants list for the Training of Trainers(ToT) held at ITN Seminar Room, BUET, Dhaka

SI. No.	Name	Designation & Organization
1.	Dr. Md. Imran Kabir	Professor, Dept of CEE, SUST, Sylhet
2.	Md. Shamim Anwar	Assistant Engineer, DPHE
3.	Farhana Hossain	Executive Engineer, DPHE
4.	Rebeka Ahsan	Executive Engineer, Store, Chattogram
5.	Pankaj Kumar Saha	Executive Engineer, Rangpur
6.	Muhammad Mashiur Rahman	Executive Engineer, Netrokona
7.	Md. Emran Tarafder	Executive Engineer, Barishal
8.	Md. Rokonujjaman	Executive Engineer, Sirajganj
9.	Md. Azad Kazi	Assistant Engineering, DPHE Sylhet
10.	Md. Abdulla-hill-kafi	Assistant Engineer, DPHE
11.	Md. Zahid Parvez	Executive Engineer, DPHE, Jashore
12.	Dilruba Farzana	Executive Engineer, SIR, DPHE
13.	Dalila Afroze	Executive Engineer, Design, DPHE
14.	Md, Yasin Arafat	Executive Engineer, Store Division, Dhaka
15.	Md, Raushan Alam	Superintending Engineer, Dhala Circle, DPHE
16.	Nazia Tasmin	DPO, FREAP, DPHE
17.	Ehete Shamul Russel Khan	Superintending Engineer, FS&D circle, DPHE
18.	Ruksana Parvin	Executive Engineer, Training Division, DPHE
19.	Palash Chandra Das	Executive Engineer, Chattogram
20.	Mahmud Kabir Chowdhury	PD, Bangladesh City Inclusive Sanitation
21.	Sudeshna Biswas	Documentation Officer, NGO Forum
22.	Areef Anowar	PD, FREAP, DPHE
23.	Fatema Akter	LDATC-Office of DPHE, Store Circle Dhaka
24.	Junaid Shahriar	Research Associate, ASGD

Table A 2: Participants list for training batch 1 at Hotel Grand Park, Barishal

Sl. No.	Name	Designation & Organization
1	Kazi Waliullah	Assistant Engineer, DPHE, Bhola
2	Khokan Ch. Shil	Project Coordinator, Adolescent Program-COAST Foundation, Bhola
3	Md. Mehedi Hasan	Sub-Assistant Engineer, Tazumuddin Upazila, Bhola
4	Abdur Rahman	Sub-Assistant Engineer, Galachipa Upzilla, Potuakhali
5	Md. Kabir Hossain	Assistant Director-2, UDDIPAN-Barishal
6	Sanjib Chandra Roy	JPO, Caritas Barishal
7	Md. Mosharaf Hossain	Regional Manager, NGO Forum for Public Health, Barishal
8	Polia Akter Poly	Estimator, DPHE, Jhalokathi (Store Officer)
9	Muhammad Jahangir Hossain	District Education Officer, Barishal
10	Sheikh MD. Akteruz Zaman	DDEO, Barishal
11	Md. Sultan Uddin	District Manager, BRAC, Pirojpur
12	Md. Al-Amin	Head of Barishal Field Office Save the Children Int. , Barishal
13	MD. Rustum Ali	Assistant Engineer, DPHE, Bhandaria, Pirojpur
14	MD. Ashrafuzzaman	Executive Engineer, DPHE, Patuakhali
15	Md. Abu Saleh	Assistant Engineer, DPHE, Barishal Sadar
16	Abdus Sattar Khan Liton	AE, DPHE, Mathbaria, Pirojpur
17	Md. Sohel Rana	AE, DPHE, Patuakhali Sadar
18	M Bayzidul Islam	AE, DPHE, BC
19	Md. Kamal Hossain	Assistant Engineer, DPHE, Charfasson, Bhola
20	Engr Md. Suman	Assistant Engineer, DPHE, Babuganj Upazilla, Barishal
21	Md. Ashraf Hossain	EAE, DPHE, Monpura, Bhola
22	Liton Mondal	Senior Manager, World Vision Bangladesh

23	Md. Mamun Hossain	SAE, DPHE, Mehendiganj, Barishal
24	Dola Malik	AE, DPHE, Betagi, Barguna
25	Md. Raisul Islam	XEA, DPHE, Barguna
26	Sathi Begum	SAE, DPHE, Rangabali, Patuakhali
27	Jahanara Begum Shapna	Chandradip Development Society
28	K.M. Enayet Hossain	ED, SDA, Patuakhali
29	Khandaker Ershaduzzaman Mridul	EXER, Jhalokathi, DPHE
30	Md. Jihad Hossen	SAE, DPHE, Kalapara, Patuakhali
31	S.M. Shahidul Islam	SE, DPHE
32	Ranjit Kumar Sanker	DRRO-Barishal DC-Office
33	Dr. Sabya Sachi Das	Deputy Civil Surgeon, CSO, Barishal
34	Rekha Yesmin	Project Coordinator, Sheeshilem- Barguna
35	Mehedi Hasan	Barguna, Patharghata (SAE), DPHE
36	Md. Ali Ahsan	Program officer (WASH), AVAS Barishal Sadar
37	Md. Emran Tarafder	Executive Engineer, Barishal
38	Md. Razaul Kabir	AE, DPHE, Barguna
39	Md. Duke Ivn Amin	Director, Jago Nari, Barguna
40	Kazi Jahangir Kabir	Executive Director Saint-Bangladesh, Barishal
41	Furkan Ahmed	WASH Officer
42	Al Mumin Sarwar	Planning and Monitoring officer, DPHE, Barishal

Table A 3: Participants list for training batch 2 held at Spandan Training Facilitation Center, Mymensingh

Sl. No.	Name	Designation & Organization
1	Md. Shakil Sarwar	Sub-Assistant Engineer, DPHE, Khaliajuri Netrokona
2	Subrata Pal	Field Team Leader, IDE-Bangladesh, Sherpur
3	Ziaur Rahman	Upazilla Coordinator (SUS) Kalmakanda ECM project, Netrokona
4	Haradhan Dey	Assistant Engr. DPHE, Sadar, Mymensingh
5	Liton Chandra Sarker	District Manager Unnayan Sangha (US), Jamalpur
6	Md. Firoj Alom	WASH officer, UNICEF
7	Badhon Chiron	Caritas Mymensingh Region Focal person to DM
8	Chonda Hawce	JPO-DM, Caritas Mymensingh
9	Md. Ashrafuzzaman	AE, DPHE, Durgapur, Netrokona
10	Md, Mahmudul Alam Bhuiya	SAE, DPHE, Mohongonj, Netrokona
11	Md. Alamgir	Training Officer, Sabalamby Unnayan Samity, Netrokona
12	Md. Mahbubur Rahman Sumon	SAE, DPHE, Madan, Netrokona
13	Johirul Islam	SAE, DPPHE, Atpara, Netrokona
14	Md. Shofiqul Islam	SAE, DPHE, Madarganj, Jamalpur
15	Md. Sumon Miah	Draftsman, DPHE, Jamalpur
16	Md. Moniruzzaman	AE, DPHE, Sreeebordi, Sherpur
17	Md. Johirul Islam	Estimator, DPHE Sherpur
18	Md. Elias Shah Sarwar	SAE, Jhenaigati, Sherpur
19	Muhammad Samiul Hoque	EE, DPHE, Sherpur
20	Muhammad Mashiur Rahman	EE, DPHE, Netrokona
21	Md. Kabil Hossain	AE, DPHE, Netrokona

22	Helal Uddin	Project officer, Jamalpur, (US)
23	Md. Zakir Hossan	SAE, DPHE, Melandah, Jamalpur
24	Mohammad Rakibur Rahman	SAE, DPHE, Bakshiganj, Jamalpur
25	Nupur Akter	SAE, DPHE, Nalitabari
26	Md. Nazmul Islam	SAE, DPHE, Kalmakanda, Netrokona
27	Md. Mazedur Rahman	AE, DPHE, Jamalpur Sadar, Jamalpur
28	Md, Rakibul Hasan	AE, DPHE, Dewanganj, Jamalpur
29	Muhammad Kamruzzaman	AE, DPHE, Islampur, Jamalpur
30	Md. Shohel Rana	Estimatpr, DPHE, Jamalpur
31	Mehedi Hasan	SAE, DPHE, Sarishabari, Jamalpur
32	Md. Sarwar Hossan	DRRO
33	Muhammad Jamal Hossain	XEN, DPHE Mymensingh

Table A 4: Participants list for training batch 3 held at Thel Grand Placid, Khulna

Sl. No.	Name	Designation & Organization
1	Mahbuba Farhana Naznin Lutfe	Assistant Inspector, DIST. EDU. Office, Khulna, On behalf of DEO
2	SK Shaker Ahmed	Sanitation Engineering Coordinator - SNV
3	Md. Amzad Hossain	Project Coordinator, SETU, Kushtia
4	Mohammad Abu Zahid	Asst. Coordinator Engineering EPRC, Dhaka
5	Raza Miah	Divisional Manager, BRAC, WASH program Khulna
6	Md. Akter Hossen	Junior Engineer, HYSAWA- SafePani Project
7	Md. Kamruzzaman	Field Team Leader, SanMarkS II Project, iDE Bangladesh
8	Kamal Ahmed Chowdhury	Regional Coordinator ProdiPan
9	Minhaz Monwar Auni	PHE Specialist Helvetas Bangladesh
10	Faruqe-al- Masud	EMDO. JJS. BWSE Program
11	Abdullah Al Masud	Divisional Coordinator, JAAGO, Foundation Trust
12	Prithish Mondal	Asst. Engineer DPHE Khulna Circle
13	Sumon Kumer Roy	Estimator (SAE) DPHE, Khulna Division
14	A.M. Wahiduzzaman	Shushilan – Project Coordination
15	Jayanta Mallick	Executive Engineer, DPHE, Bagerhat
16	Kazi Mazed Nawaz	Director (Programs) Jagorani Chakra Foundation (JCF)
17	G.K.M. Lutfar Rahim	Regional Manager, NGO Forum for PH, Khulna
18	Abdus Sabur Biswas	Executive Director, Agrogoti Sangstha
19	Istiaque Ahmed	SAE, DPHE, Koyra
20	Md. Mostafizur Rahman	AE, DPHE, Assasuni
21	Md. Ikramul Kabir	Estimator, DPHE, Jashore
22	Md. Aminul Islam	AE, DPHE, Paikgacha

23	Md. Shamiur Rahman	AE, DPHE, Dacope
24	Md. Monirul Islam	SAE, DPHE, Morrelganj
25	S.M. Mehedi Hasan	SAE, DPHE, Shonakhula, Bagerhat
26	Md. Tareq Aziz	Estimator, DPHE, Bagerhat
27	Md. Mufizur Rahman	Estimator, DPHE Satkharia
28	Md.Juwel Hosen	SAE, Kaliganj, Satkhira
29	Md. Mustafijur Rahman	SAE, DPHE, Shyamnagar, Satkhira
30	Md. Nahid Mahmud	WASH officer, UNICEF
31	Sohan Ahmmed	SAE, Mongla, Bagerhat
32	Md. Showkat Hossen	Field Coordinator LEDARS Shyamnagar Satkhira
33	Md. Akmol Hosen	EE, DPHE, Khulna
34	Sheikh Ahidul Alam	DPEO, Khulna
35	Md. Khairul Hasan	XEN, DPHE, Store Circle, Khulna
36	Md. Shahidul Islam	XEN DPHE, Satkhira
37	Dr. Md. Sabetul Islam	Medical Officer Civil Surgeon office, Khulna

Table A 5: Participants list for training batch 4 held at Parjatan Motel, Rangpur

Sl. No.	Name	Designation & Organization
1	Md. Shakil Amammed	Manager CA Friendship, Gaibandha-Sadar
2	Sk. Mamum	Project Coordinator & Focal Person SKS Foundation Gaibandha
3	A.B.M. Masudunnabi Lipon	Assistant Director (AD) Sinnomul Mohila Samity (SMS) Gaibandha
4	Md. Rezaul Karim	Project Coordinator MJSKS, Ulipur Kurigram
5	Aleya Begum	Deputy Director (DD) Solidarity, Kurigram
6	Amir Hossain	Project Coordinator, Esdo, Rangpur
7	Md. Arifur Rahman	DRR officer, Handicap International, Kurigram
8	Subrata Kumer Sarker	Project Manager, CARE-BD, Kurigram
9	Md. Mizanur Rahaman	Audit Officer Nazir-Lalmonirhat
10	Md. Saifur Rahman	Executive Director, RSDA, Rowmani, Kurigram
11	Md. Mamunor Rashid	SAE, DPHE, Saghata, Gaibandha
12	Md. Tarikul Islam	SAE, Roumari, DPHE, Kurigram
13	S.M. Mutakabirul Hoque	WASH advisor, Cordaid, SONGO project
14	Tapan Kumar Saha	Coordinator RDRS Bangladesh, Kurigram
15	Kishor Kumar Sarker	Assistant Coordinator, Gana Uunayan Kendra (GUK), Gaibandha
16	Md. Rasel Mia	SAE, DPHE, Hatibandha, Lalmonirhat
17	Md. Azizul Hakim Aziz	Estimator, DPHE, Lalmonirhat
18	Chandakishar Roy	AE, DPHE, Char Rajibpur Kurigram
19	Uttam Kumar Singh	SAE, Chilmari DPHE, Kurigram
20	Arifur Rahman	SAE, Kurigram Sadar, DPHE, Kurigram
21	Md. Younus Ali	SAE, Fulchari Gaibandha
22	Md. Khukon Rana	SAE, Sundorganj, Gaibandha

23	Most. Saraban Tahura	SAE, Gangachara, Rangpur
24	Md. Afjal Hossain	Estimator, DPHE, Rangpur
25	Rakibul Islam	Estimator, DPHE, Gaibandha
26	Md. Nezamul Haque	AE, DPHE, Rangpur circle, Rangpur
27	Md. Shahidul Islam	District Primary Education Officer, Rangpur
28	Engr, Md. Abdul Alim Gazi	EXEN, DPHE, lalmonirhat
29	Engr. Md. Shayhan Ali	Executive Engineer, DPHE, Gaibandha
30	Md. Ruhul Amin	WASH officer, UNICEF
31	Tultuli Rani	District Training Coordinator, DEO office, Rangpur
32	Dr. Snigdha Debnath	Medical Officer, Civil Surgeon office, Rangpur
33	Shah Md. Ahsan Habib	Regional manager, NGO Forum for Public Health, Rangpur
34	Harunur Rashid	EXEN, DPHE, Kurigram
35	Md Motahar Hossain	DRRO, Rangpur
36	Md. Moniruzzaman	Estimator, DPHE, Kurigram
37	Zannat	Assistant Commissioner, DC, Office, Rangpur

Table A 6: Participants list for training batch 5 held at ITN Seminar room, BUET, Dhaka

Sl. No.	Name	Designation & Organization
1.	Md. Abu Saleh	Asst. Administrator, Asia Arsenic Network
2.	Md. Moktur Ali	Assistant Engineer, DPHE, Dhaka Circle
3.	Md. Sohib Alam	Sub Assistant Engineer, Store division, DPHE, Dhaka
4.	Robin Hossain	SAE, Store Circle, DPHE, Dhaka
5.	Mahmudul Hasan	Emergency officer, UNICEF
6.	Md. Kabul Khan	Assistant Engineer, DPHE, Manikganj Sadar
7.	Md. Dabirul Islam	Sub Assistant Engineer, DPHE, Bhuapur, Tangail
8.	Abdullah Al Mamun	Assistant Engineer, DPHE, Bhuapur, Tangail
9.	Md. Kalim Uddin	Assistant Engineer, DPHE, Dhaka Division
10.	Mosrat Jahan	SAE, DPHE, Tangail Sadar, Tangail
11.	Md. Shafiqul Islam	Assistant Commissioner, Office of the Deputy Commissioner Dhaka
12.	H.M. Shahid Hasan	National Risk Officer, UNRCO, Gulshan, Dhaka
13.	Md. Hasan Ahmed	UPIO, DDM, Dhaka
14.	Fatema Kawsar June	Deputy Manager, WASH, BRAC, Mohakhali, Dhaka
15.	Md. Abdur Razzak	Sr. WASH officer, Bangladesh Red Crescent Society, Dhaka
16.	Tasnim Binta Mukhlis	Program officer, Dwip Unnayan Sangstha, Noakhali
17.	Gazi Fatima Ferdous	Executive Engineer, DPHE, Manikganj
18.	Md. Shamim Anwar	Assistant Engineer, DPHE, store division, Dhaka
19.	Md. Noyon Ali	Program Officer-Engineer NGO Forum for Public Health, Dhaka
20.	Mohammad Abu Zahid	Assistant Coordinator Eng. EPRC, Dhaka
21.	Md. Humayun Kabir	Executive Engineer, DPHE, Munshiganj
22.	Muhammad Abdul Majid	DEO, District Education officer, Dhaka

23.	S.M. Abdur Rahman	SAE, DPHE, Mushniganj Sadar
24.	Md. Sharif Hossain	Estimator, Munshiganj, DPHE
25.	Md. Fuhad Mollah	Deputy Manager WASH DRR, Save the Children, Cox's Bazar
26.	Md. Shadik Al Hayat	Deputy Director MSE, Light House, Bogura
27.	Mst. Tanjena Akter	Head of External Relations & Communications, Global One, Dhaka, Bangladesh Country officer
28.	Md. Al Amin	Estimator DPHE, Dhaka Circle
29.	Rajoni Akter	Program Officer, GUSS, Dhaka
30.	Md. Azizur Rahman	Research Officer, ITN-BUET
31.	Md. Yasin Arafat	Executive Engineer, Store Division, Dhaka
32.	Md. Ibne Mayaz Pramanik	Executive Engineer, Tangail
33.	Mehedi Hasan	Sub Assistant Engineer, Dohar, Dhaka
34.	Dr. Kazi Md. Omaar Faruk	MO, CS, Civil Surgeon Office Dhaka
35.	Mohammad Mashod Reja	AE, Bhairan, Kishorganj
36.	Subrata Sarker	AE, Karimganj, Kishorganj
37.	Md. Shafiqul Islam	SAE, hosenpur, Kishorganj
38.	Md. Abdul Aziz	District Primary Education office, Mirpur, Dhaka
39.	Dr. Nigar Sultana	Deputy Program Manager, Hospital Services Management, Directorate General of Health Services

Sphere Standards
(Group work based on <u>Standard 1.1, 1.2, and 1.3</u>)   Time: 15 minutes

Suppose there are **5000 disaster-affected households (HHs)** in a community in which 6000 people are women, 3500 are men, and the rest are children. To evaluate the awareness of the key public health risks related to hygiene, the following information is collected through a social survey.

- **1500 HHs** correctly describe the three measures to prevent WASH-related diseases.
- **3000 HHs** store drinking water in clean and covered containers.
- **4500 HHs** have soap and water for handwashing.
- The local environment is free from animal feces but nearly **25% area** is covered with human feces.
- Each HH has **only one** water container varying from **10-20L**.
- **None of the women** is satisfied with menstrual hygiene management.

Based on the above survey findings, answer/comment on the following queries

1. Find the percentage of HHs who correctly describe the three measures to prevent WASH-related diseases.
   (Answer: _ _ _ _ _ % of HHs)

2. Find the percentage of HHs who store drinking water in clean and covered containers.
   (Answer: _ _ _ _ _ % of HHs)

3. Find the percentage of HHs who have soap and water for handwashing.
   (Answer: _ _ _ _ _ % of HHs)

4. The affected area meets all the standards based on hygiene promotion.   ☐ YES   ☐ NO

5. Do you think that this affected community meets Standard 1?   ☐ YES   ☐ NO.

   If NO, suggest any three potential measures to meet Standard 1.

   (i) _____

   _____

   (ii) _____

   _____

   (iii) _____

   _____

Sphere Standards
(Based on Standard Indicators)   Time: 15 minutes

- *Go through the Sphere Standard 2 to 6, and answer the following queries.*
- *Mention that based on which Standard you have selected your answer.*

1. Queuing time at water source ≤ 30 minutes   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

2. At least 100 people per laundry facility   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

3. Mean water usage = 15 L/HH/day   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

4. Minimum water quality standard: <10 CFU/100mL at delivery point (chlorinated water)   ☐ TRUE   ☐ FALSE
    Standard: _ _ _ _

5. Least water quality standard: ≥ 0.2-0.5 mg/L Free Residual Chlorine at delivery point   ☐ TRUE   ☐ FALSE
    Standard: _ _ _ _

6. Maximum water quality standard: <5 NTU Turbidity   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

7. All excreta containment facilities are an adequate distance from the groundwater source. ☐ TRUE   ☐ FALSE
    Standard: _ _ _ _

8. Maximum 50m distance between shared toilets and dwelling   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

9. Ratio of shared toilets: minimum 1 per 20 people   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

10. All excreta are disposed of in an unsafe manner to the public health and environment.   ☐ TRUE   ☐ FALSE
    Standard: _ _ _ _

11. Percentage of HHs who have taken adequate action to protect themselves from relevant vector-borne diseases.
    ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

12. There is solid waste accumulating around designated neighborhoods.   ☐ TRUE   ☐ FALSE   Standard: _ _ _ _

13. Percentage of schools and public markets with appropriate and adequate waste storage. ☐ TRUE   ☐ FALSE
    Standard: _ _ _ _

Annex-4: Photos of the training

Figure A 1: Pictures of Training of Trainers (ToT)

Figure A 2: Picture of the training batch 1 at Barishal

Figure A 3: Picture of the training batch 2 at Mymensingh

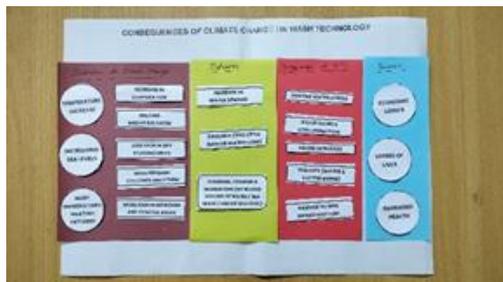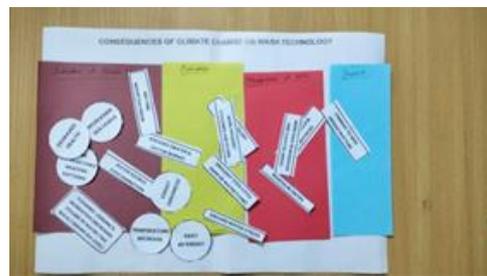*Figure A 4: Picture of the training batch 3 at Khulna*

Figure 18: Pictures of the training batch 4 at Rangpur

Figure 19: Pictures of the training batch 5 at Dhaka

Annex-5: Summary Table of Training Programs

Training Batch	Division (DPHE Circle)	Districts	DPHE Participants				NGO Participants	Other Government officials	Training Date	Venue
			Executive Engineers	Assistant Engineers	Sub-Assitant Engineers	Estimators & Draftsman				
1	ToT session	Chattogram Rangpur Netrokona Dhaka Barishal Sirajganj Sylhet Jashore	12	3			2	5	03-04 November 2023	DPHE Bhaban, DPHE, Dhaka
2	Barishal	Barishal Bhola Potuakhali Pirojpur Barguna Jhalokathi	4	11	7	1	14	5	13-14 November 2023	Hotel Grand Park, Barishal
3	Mymensingh	Mymensingh Netrokona Sherpur Jamalpur	3	7	11	3	7	2	20-21 November 2023	Spandan Training Facilitation Center, Mymensingh
4	Khulna	Khulna Kushtia Bagerhat Jashore Satkhira	4	4	5	4	13	7	22-23 November 2023	The Grand Placid, Khulna
5	Rangpur	Rangpur Gaibandha Kurigram Lalmonirhat	3	2	8	4	15	5	26-27 November 2023	Parjatan Motel, Rangpur
6	Dhaka	Dhaka Manikganj Tangail Munshiganj Kishorganj	4	7	7	2	10	9	27-28 December 2023	ITN Seminar Room, BUET, Dhaka

Annex-6: Summary Table of WASH cluster meeting

Training Batch	Division (DPHE Circle)	Districts of WASH Cluster meeting	DPHE Participants				NGO Representatives	Other Government officials	Training Date	Venue
			Executive Engineers	Assistant Engineers	Sub-Assistant Engineers	Estimators and Draftsmen				
1	Barishal	Barishal	1	3	1	×	8	2	14 November 2023	Hotel Grand Park, Barishal
2	Mymensingh	Jamalpur	×	3	4	2	4	1	21 November 2023	Spandan Training Facilitation Center, Mymensingh
3	Khulna	Khulna	2	3	1	1	11	2	23 November 2023	The Grand Placid, Khulna
4	Rangpur	Gaibandha	1	×	3	1	5	1	27 November 2023	Parjatan Motel, Rangpur
5	Dhaka	Dhaka	1	1	1	×	7	4	27 December 2023	ITN Seminar Room, BUET, Dhaka