THE PEOPLE'S REPUBLIC OF BANGLADESH
DEPARTMENT OF DISASTER MANAGEMENT (DDM)

THE PROJECT FOR CAPACITY ENHANCEMENT ON FORMULATION AND IMPLEMENTATION OF LOCAL DISASTER RISK REDUCTION PLAN

PROJECT COMPLETION REPORT (MAIN TEXT・APPENDIX 1-2)

JULY 2025

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

ORIENTAL CONSULTANTS GLOBAL CO., LTD.
EARTH SYSTEM SCIENCE CO., LTD.
CTI ENGINEERING INTERNATIONAL CO., LTD.
PACIFIC CONSULTANTS CO., LTD.

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Summary

1. Overview of the Project

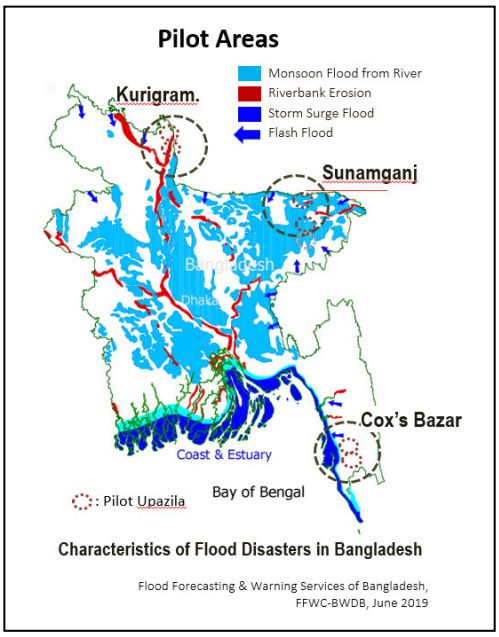
Overall Goal: Investments in Disaster Risk Reduction are promoted in line with developed Upazila Disaster Risk Reduction Plans (UzDRRPs)

Project Purpose: The mechanism is established for Department of Disaster Management (DDM) to develop and implement UzDRRPs in collaboration with the Ministry of Disaster Management and Relief (MoDMR), related agencies and local governments

Duration of the Project: December 2020 - July 2025 (55 months)

Main Counterpart: Department of Disaster Management (DDM)

Project Related Agencies: Bangladesh Meteorological Department (BMD), Local Government Engineering Department (LGED), Bangladesh Water Development Board (BWDB), Survey of Bangladesh (SOB), Geological Survey of Bangladesh (GSB), Public Works Department (PWD), Department of Agricultural Extension (DAE), Planning Commission (PC), and Department of Fire Service and Civil Defense (FSCD)



Main Hazards: Cox's Bazar District: Flood, coastal disasters, sediment disasters, and earthquake shaking
Sunamganj District: Flood and earthquake shaking
Kurigram District: Flood, river erosion, and earthquake shaking

2. Outputs and Activities

Output		Activities
Output 1	The system and methods of hazards and risk assessment for UzDRRP are developed.	• Conducted hazard analysis and risk assessments in six pilot upazilas. • Developed guidelines for hazard analysis and risk assessment for the local Disaster Risk Reduction Action Plan (DRRAP) and obtained the approval of MoDMR for the official document. • Prepared training materials (video tutorials) to support the operation of the guideline.
Output 2	The institutional arrangement is developed in DDM to support the formulation of UzDRRP.	• Supported the establishment and operation of the Technical Subcommittee (TSC) for the formulation of UzDRRAP • Developed guideline for the formulation of UzDRRAP and obtained approval of MoDMR for the official document. • Prepared training materials for "Basic Training on DRR" and "UzDRRAP Formulation Training" and respective training manuals. • Enhanced the capacity of DDM headquarters' trainers through training sessions.
Output 3	Practical UzDRRP is developed at pilot sites in collaboration with relevant ministries and local governments.	• Formulated UzDRRAP in six pilot upazilas. • Obtained official approval for the six UzDRRAPs from the Upazila Disaster Management Committees (DMC), District DMCs, DDM, and MoDMR.
Output 4	The mechanism is developed to implement the UzDRRPs.	• Established a monitoring system for the implementation status of priority projects in the six pilot upazilas. • Developed the operation manual outlining the responsibilities and tasks of DDM and other stakeholders in the formulation of an UzDRRAP. • Organized central-level information sharing meetings, district-level coordination committee meetings, and individual meetings with key project implementing departments (e.g., BWDB, LGED) to promote the implementation of UzDRRAPs, and compile lessons learned.

3. Achievement of the Project Purpose and Expected Outputs

The status of achievement of project purpose and of the four expected outputs at the end of the project is summarized below.

■Achievement of the Project Purpose

Project Purpose: **The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments**	
Objectively Verifiable Indicator	**Achievement Level**
1. Number of reports of hazard and risk assessments which employ methods developed by the Project (Target:6)	**Achieved** The practical method of hazard analysis and risk assessment was considered, and the corresponding reports were completed and included in the UzDRRAPs of Cox's Bazar, Sunamganj, and Kurigram Districts (6 upazilas).
2. Number of the proposals submitted from implementing departments to respective ministries for implementation of structural and non-structural measures in UzDRRPs (Target: 4)	**Achieved** Of the 2,653 structural and non-structural measures in UzDRRAPs of the pilot upazilas (4 upazilas), a total of 38 structural projects were confirmed to have been implemented, as indicated in the 15 Development Project Proposals (DPPs) approved by the respective ministries of the project implementing departments.

■Achievement of the Expected Outputs

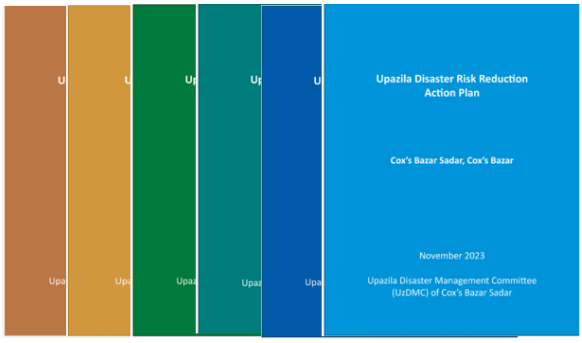
Output 1：The system and methods of hazards and risk assessment for UzDRRP are developed.		
Objectively Verifiable Indicator	**Project Deliverable**	**Achievement Level**
1.1 The guideline on hazard and risk assessments is developed and approved by MoDMR	• Guideline for hazard and risk assessment • Report on hazard and risk assessment results • Educational materials on hazard analysis and risk assessment methods by hazard (video tutorial)	**Achieved** The practical method of hazard analysis and risk assessment applied for UzDRRAP planning was developed and reviewed by Working Group (WG) 1 and applied to the process of developing UzDRRAP planning in pilot upazilas. The guideline was officially approved by MoDMR in June 2025 after the final Technical WG in April 2025.
Output 2：The institutional arrangement is developed in DDM to support the formulation of UzDRRP.		
Objectively Verifiable Indicator	**Project Deliverable**	**Achievement Level**
2.1 The UzDRRP guideline is developed and approved by MoDMR.	• Guideline for the formulation of UzDRRAP • Summary version of the guideline	**Achieved** The UzDRRAP formulation guideline was reviewed and developed with the members of WG2 and WG3 and applied to the process of UzDRRAP formulation in the pilot upazilas. The guideline was finalized based on the results of the pilot activities and officially approved by MoDMR in June 2025 after the WG meeting in February 2025.
2.2 The training manual and materials are developed	• The training manual and materials for the formulation of UzDRRAP	**Achieved** Through the pilot activities, training materials and manuals were developed to train UzDMC members on UzDRRAP formulation procedures. These were updated and finalized based on the results of trial training for DDM officials and relevant agency in April 2025.
Output 3：Practical UzDRRP is developed at pilot sites in collaboration with relevant ministries and local governments.		
Objectively Verifiable Indicator	**Project Deliverable**	**Achievement Level**
3.1 Number of UzDRRP developed and approved by UzDMC (Target:6)	• Developed UzDRRAPs for 6 pilot upazilas	**Achieved** UzDRRAPs were developed in pilot upazilas (3 districts x 2 upazilas each: 6 upazilas in total) through workshops, field activities, and meetings, and approved by the UzDMC and DDMC at the final workshop and DDMC meeting. It was subsequently approved by MoDMR.

Output 4 : The mechanism is developed to implement the UzDRRPs.		
Objectively Verifiable Indicator	**Project Deliverable**	**Achievement Level**
4.1 Operation manual is developed	• Operation manual for formulating and implementing UzDRRAPs • Operation manual for the utilization of local consultants in formulating UzDRRAPs	**Achieved** Based on lessons learned from the pilot activities and discussions among WG members, an operation manual was developed and approved by DDM.
4.2 Number of information sharing meetings for implementation of UzDRRPs (Target: 4 times)	• Holding information sharing meetings at the central level	**Achieved** An information sharing meeting with the project planners of the implementing agencies (e.g., BWDB, LGED, DDM) was held once at the central level (chaired by DDM Director General) and once each in Cox's Bazar and Sunamganj Districts (chaired by the Deputy Commissioner). The utilization of the UzDRRAPs at the project coordination and proposal stages, as well as the project implementation status and future issues were confirmed. Additionally, individual meetings were held more than 8 times in total with each department to review project implementation and to discuss the approaches and issues for obtaining budgets (11 times in total).
4.3 Number of lessons learnt through the coordination meetings among pilot Upazilas (Target: 6 lessons)	• Holding coordination meetings at the district and upazila levels	**Achieved** UzDRRAP implementation status was confirmed at the coordination meetings in the pilot upazilas, and 6 lessons learned for the implementation of the project were consolidated and organized. The outline of the lessons learned is as follows. (1) Value of the local needs in supporting promotion of plans (2) Horizontal coordination between departments (3) Vertical communication between local and central levels (4) Collaboration with ongoing/planned projects (5) Scaling up the upazila level project to make them suitable for DPPs (6) Role of DDMC in connecting central and local levels for monitoring and accelerating implementation
4.4 Number of participants of seminars and workshops for formulation of the UzDRRPs (Target: 800 participants in total)	• Materials for the dissemination of project outcomes	**Achieved** A total of 1,546 people participated in workshops related to formulating UzDRRAPs in the pilot upazilas.

The training session for the organization (local consultants) held prior to the launch of the pilot activities

Workshop in a pilot upazila

A lesson-sharing seminar



The established UzDRRAPs of the six pilot upazilas

4. Actions Necessary to Achieve the Overall Goal

Upazila Disaster Risk Reduction Action Plans (UzDRRAPs) were developed for six pilot upazilas under this project, and some of the countermeasure projects identified in these plans have already been implemented by project implementing departments. To achieve the project's overall goal – "Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs" – the following actions were confirmed with the Government of Bangladesh at the final Joint Coordinating Committee (JCC) Meeting. Continued efforts, led by DDM, are expected to go forward. The overall goal will be assessed based on the indicator: Structural and non-structural measures (6 projects) are implemented in line with UzDRRPs.

(1) Strengthening the functions of the FPOCG as a cross-ministerial coordination agency

In the DRR project which requires a cross-sectoral approach, it is necessary to strengthen the functions of a permanent organization that can continuously make decisions based on the experience of coordination in this project. A temporary organization, called Technical Subcommittee (TSC), was established with the aim of strengthening cooperation and building a collaborative system among central-level implementing agencies to improve the effectiveness and efficiency of DRR-related projects based on UzDRRAP. After the completion of the project, it is expected that the Focal Point Operational Coordination Group (FPOCG), chaired by the Director General of DDM and composed of project implementing departments including LGED, DPHE, and BDRCS, will maintain TSC's coordination function in formulating and implementing UzDRRAPs.

(2) Appropriate operation of UzDRRAP implementation monitoring

To achieve the overall goal, it is necessary to continuously monitor and promote the implementation of UzDRRAP at both the central and local levels. After the project ends, it is expected that the established mechanism for monitoring the progress of the priority project will be used to maximize the opportunities provided by regular coordination meetings at the central level (conducted by the FPOCG), and monthly development coordination committee meetings at the district and upazila levels. Under the leadership of DDM's Monitoring Unit, it is expected that project implementation monitoring will continue in each implementing agency.

(3) Utilization and improvement of guidelines and manuals

In this project, as part of the establishment of a system for the creation and implementation of UzDRRAPs, hazard analysis and risk assessment guidelines, video tutorials, guidelines for the formulation and implementation of local DRRAP, and training materials and manuals were developed. These were created with consideration for the current capabilities and knowledge of local officials, and training of instructors and data preparation were also carried out through project activities. Furthermore, at the final JCC Meeting held in June 2025, DDM announced a plan to expand the formulation of UzDRRAPs nationwide by utilizing the training system established within the project. After the project is completed, in order for the formulation and implementation of UzDRRAPs to be promoted nationwide under the initiative of DDM, it is expected that DDM will continue to provide training to its local officials who are strongly involved in the implementation and monitoring of the plans, upazila DMC members who are the plan formulators, and local consultants who support plan formulation, in accordance with the abovementioned expansion plan.

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[Abbreviations]

ADB	Asian Development Bank
ADP	Annual Development Plan
APA	Annual Performance Agreement
ASEAN	Association of Southeast Asian Nations
BBS	Bangladesh Bureau of Statistics
BDRCS	Bangladesh Red Crescent Society
BMD	Bangladesh Meteorological Department
BWDB	Bangladesh Water Development Board
C/P	Counterpart
CPP	Cyclone Preparedness Program
CRA	Community Risk Assessment
DAE	Department of Agricultural Extension
DDCC	District Development Coordination Committee
DDM	Department of Disaster Management
DDMC	District Disaster Management Committee
DEM	Digital Elevation Model
DMC	Disaster Management Committee
DoF	Department of Fisheries
DoL	Department of Livestock
DPHE	Department of Public Health Engineering
DPP	Development Project Proposal
DRMP	Disaster Risk Management Plan
DRR	Disaster Risk Reduction
DRRO	District Relief and Recovery Officer
DSW	Department of Social Welfare
EED	Education Engineering Department
ERD	Economic Relations Division
F/S	Feasibility Study
FFWC	Flood Forecasting and Warning Centre
FPOCG	Focal Point Operational Coordination Group
FSCD	Fire Service and Civil Defence
GIS	Geographic Information System
GSB	Geological Survey of Bangladesh
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LDRRP	Local Disaster Risk Reduction Plan
LGD	Local Government Division
LGED	Local Government Engineering Department

MoA	Ministry of Agriculture
MoD	Ministry of Defence
MoDMR	Ministry of Disaster Management and Relief
MoF	Ministry of Finance
MoHFW	Ministry of Health and Family Welfare
MoHPW	Ministry of Housing and Public Works
MoLGRD&C	Ministry of Local Government Rural Development and Cooperatives
MoP	Ministry of Planning
MoPA	Ministry of Public Affairs
MoPEMR	Ministry of Power, Energy and Mineral Resources
MoWR	Ministry of Water Resources
NEC	National Economic Council
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
P/M	Person-Month
PC	Planning Commission
PDM	Project Design Matrix
PDPP	Preliminary Development Project Proposal
PIO	Project Implementation Officer
PO	Plan of Operation
PSC	Project Steering Committee
PWD	Public Works Department
R/D	Record of Discussion
SDGs	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SOB	Survey of Bangladesh
SOD	Standing Orders on Disaster
TAPP	Technical Assistance Project Proposal
ToR	Terms of Reference
ToT	Training of Trainers
TSC	Technical Sub-Committee
UNDP	United Nations Development Programme
UNO	Upazila Nirbahi Officer
UzDCC	Upazila Development Coordination Committee
UzDMC	Upazila Disaster Management Committee
UzDRR(A)P	Upazila Disaster Risk Reduction (Action) Plan
UzSC	Upazila Disaster Risk Reduction Plans Sub-Committee
WG	Working Group
5YP	Five-Year Plan

[Project Photos]

Working Group (WG) joint meeting

2nd Joint Coordinating Committee meeting

Consultation with Project Director (PD)

Meeting with PD at the Project Office

Courtesy call to the Mayor of Kuwana City
(2nd Training Program in Japan)

3rd Training-in-Japan Program

WG1 technical workshop

WG2-3 joint meeting

 Discussion with counterpart (C/P) for Preparation of Training Materials	 Basic Training on DRR using the Cascade Method
 Inception meeting in Sunamganj District	 Workshop implementation training for local consultant
 1st Workshop in Cox's Bazar	 2nd Workshop in Kurigram
 District Disaster Management Committee (DDMC) meeting in Cox's Bazar District	 Stakeholder consultation for Implementation of the UzDRRAP in Cox's Bazar District

I. Basic Information on the Project

I.1 Country

People's Republic of Bangladesh

I.2 Title of the Project

The Project for Capacity Enhancement on Formulation and Implementation of Local Disaster Risk Reduction Plan

I.3 Duration of the Project (Planned and Actual)

The First Period

Planned: From December 2020 to December 2022 (24 months)
Actual: From December 2020 to November 2023 (35 months)

The Second Period

Planned: From January 2023 to December 2024 (24 months)
Actual: From December 2023 to July 2025 (20 months)

I.4 Background

The Government of the People's Republic of Bangladesh (hereinafter referred to as "Bangladesh") established "Bangladesh Vision 2021" in 2006, which aimed to transform Bangladesh into a middle-income country by 2021 and into a developed country by 2041 by increasing domestic and foreign investments. However, the country's social and economic sustainable development has been hindered by repeated disasters. Specifically, the damages to infrastructures due to persistent disasters and increased recovery cost, and the loss of livelihood due to disasters, particularly of low-income groups are significant.

In this situation, the "Disaster Management Act" was enacted and enforced in 2012. The Ministry of Disaster Management and Relief (MoDMR) and the Department of Disaster Management (DDM) have led the development of disaster management-related plans and legislations. In addition, in order to smoothly prepare for and respond to natural disasters in collaboration with other disaster management organizations, the establishment of a Disaster Management Committee (DMC) had been promoted in all administration levels, i.e., from national to local. Moreover, both MoDMR and DDM have played a leading role as the central disaster management organizations in the country, including obtaining a substantial amount of budget for disaster mitigation as well as response for disaster mitigation and emergency operation.

However, since DDM officials, including those in local administration levels, are primarily responsible for the emergency response to frequent natural disasters throughout the country as their main duty, the concept and effects of disaster risk reduction (DRR) that push forward the social and economic development in the country have not been fully recognized. In addition, current disaster management

plans developed in local administration levels are mainly focused on the activity for response and recovery in the disaster management cycle, and there is a limitation about disaster risk reduction including the investment for DRR in those plans. Thus, there was an urgent need to establish the mechanism for effectively mitigating disaster risks through appropriate investment and strengthen the planning and implementation capacities for DRR, specifically at local levels. Under these circumstances, the Government of Bangladesh requested the Government of Japan to support the formulation of the Disaster Risk Reduction Plan at the local level, and a Record of Discussions (R/D), which contained details of the project, with DDM and its competent ministry, MoDMR, was signed on 28 June 2020. After that, the Project started in December 2020.

Furthermore, at the 5th Joint Coordination Committee Meeting (Refer to "Activity [0-4] Support in Holding the JCC Meetings and Explanation on the Progress of the Project") held in February 2024, it was confirmed that in order to effectively implement DRR plans at the local government level, DDM must be equipped with functions to coordinate consistently between DRR plans at the central government level and multiple local government levels, and to serve as a bridge between the central and local governments regarding budget acquisition for the implementation of planned countermeasure projects. Following this confirmation, Project Design Matrix (PDM) was modified to place particular emphasis on the effective implementation of DRR plans (Refer to "II.3 History of PDM Modification") and carrying out project activities.

I.5 Overall Goal and Project Purpose

The Overall Goal, Project Purpose, Expected Outputs, and respective Activities are summarized in Table I-1.

Table I-1 Summary of Overall Goal, Project Purpose, Outputs, and Activities

Overall Goal	Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs
Project Purpose	The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments.

Output		**Activities**
Output1	The system and methods of hazards and risk assessment for UzDRRP are developed.	1-1 Study on the availability of hazard information and risk analysis in Bangladesh and identify issues to apply them to UzDRRPs. 1-2 Based on the results of Activity 1-1, methods for hazard and risk assessments applicable to UzDRRP are established in collaboration with MoDMR. 1-3 With the support of MoDMR, DDM prepares a guideline on hazard and risk assessment applicable to UzDRRP and conducts training with the guideline. 1-4 Trained personnel in Activity 1-3 conduct hazard and risk assessment in consideration of the local characteristics of the pilot sites.
Output2	The institutional arrangement is developed in DDM to support the formulation of UzDRRP.	2-1 In collaboration with MoDMR and relevant ministries, DDM establishes a Technical Sub-Committee (TSC) at the central level for practical UzDRRPs, and develops a guideline on basic principles, development methods, selection of measures and implementation procedures of UzDRRPs and its summary version. 2-2 Based on the guideline developed in Activity 2-1, with the support of TSC, DDM prepares a draft training manual and materials for DDMC and UzDMC in formulating UzDRRP. 2-3 Based on the training manual developed in Activity 2-2, with the supports of TSC, DDM conducts training for DDMC and UzDMC in the pilot sites.

Output		Activities
		2-4 Based on the results of Activity 2-3, with the supports of TSC, DDMC and UzDMC formulate UzDRRP Sub-Committee (UzSC) in the pilot sites and identify the contents of, and activities required for UzDRRP. 2-5 Based on the results of Activity 2-3 and 2-4, with the supports of TSC, DDM reviews and revises the draft guideline (including the summary version), training manual and training materials.
Output3	Practical UzDRRP is developed at pilot sites in collaboration with relevant ministries and local governments.	3-1 UzSC collects historical records of disasters at pilot sites in collaboration with Union DMC. 3-2 Based on the results of hazards and risk assessment obtained through Activity 1-4 and 3-1, UzSC identifies the disaster risks of pilot sites. 3-3 UzSC studies the plans and implementation status of structural and non-structural measures at pilot sites irrespective of sectors by referring to higher disaster management plans, development plans and outputs of relevant ministries and donors including JICA. 3-4 Based on the results of Activities 3-2 and 3-3, with the supports of MoDMR, relevant ministries, DDMC and UzDMC, UzSC plans the draft structural measures (including budget) to reduce disaster risk at pilot sites. 3-5 With the support of MoDMR, relevant ministries, DDMC and UzDMC, UzSC – taking into account the reduced risks – plans the draft non-structural measures (including budget) through the implementation of the structural measures planned in Activity 3-4. 3-6 With the support of DDMC and UzDMC, UzSC holds a workshop for DRR-related agencies (e.g., donors, NGOs, private sectors) in the pilot sites and discusses the principles of implementation of countermeasures. 3-7 Based on the results of Activity 3-2 to 3-6, UzSC identifies the ministries and agencies necessary to implement UzDRRP, and finalizes UzDRRP with the support of DDMC and UzDMC. 3-8 With the support of DDMC and UzDMC, UzSC reports to the results of Activity 3-7 to MoDMR through DDM, relevant ministries and local governments responsible for structural/non-structural measures and MoDMR request them to take necessary actions for securing budgets. 3-9 By utilizing the existing monitoring system, DDMC and UzDMC review the implementation status of UzDRRP and revise the plan as necessary.
Output4	The mechanism is developed to implement the UzDRRPs.	4-1 MoDMR and DDM draft an operation manual which elaborates the necessary activities for the development and renewal of UzDRRPs based on the outcomes and lessons learned from Outputs 1, 2 and 3, and finalize them through trials in the pilot sites. 4-2 MoDMR and DDM conduct a baseline survey to identify the capacity and local characteristics of DDMC and UzDMC of all Upazilas in the country, and prepare a priority list in each division for the development of UzDRRP. 4-3 MoDMR and DDM conduct information-sharing meeting to coordinate with government agencies to allocate the necessary budget for implementing the approved UzDRRPs. 4-4 MoDMR and DDM facilitate district DMC coordination meetings to be held among pilot Upazilas and relevant agencies in implementing each UzDRRP. 4-5 MoDMR and DDM hold a lessons-sharing seminar by inviting as many upazilas and district DMC as possible from pilot districts/upazilas at the end of this project.

Source: JICA Expert Team

I.6 Project Implementing Agencies and Implementing Structure

I.6.1 Implementing Agencies

The main counterpart (C/P) of this Project is the Department of Disaster Management (DDM). The relevant ministries at the central level are the Bangladesh Meteorological Department (BMD), Local Government Engineering Department (LGED), the Bangladesh Water Development Board (BWDB), Survey of Bangladesh (SOB), Geological Survey of Bangladesh (GSB), Public Works Department (PWD), Department of Agricultural Extension, Planning Commission (PC), and Department of the Fire Service and Civil Defense (FSCD).

At the local level, the project activities were conducted with the following pilot districts and upazilas.

- Cox's Bazar District: Cox's Bazar Sadar Upazila, Chakaria Upazila
- Sunamganj District: Chhatak Upazila, Jagannathpur Upazila
- Kurigram District: Ulipur Upazila, Chilmari Upazila

I.6.2 Implementing Structure

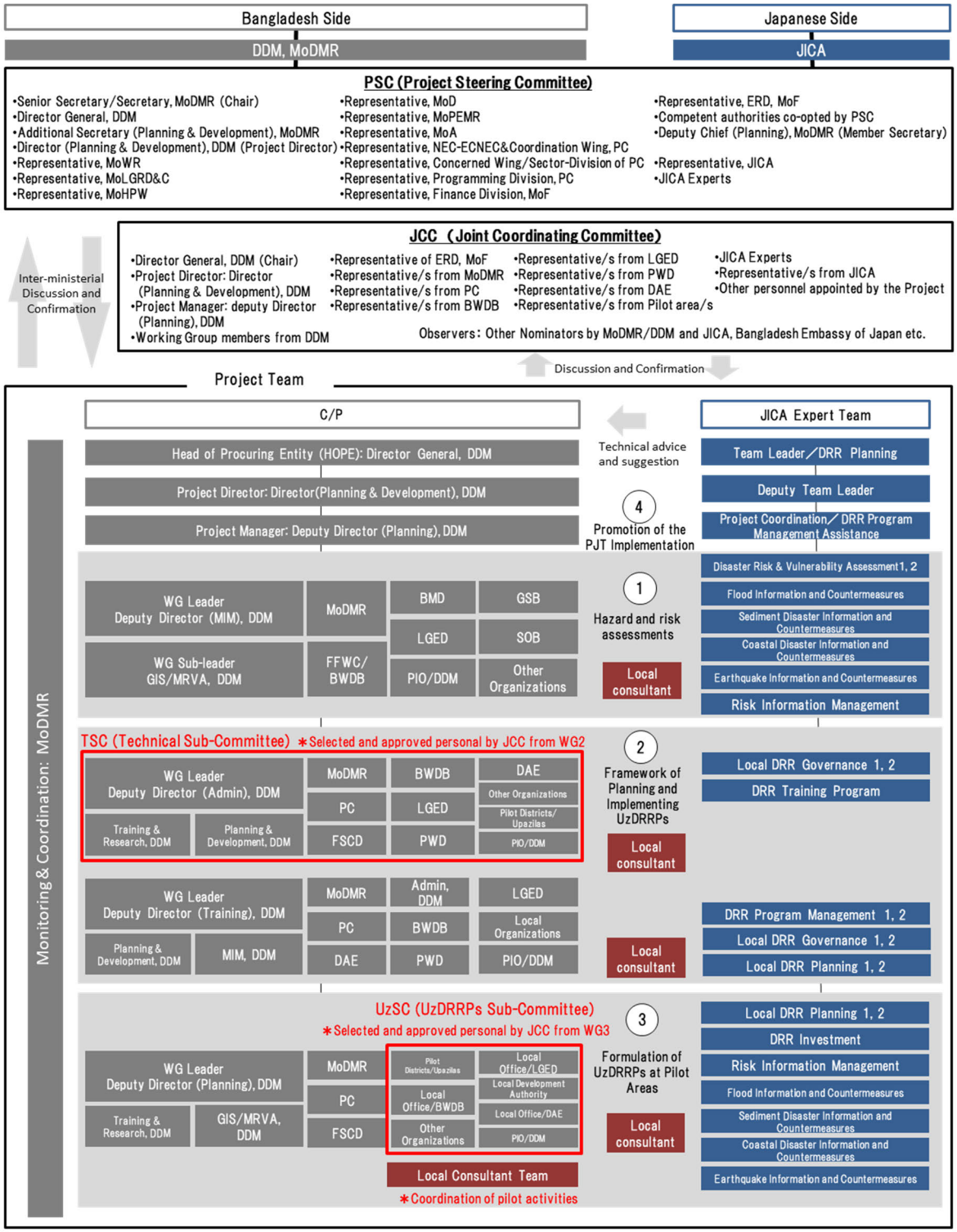
The Project members from both Bangladesh side and the Japanese side were divided into four Working Groups (WG) based on the Project's Outputs. In accordance with the R/D, the Director General of DDM was assigned as the responsible person for implementing the project and JCC Chairman. Furthermore, the Project Director (Director - Planning and Development Wing, DDM) and Project Manager (Deputy Director of Planning, Planning and Development Wing, DDM), and WG Leaders (one for each output: a total of 4 persons) were also assigned in accordance with R/D. Furthermore, three officials in the central level of DDM (listed below) were placed in charge of the Project after the start of the second period.

- Hazard Analysis and Risk Assessment
- UzDRRAP Training and Strengthening of Local DMCs/Resources
- Implementation and Management of UzDRRAP

In WG 2, the Technical Sub-Committee (TSC) for the formulation of UzDRRAPs was established by WG's related agencies. Also, in WG 3, the Upazila Sub-Committee (UzSC) for UzDRRAP formulation was established by the DMC of pilot upazilas. Furthermore, a system was established in which inter-ministerial discussion can be promoted through the Project Steering Committee (PSC) to facilitate coordination among relevant ministries within TSC under WG 2 and to coordinate DRR projects in UzDRRAPs under WG 3.

With the aim of ensuring the continuity of WG activities and strengthening the coordination and cooperation among related agencies in the Bangladesh side, this Project deployed local consultants in each WG as well to propel the Project activities. Moreover, for pilot activities related to formulating UzDRRAPs in WG 3, this Project subcontracted local consultant teams with the aim of assisting the UzSCs and the Upazila Disaster Management Committees (UzDMCs) that had not formulated such plans.

The implementation structure of the Project is shown in Figure I-1.



Source: JICA Expert Team

Figure I-1 Administrative structure of the Project

II. Results of the Project

II.1 Results of the Project

II.1.1 Input by the Japanese side (Planned and Actual)

(1) Expert dispatch

Fifteen (15) Japanese experts were dispatched based on the Plan of Operation (PO) in the Work Plan. The assigned roles of the experts (total of first period and second period), as well as the planned and actual dispatch and Person-Month (P/M) are listed (Table II-1).

Table II-1 Dispatch of JICA Experts

Roles	First Period				Second Period			
	Number of Dispatch		Person-Month (P/M)		Number of Dispatch		Person-Month (P/M)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Team Leader / DRR Planning	7	7	7.00	7.00	6	6	3.87	4.02
Deputy Team Leader / Disaster Risk and Vulnerability Assessment 1	6	8	6.00	7.40	5	9	2.93	4.32
Disaster Risk and Vulnerability Assessment 2	5	5	5.33	5.33	2	3	1.50	1.51
Local DRR Governance 1	6	8	7.00	7.32	5	8	3.03	4.03
Local DRR Governance 2					0	0	0.20	0.20
DRR Training Program 1	3	2	1.50	1.55	2	0	0.90	0.00
DRR Training Program 2 / Local DRR Planning 2	5	4	3.50	3.33	5	3	2.07	2.30
Local DRR Planning 1	7	7	6.00	5.90	5	3	2.60	1.60
DRR Investment	4	4	3.83	3.83	4	1	2.87	0.63
Flood hazard Information and Countermeasure	5	5	5.50	5.50	3	4	1.80	1.80
Landslide hazard Information and Countermeasure	4	4	3.67	3.47	1	1	0.77	0.77
Coastal area hazard Information and Countermeasure 1	0	0	1.00	0.30	0	0	0.00	0.00
Coastal area hazard Information and Countermeasure 2	3	2	3.50	1.65	2	2	0.90	0.53
Earthquake hazard Information and Countermeasure	4	4	3.00	3.00	2	2	0.90	0.90
Risk Information Management	3	5	3.00	4.80	3	5	0.90	2.13
DRR Program Management 1	5	5	4.50	4.65	6	9	3.03	6.73
DRR Program Management 2					3	1	0.50	0.50
Project Coordination 1/ Project Program Management Assistance 1	6	4	0.00	0.00	0	0	0.00	0.00
Project Coordination 2/ Project Program Management Assistance 2					0	1	0.00	0.00
Total	**73**	**74**	**64.33**	**65.23**	**54**	**58**	**28.77**	**31.97**

Notes: Planned ones are based on the amended contracts for the first and second period.

Source: JICA Expert Team

(2) Participants of Training Programs in Japan

The Bangladesh C/P, DDM, as well as officials from pilot Upazilas/Districts and relevant governmental agencies went to Japan to attend training programs in February 2023, July 2023, and March 2024. The breakdown of the participants is shown below.

Table II-2 Breakdown of Training Participants

Planned			
Period		**Participants**	**Number of Participants**
1st Batch	Oct. 2021 Approx. 1 week	TSC members (DDM, relevant agencies and ministries)	10
2nd Batch	Jun. 2022 Approx. 2 weeks	TSC members (DDM, relevant agencies and ministries), UzDMC members (UNO, PIO)	10
3rd Batch	Jun. 2023 Approx. 2 weeks	TSC members (DDM, relevant agencies and ministries), UzDMC members (UNO, PIO)	10
TOTAL			**30**

Actual				
Period		**Position**	**Number of Participants**	
1st Batch	Feb. 20 to Mar. 4, 2023	DDM (Central)	3	Total: 10
		Relevant government agencies (MoDMR, ERD, PC)	4	
		Pilot Upazilas/Districts (DRRO, UNO, PIO)	3	
2nd Batch	Jul. 3 to Jul. 14, 2023	DDM (Central)	1	Total: 6
		Relevant government agencies (MoDMR, LGED)	2	
		Pilot Upazila (UNO, PIO)	3	
3rd Batch	May. 20 to May. 31, 2024	DDM (Central)	3	Total: 11
		Relevant government agencies (MoDMR)	3	
		Pilot Upazilas/Districts (DRRO, UNO, PIO)	5	
Overall Total				**27**

Source: JICA Expert Team

(3) Equipment Provision

Six notebook PCs and one printer were procured during the project period. Details of the equipment are shown in Table II-3.

Table II-3 Details of Equipment

Equipment	Month Procured	Product Specification	No. of Units
Notebook PC	Apr. 2021	Dell inspiration 153000, intel corei7 8th generation, 8 GB RAM, 2 Blue and 1white	3
	Oct. 2021	Dell VOSTRO 143490, intel corei7 10th Generation, 8 GB RAM, Black	1
	Jun. 2022	Dell Inspiration 153501, intel corei5 11th Generation, 16GB RAM, Silver	1
	Nov. 2023	Asus A15FA507RE, 16GB DRR5	1
Printer	Mar. 2021	Epson Stylus L3110 Multifunction Printer	1
Total			7

Source: JICA Expert Team

II.1.2 Inputs by the Bangladesh Side (Planned and Actual)

(1) Counterpart assignment

DDM designated a Project Director, Project Manager, and WG leaders, as well as assigned WG members from several divisions of the department. While there were some changes from the beginning of the Project, the counterpart's assignments as of April 2025 are listed below. The total number of members was 27, including the Project Director and Project Manager.

a) Project Director (PD)

Mr. Md. Abdullah Al-Mamun, Director of Planning and Development Wing, DDM

b) Project Manager (PM)

Mr. Md. Abdus Sobhan, Deputy Director of Planning, Planning and Development Wing, DDM

Table II-4 List of WG Members

	Name	Position	Department /Ministry
WG1: Hazard and Risk Assessment			
Group leader	Mr. Dilip Kumar Saha	Deputy Secretary/Deputy Director, Monitoring and Information Management Wing	DDM
Sub-Group leader	Mr. Md. Hafizur Rahman	Assistant Director- GIS	DDM
	Mr. Sarder Udoy Raihan	Executive Engineer	FFWC, BWDB
	Alternate Mr. Partho Protim Barua	Assistant Engineer	FFWC, BWDB
	Dr. Md. Shamim Hasan Bhuiyan	Metrologist	BMD
	Ms. Salma Aktar	Director (Geology)	GSB
	Md. Abdur Rouf Howladar	Director	SOB
WG2: Framework of Local DRR Planning and Implementation			
Group leader	Mr. Md. Kamal Hossain	Deputy Secretary/Deputy Director-(Admin- 2)	DDM
	Mr. Dewan Nurul Huda	Assistant -Engineer/ KABIKHA (Food For Work Wing)	DDM
	Ms. Israt Jahan	Deputy Chief/ Forest, Fisheries and Livestock Wing	PC
	Mr. Atish Chakma	Deputy Assistant Director	FSCD
	Mr.Dr. Robin Kumar Biswas	Superintending Engineer (Civil), Planning-3	BWDB
	Mr. Md. Wahiduzzaman	PD, DRMEP (LGED part)	LGED
	Mr. Dr. Md. Taufiqur Rahman	Senior Project Economist (Deputy Director, Planning, Implementation. and ICT Wing)	DAE
	Mr. Sk. Toufiqur Rahman	Executive Engineer	PWD

	Name	Position	Department /Ministry
WG3: Formulation of Local DRR Plan			
Group leader	Mr. Md. Abdus Sobhan	Deputy Secretary/ Deputy Director-(Planning)- In charge	DDM
	Mr. Javed Karim	Additional Chief Engineer	LGED
	Mr. Abu Yusuf Md. Rasel	Deputy Secretary (Planning-3)	MoDMR
	Mr. Rabiul Islam	Assistant Engineer- Evaluation	DDM
WG4: Promotion of the Implementation of the UzDRRAPs			
Group leader	Mr. Engr. Md. Ismail Hossain	Deputy Director - (Training)	DDM
	Mr. Md.Obaidul Islam	Joint Secretary (Training and Budget Wing)	MoDMR
	Mr. Md. Abdur Rahman	Deputy Director (Budget and Accounts)	DDM
	Mr. Bidyut Kumar Saha	Superintendent Engineer (Civil), Planning-2	BWDB
	Mr. Kirit Sebastin Gomej	Senior Assistant Engineer, CRRI Project	LGED
	Mr. Md. Tarikul Islam	Executive Engineer (Establishment)	PWD

Source: JICA Expert Team

(2) Provision of the Project Office and Equipment

DDM designated an office with desks, chairs, and air conditioners for the Project for smooth progress of the activities, as well as provided 3 desktop PCs and a printer. As a response to the fire resulting from the demonstration in July 2024, two bookshelf style safes were additionally supplied.

Apart from this, DDM provided lunch and honorarium that were regulated by the Bangladesh government for participants at meetings and workshops held under the Project, in accordance with the Technical Assistance Project Proposal (TAPP).

Provision of the Project Office and Equipment by the C/P

II.1.3 Outputs of Activities

(1) Activities related to the overall process

[0-1] • [0-2] : Preparation and Discussion of the Draft Work Plan (Japanese/English)

The work plan of the Project, which included project implementation principles and project implementation measures, was prepared in Japanese by the JICA Expert Team and authorized by JICA. After revision, the finalized draft work plan and the PDM were explained to the related parties in Bangladesh and were agreed with the Bangladesh side at the first JCC meeting.

[0-3]: Implementation of Baseline and Endline Surveys for the Evaluation of Project Impacts

In order to evaluate the impacts of the project activities, a simplified baseline survey and an endline survey were conducted. The overview of each survey and the results of the measurement of project effectiveness are shown below.

1) The overview of each survey

For the baseline and the endline surveys, this project conducted two types of surveys: the "Individual Assessment" and the "Nationwide Survey." The Individual Assessment targeted DDM staff (central and local) and focused on confirming their understanding of activities related to DRR and the process of formulating and implementing DRR plans at the start and end of the project. On the other hand, the Nationwide Survey targeted all DRROs (District Relief and Recovery Officer) nationwide and grasped the changes in the activity status of DMCs, such as the holding of DMC meetings and DRR planning, in each district and upazila across the country. Based on the survey results, the project identified challenges that DDM needs to address for disseminating the project's outcomes nationwide in the future.

Table II-5 Summary of Each Survey Measuring Project Effect

	Individual Assessment		Nationwide Survey	
	Baseline Survey	**Endline Survey**	**Baseline Survey**	**Endline Survey**
Period	Jun. 2022 *After the lifting of travel restrictions due to COVID-19	Mar.-May. 2025	Jun. 2022 *After the lifting of travel restrictions due to COVID-19	Mar.-May. 2025
Purpose	To understand the capacity of DDM officials		To understand the activity status of DDMC and UzDMC	
Method	Questionnaire		Questionnaire	
Respondents	19 DDM officials who were expected to be involved in the project	17 DDM officials involved in the project	All 64 DRROs	
Research items	Self-assessment of the level of understanding on the following: • International DRR frameworks • Roles of DRR-related agencies • Disaster risk assessment • National and local DRR plans • Structural and non-structural measures, etc.		Situation of the district/upazila on the following: • Current activity status and challenges of the DDMC and UzDMC	

Source: JICA Expert Team

2) Individual Assessment

The Individual Assessment was conducted to reveal the current capacity of DDM officials to plan and implement DRR projects, and to assess the effectiveness of the project activities. The baseline survey and endline survey were conducted by using questionnaire, and targeted project-related personnel including PD, PM, and WG members working at the DDM headquarters, as well as DRROs and PIOs involved in project activities in the pilot sites as the field staff in charge of pilot

activities. The baseline survey received responses from 19 people, and the endline survey received responses from 17 people. The summary of the survey results on the measurement of the project effects is described below (for details, refer to the Baseline survey report and Endline survey report).

a) Importance of International DRR Frameworks, Pre-Disaster Investment, and Disaster Risk Reduction

Compared to the start of the project, the understanding level (on a 5-point scale) of DDM officials regarding the Sendai Framework for Disaster Risk Reduction (SFDRR), ASEAN (Association of Southeast Asian Nations) initiatives, and other international frameworks related to DRR had improved from an average score of 2.6 to 3.4. The percentage of officials with a good understanding also increased by 36 percentage points. Similarly, the percentage of officials who reported a good understanding of their country's context regarding DRR increased from 45% to 59%.

- **[Possible factors]** In this project, all activities were carried out with the promotion of the DRR investment as an overall goal, and activities were promoted to formulate necessary actions for DRR in the pilot upazilas as the UzDRRAPs. Through these series of project activities, including Basic Training on DRR, it can be suggested that the promotion of understanding of international trends such as pre-disaster investment and DRR, including explanations of international frameworks related to DRR, contributed to this increase in awareness.

b) Hazard and Disaster Risk

Compared at the start of the project, the percentage of staff who reported having a good understanding of the country's disaster characteristics and those of each jurisdiction increased by 25 and 52 percentage points respectively, which indicates a significant improvement in their awareness regarding hazards. By hazard type, while a high level of understanding was consistently observed for cyclones and floods which are more familiar in Bangladesh, there was also an increase in the number of officials who reported understanding landslides, riverbank erosion, and storm surges. Additionally, the percentage of officials who reported a good understanding of tools and training related to hazard analysis and risk assessment rose significantly, from 21% to 51%. On the other hand, it was also revealed that some local government officials still have a lower understanding of nationwide disaster characteristics compared to central government officials.

- **[Possible factors]** It is considered that the increased attention and knowledge regarding landslides, riverbank erosion, and storm surges can be attributed to the fact that these hazards were treated as major disaster types during the course of project activities. Furthermore, the improved understanding of hazard analysis and risk assessment can be inferred as a result of conducting hazard mapping and risk assessments in the pilot areas. Going forward, it is important to continuously implement the "Basic Training on DRR" and the "UzDRRAP Formulation Training" developed under this project to further promote the understanding of local officials regarding nationwide disaster risk characteristics.

c) Role of DDM and other DRR-related agencies (e.g., LGED and BWDB）in DRR

Just like in the baseline survey, respondents demonstrated a strong understanding of the role of DDM, and this tendency became even more pronounced in the endline survey. Moreover, compared to the baseline survey, there was a significant increase in understanding of the roles of other DRR-related agencies, with over 60% of respondents indicating that they had a good understanding.

- **[Possible factors]** Under this project, the TSC and UzSCs were established at the central level and the local level, respectively, and DDMC (District Disaster Management Committee) meetings were also convened. Through frequent discussions on necessary countermeasures and responsible implementing departments, it can be said that understanding of the roles of other organizations was enhanced. Moving forward, it is expected that DDM will continue to lead these coordination platforms at both central and local levels and further promote collaboration among relevant departments.

d) Structural and non-structural measures against hazards

Compared to the baseline survey, there was a significant improvement in understanding of structural measures against meteorological hazards and geological hazards. On the other hand, some local officials showed a tendency to have a lower understanding than central officials regarding structural measures for meteorological hazard and other hazards, as well as non-structural measures for geological hazards.

- **[Possible factors]** During the process of developing the Upazila Disaster Risk Reduction Action Plan (UzDRRAP), discussions were held on hard and soft measures for residual risks, and detailed explanations were provided on disaster-specific countermeasure menus and their contents during DRR overview training and planning workshops in pilot regions. These efforts are believed to have contributed to the improvement in understanding of structural and non-structural measures. It is necessary to continue to improve the knowledge of local government officials through training in the future.

e) Local planning processes and securing budgets for DRR

Compared to the baseline survey, the percentage of officials who reported a good understanding of the purpose and content of the Upazila DRMPs (Disaster Risk Management Plans) increased by 17 and 36 percentage points, respectively. Additionally, the proportion of officials with a good understanding of the purpose of the National Plan for Disaster Management rose by 30 percentage points. Regarding the project evaluation process for setting the prioritization of countermeasures, which is one of the key points in planning, overall understanding improved similarly to structural and non-structural measures mentioned earlier; however, some local staff showed little or no improvement in understanding. Furthermore, although the percentage of staff who reported a good understanding of budget acquisition for disaster risk reduction projects increased and those who reported little understanding decreased, several staff still self-assessed their understanding as insufficient.

- **[Possible factors]** The improved understanding of the purpose and content of Upazila DRMPs is considered to be a result of the respondents' direct involvement in the planning process through this project. As for the National Plan for Disaster Management, its objectives and contents were introduced during the "Basic Training on DRR", which is thought to have contributed to the increased level of understanding.
- **[Possible factors]** In terms of the project evaluation for the prioritization of countermeasure projects and budget acquisition for project implementation, local officials tended to have a lower level of understanding compared to the central officials. The local DDM officials (DRROs and PIOs) are primarily responsible for infrastructure development, community-based disaster risk reduction, and emergency response within their assigned districts and upazilas, based on instructions from the central level. For nearly all local officials, participating in the project's pilot activities was their first experience in coordinating and organizing necessary DRR measures across multiple agencies for their jurisdictions. While their understanding had improved compared to before, particularly regarding prioritization and engaging with the central government for funding, many respondents still felt that their understanding was insufficient. This might be due to the inherent complexity of on-the-ground coordination, such as the need to align with community opinions and liaising with other agencies. It is expected that the monitoring activities of project implementation in the pilot districts and upazilas will help to further foster this understanding.

3) Nationwide Survey

Nationwide survey targeted all 64 districts DRROs to investigate the activities of DDMCs and UzDMCs, with the aim of identifying challenges for scaling up the UzDRRAP formulation to other areas in the country. The main findings of the survey are described below (for details, refer to the Endline Survey Report).

a) Disaster Risk Management Plan (DRMP) formulation status

At the time of the baseline survey, four districts out of all 64 districts had their respective District Management Plans. By the time the endline survey was conducted, this number had increased to eleven districts. Similarly, the number of districts with Upazila Disaster Management Plans, including UzDRRAPs, rose from three to eighteen. Among these, Cox's Bazar, Sunamganj, and Kurigram were the three districts that the project supported in the formulation of UzDRRAPs.

- **[Challenges for nationwide dissemination]** While the project formulated UzDRRAPs in six upazilas across these three districts, many districts and upazilas do not still have DRMPs including Disaster Risk Reduction Action Plans (DRRAPs). Going forward, DDM needs to continue efforts to ensure formulation of the DRRAPs in other districts and upazilas, based on the formulation and implementation frameworks established by this project.

b) Cooperation and Coordination with Other DRR-Related Agencies

Compared to the baseline survey result, the frequency of District DMC meetings had increased in some districts. The proportion of districts holding monthly meetings rose from 8.2% to 37.1%, and the number of districts keeping meeting records increased from 57 to 61. Meanwhile, almost all DRROs had been coordinating with other DRR-related organizations, including government agencies and NGOs, showing little change from the baseline survey result. However, the number of DRROs coordinating with government agencies, such as BWDB and LGED, had decreased from 29 districts to 16.

- **[Challenges in nationwide dissemination]** Effective planning and implementation require strong collaboration among relevant departments. However, the number of DRROs coordinating with other DRR-related agencies remained relatively low. Going forward, based on the lessons learned from this project, it is essential for DDM to take a leading role in continuing the formulation and monitoring of UzDRRAP implementation in other upazilas, while promoting cooperation and coordination with implementing departments such as BWDB and LGED.

c) Need for Financial Support to DDMCs

In the baseline survey, many DRROs cited coordination with relevant agencies as the main challenge for DDMCs. However, in the endline survey, a majority of DRROs identified budget shortages as the primary issue. In particular, lack of funding for training programs and DDMC meetings was highlighted as a serious problem. Additionally, the lack of knowledge among DMC members was cited as an unresolved issue.

- **[Challenges in nationwide dissemination]** Given the limited operational funds available to DDMCs and UzDMCs, it is essential for the central government to recognize their challenges and increase the allocation of financial resources. Furthermore, the central government should continue and strengthen its support to DDMCs and UzDMCs by providing necessary trainings and activities, including "Basic Training on DRR" and "UzDRRAP Formulation Training", developed under this project.

[0-4]: Support in Holding the JCC Meetings and Explanation on the Progress of the Project

For sharing the progress of the Project and discussing the highlight activities, Bangladesh side and Japanese side conducted the JCC Meetings. In addition, the PSC Meetings and the Progress Sharing Meetings were periodically held as shown in the table below.

Table II-6 JCC and Other Meetings under the Project

Date	Meeting	Main Agenda
Nov. 4, 2021	1st JCC Meeting	• Confirmation and agreement on the work plan and Monitoring Sheets I and II "Ver. 0" of the Project • Selection of Pilot Upazilas • Next Steps
Mar. 14, 2022	Preparatory Meeting	• Composition of the Working Groups, including DDM and other relevant agencies • Exchange of views on experiences, opinions, roles, and responsibilities of each WG member
Mar. 23, 2022	Inception Meeting in Cox's Bazar	• Project activities and objectives • Explanation/Statement of introduction of pilot areas
Mat. 30, 2022	1st PSC Meeting	• Discussion of project objectives, physical and financial progress, and plans for future activities
Jun. 16, 2022	Inception Meeting in Sunamganj	• Project activities and objectives • Explanation/Statement of introduction of pilot areas
Jun. 28, 2022	2nd PSC Meeting	• Discussion of project objectives, physical and financial progress, and plans for future activities
Sep. 8, 2022	3rd PSC Meeting	• Physical and financial progress of the project activities for Fiscal Year (FY) 2022-23
Oct. 31, 2022	2nd JCC Meeting	• Amendment of the list of WG members • Progress of the project activities • Extension of the project period of the R/D • Discussion and approval of training in Japan • Next Steps
Nov. 17, 2022	4th PSC Meeting	• Physical and financial progress of the project activities • Progress on the Annual Performance Agreement (APA) • Results of the previous JCC meetings held on October 30, 2022 • Training program in Japan scheduled for February-March 2023 • Extension of project duration by 6 months
Mar. 13, 2023	5th PSC Meeting	• Physical and financial progress of the project activities • Report on the first batch of training program in Japan • Progress for FY 2022-23
May. 24, 2023	6th PSC Meeting	• Physical and financial progress of the project activities • Upcoming project events including the 3rd JCC meeting • Plan for the 2nd batch of training program in Japan • Progress of project activities and APA
May. 29, 2023	3rd JCC Meeting	• Amendment of the list of WG members • Activities and progress of the WGs • Review of the first batch of training in Japan • Discussion and approval of plans for the second batch of training in Japan
Aug. 14, 2023	7th PSC Meeting	• Physical and financial progress of the project activities in FY 2022-23 • Progress of the project activities and APA
Nov. 14, 2023	4th JCC Meeting	• Confirmation and discussion of the contents of the draft UzDRRAPs formulated through the pilot activities in four upazilas

Date	Meeting	Main Agenda
Feb. 28, 2024	5th JCC Meeting	• Amendment of the list of WG members • Activities and progress of each WG • Necessary actions for the implementation of the UzDRRAP in Cox's Bazar and Sunamganj districts • Discussion and approval of the 3rd training program in Japan • Confirmation of the DDM's required functions and revision of the PDM accordingly
Mar. 21, 2024	8th PSC Meeting	• Physical and financial progress of the project activities in FY 2022-23 • Progress of the project activities and APA
Jun. 4, 2024	9th PSC Meeting	• Physical and financial progress of the project activities in FY 2022-23 • Progress of the project activities and APA
Sep. 9, 2024	10th PSC Meeting	• Physical and financial progress of the project activities in FY 2024-25 • Progress of the project activities and APA
Oct. 23, 2024	6th JCC Meeting	• Amendment of the list of WG members • Activities and progress of each WG and the training program in Japan • Revision of PDM indicators • Needed actions to strengthen the capacity of DDM to achieve the Project Purpose
Dec. 2, 2024	11th PSC Meeting	• Physical and financial progress of the project activities in FY 2024-25 • Progress of the project activities and APA
Jun. 17, 2025	7th JCC Meeting	• Activities and achievements of each WG • Achievement status of each PDM Output and Project Purpose • Future DDM initiatives for achieving overall goal

Source: JICA Expert Team

[0-5]: Conduct Training Programs in Japan

This Project planned to conduct training programs on DRR investment and the formulation of the local DRR plan in Japan in three batches, once within a year after the start of the Project, and twice during the formulation of UzDRRAPs after the second year of the Project. However, in consideration of the situation of COVID-19 pandemic restriction and the difficulties in the acceptance of the trainees from Bangladesh, the timing of these training programs was arranged in such a way that consideration of postponement would not have a direct effect on the Project.

The first training was held from February 20 to March 4, 2023. In this training, 10 trainees from DDM headquarters, MoDMR, and other project-related ministries such as Planning Commission, as well as officials from pilot upazilas/districts participated. Also, the second training with the participation of 6 trainees from DDM, MoDMR, LGED, and officials of pilot upazilas was held from July 3 to 14, 2023. The third training took place from May 20 to 31, 2024 and involved a total of 11 trainees from DDM, MoDMR, and the pilot districts and upazilas.

In each training, the contents and methods of training were consulted with the JICA headquarters and the JICA Bangladesh Office to make the training programs more effective. Also, DDM selected the trainees in consultation with the JICA Expert Team. The participants in each training received lectures on DRR investment and planning and implementation of the DRR projects based on coordination among DRR-related agencies. They also had site visits to the coastal area and some river basins.

First Batch Training in Japan

Second Batch Training in Japan

Third Batch Training in Japan

(2) Activities related to Output 1

<u>[1-1]: Conduct study on the availability of hazard information and risk analysis in Bangladesh and identify issues to apply to UzDRRPs</u>

In order to establish practical methods for hazard and risk assessment in Bangladesh concerning the activities related to Output 1, a literature study and an interview survey were conducted by the JICA Expert Team since the beginning of the Project. The following were confirmed as major findings of the study.

- The result of Multi-Hazard Risk and Vulnerability Assessment, Modeling, and Mapping (MRVAM) is one of the potential inputs for hazard and risk analysis targeted for the entire Bangladesh. MRVAM was initiated by DDM as a part of sub-component "Emergency 2007 Cyclone Recovery and Restoration Project" with funding support from the World Bank. As a result of discussions with DDM, it became clear that report and image data of thematic maps developed in the Project were stored in DDM, but the original spatial data that can be edited was not there. Since the original data was indispensable for the formulation of UzDRRAP, it was confirmed that the result of MRVAM should be used as reference information for the Project first.

- BWDB and related organizations who were in charge of the design, maintenance, and management of river and costal improvement works as countermeasures against meteorological disasters were conducting flood and storm surge simulations at the planning stage like the feasibility study (F/S). However, the data was supposed to be used only in their projects and should not be provided to other organizations and local governments. It was confirmed that it was necessary for upazilas who had a plan to formulate their own UzDRRAPs to request BWDB and related organizations to provide the result of hazard analysis.
- The activities of international donors and NGOs were checked, and it was confirmed that Community Risk Assessment (CRA) was conducted by the Comprehensive Disaster Management Programme II (United Nations Development Programme (UNDP)) in many pilot areas. The result of CRA was effective to understand the historical record of disasters and collect the disaster characteristics of the area at the community level.

Based on the above survey results, it was found that there were some useful references to understand the local characteristics and potentials of hazards and those risks (like the result of MRVAM and other analytic results conducted by governmental organizations), but there is no specific and authorized way to create the local hazard map with Upazila-level spatial resolution. For formulating UzDRRAP, an applicable analysis method based on a scientific process should be organized to evaluate the local potential hazards objectively and panoramically. And it was confirmed that a holistic analysis method of disaster risks in consideration related to multiple sectors like population, buildings, public facilities, agriculture, forestry, infrastructure and lifelines, and others should be developed on the premise of utilizing CENSUS data and Geographic Information Systems (GIS) data prepared by LGED, SOB, and other recognized organizations as well.

[1-2]: Based on the results of Activity 1-1, methods for hazard and risk assessments applicable to UzDRRP are established in collaboration with MoDMR

Based on the results of the survey conducted in Activity [1-1], a practical hazard analysis method which is applicable for UzDRRAP planning in six pilot upazilas (located in Cox's Bazar, Sunamganj District, and Kurigram District) was studied and formulated. In considering hazard analysis methods, it was aimed to organize a method that can illustrate the spatial distribution of potential hazards utilizing digital elevation data, various observation data, and GIS data available in Bangladesh so that the local people can easily understand where the high potential area for each hazard is as a map and objectively grasp which area should be protected by appropriate countermeasures. The following hazards were identified as initial target disasters for hazard mapping.

- Cox's Bazar District: Flood, Coastal Disasters, Sediment Disasters, and Earthquake Shaking
- Sunamganj District: Flood and Earthquake Shaking
- Kurigram District: Flood, River Erosion, and Earthquake Shaking

Regarding the flood analysis, based on the geographical conditions of size of catchment area, river gradient, and spread of diversions and channels in the pilot area, two different analysis methods were introduced with considerations to the complexity of modeling and the level of capacity of the C/P.

Although there was no clear line, basically, the JICA Expert Team proposed to use the Rainfall Runoff Inundation (RRI) model for a relatively small river where the entire basin is contained within Bangladesh and around its borders, and to use the simple inundation analysis based on a danger water level and Digital Elevation Model (DEM) for a large river basin where the upper reach of the river is in other countries. The former method was adopted for the flood analysis in Cox's Bazar District, and the latter was adopted for Sunamganj District and Kurigram District.

In parallel with the development of the hazard analysis, the method of risk assessment for procurement estimating damages and losses using hazard maps generated said practical method and exposure data (e.g., land cover maps, infrastructure, and facility distribution maps) available in Bangladesh. The result of this risk assessment roughly showed how many people would be affected, and how many residential areas and paddy fields would be exposed per union against potential hazards. The estimated number of damages and losses were compiled with the expectation that they would be utilized by UzSC, who is a decision maker in UzDRRAP formulation, to identify the areas with the highest disaster risk in the upazila, prioritize the necessary countermeasures, and evaluate the effect of DRR by proposed countermeasures. As the facility and land use data used in the risk assessment needed to be as current as possible, the project team visited each Union through the subconsultants to update the geographical information of various data obtained from the SOB and Bangladesh Bureau of Statistics (BBS), and then conducted the risk assessment.

At the first Technical WG meeting consisted of the WG1 members in June 2022, the above proposed method was explained for collecting feedback and technical suggestions from scientists and engineers of every implementing agency. The method was then updated, based on the feedback and proposals, and was utilized for the pilot activity in Cox's Bazar and Sunamganj District as a trial.

After the implementation of the pilot activity which took approximately one year, the second Technical WG meeting was held in May 2023 to report details on the method and results of the application of hazard analysis and risk assessment during the planning phase in Cox's Bazar and Sunamganj districts. During the meeting, the process of hazard analysis and risk assessment was reviewed, and suggestions for improvement were summarized.

Second WG 1 meeting on May 2023

Furthermore, the content of the hazard analysis and risk assessment was updated, based on the applied method and results of the hazard analysis and risk assessment to the UzDRRAP planning in Kurigram district.

[1-3] With the support of MoDMR, DDM prepares a guideline on hazard and risk assessment applicable to UzDRRP and conducts training with the guideline.

As a result of Activity [1-2], the guideline for hazard and risk assessment applicable to UzDRRAPs was developed. In creating the guideline, lessons learned from the pilot activities' hazard analysis and risk assessment, as well as the outcomes of the Technical WG meetings, were incorporated and updated. The

guideline was designed to be visually clear and easy to understand and finalized. The table of contents of the developed guideline is shown below.

Table of Contents

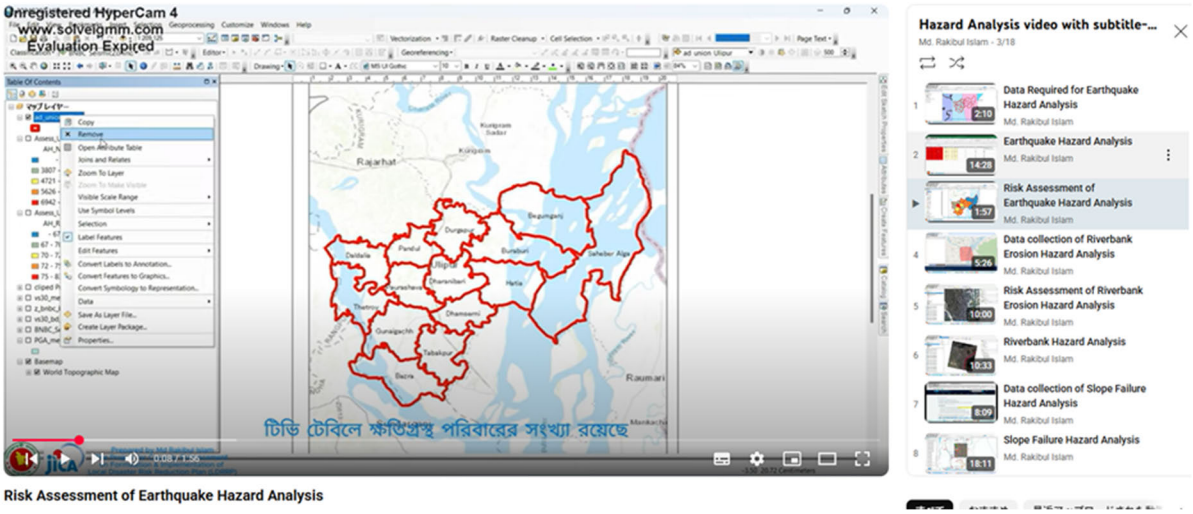
1. Introduction
    1.1 Purpose of the Guideline
    1.2 Scope of the Guideline
2. Hazard Analysis and Risk Assessment
    2.1 Flood (Seasonal Flood, Flash Flood, River Erosion)
        2.1.1 Current Status of Flood hazard in Bangladesh
        2.1.2 Recommended methods of Flood Analysis for UzDRRAP
        2.1.3 Sample Output of Flood Analysis
        2.1.4 Recommended methods of Riverbank Erosion Analysis for UzDRRAP
        2.1.5 Sample Output of Riverbank Erosion Analysis
        2.1.6 Risk Assessment on Flood
    2.2 Coastal Disasters (Storm Surge, Tsunami)
        2.2.1 Current Status of Coastal Disasters in Bangladesh
        2.2.2 Recommended methods of Coastal Disasters Analysis for UzDRRAP
        2.2.3 Sample Output of Coastal Disasters Analysis
        2.2.4 Risk Assessment on Coastal Disasters
    2.3 Sediment Disasters (Landslide, Debris Flow)
        2.3.1 Current Status of Sediment Disasters in Bangladesh
        2.3.2 Recommended methods of Sediment Disasters Analysis for UzDRRAP
        2.3.3 Sample Output of Sediment Disasters Analysis
        2.3.4 Risk Assessment on Sediment Disasters
    2.4 Earthquake
        2.4.1 Current Status of Earthquake in Bangladesh
        2.4.2 Recommended methods of Earthquake Shaking Analysis for UzDRRAP
        2.4.3 Sample Output of Earthquake Shaking Analysis
        2.4.4 Risk Assessment on Earthquake Shaking
ANNEX 1: Consideration for Climate Change Impact
ANNEX 2: Technical Manual for Flood Analysis
ANNEX 3: Technical Manual for Riverbank Erosion Analysis
ANNEX 4: Technical Manual for Costal Disasters Analysis
ANNEX 5: Technical Manual for Sediment Disasters Analysis
ANNEX 6: Technical Manual for Earthquake Shaking Analysis

Source: JICA Expert Team

Figure II-1 Table of Contents of the Guideline for Hazard Analysis and Risk Assessment for Local DRRAP

This guideline was used in the hazard analysis and risk assessment of Cox's Bazar, Sunamganj, and Kurigram districts. The method and results were discussed with the respective UzDMC and UzSC members during the UzDRRAP formulation workshops and UzSC meetings conducted in the form of on-the-job training. The finalized draft of the guideline was submitted to MoDMR, the supervising authority. It received official approval in June 2025, allowing it to be positioned as an official DDM guideline even after the completion of the project.

In addition to the above Hazard Analysis and Risk Assessment Guideline, a video tutorial that provides easy-to-understand visuals on hazard and risk assessment methods for each hazard type was developed for assisting DDM in nationwide dissemination of the UzDRRAP formulation activities by themselves even after the project completion. This material and guideline were prepared to be uploaded to the DDM portal website which enable DDM officials and designated users to view and download them.



Source: JICA Expert Team

Figure II-2 Developed video tutorial

[1-4] Trained personnel in Activity 1-3 conduct hazard and risk assessment in consideration of the local characteristics of the pilot sites.

Based on the technical guideline formulated in Activity [1-3], the following actions related to hazard analysis and risk assessment were conducted in the pilot upazilas during the implementation of the Project.

Table II-7 Series of Pilot Activities and Actions for Hazard and Risk Assessment

Pilot Activity		Actions for Hazard and Risk Assessment
Jun. 2022 1st Workshop	Cox's Bazar Sadar Upazila Chakaria Upazila	• The hazard analysis for flood, storm surge, slope failure, and earthquake shaking were conducted to show visually local characteristics of said hazards.
Aug. 2022 2nd Workshop	Cox's Bazar Sadar Upazila Chakaria Upazila	• The risk assessment of flood, storm surge, slope failure, and earthquake shaking was conducted to estimate union-wise number of affected populations, exposed built-up area, and agricultural area. • An additional hazard analysis for flood was conducted to explain the effect of widening river channels and dredging as structural countermeasures.

Pilot Activity		Actions for Hazard and Risk Assessment
Oct. 2022 3rd Workshops	Cox's Bazar Sadar Upazila Chakaria Upazila	• Additional hazard analysis for storm surge was conducted to show the effect of functioning polder as structural countermeasure.
Nov. 2022 1st Workshop	Chhatak Upazila Jagannathpur Upazila	• This workshop was about hazard analysis related to flooding focused on flash floods occurring before the monsoon season. This was conducted because flash floods are major disasters in the Haor areas and have a significant impact on livelihoods.
Feb. 2023 2nd Workshop	Chhatak Upazila Jagannathpur Upazila	• An additional flood hazard analysis was conducted to visually demonstrate the effectiveness of submersible embankments in mitigating pre-monsoon flash floods. • Through flood risk assessment, the effectiveness of properly maintained submersible embankments was estimated. • A seismic hazard analysis and risk assessment were also carried out, estimating the number of affected households at the union level.
Jan. and Mar. 2023 UzSC Meetings	Cox's Bazar Sadar Upazila Chakaria Upazila	• Draft location maps of needed countermeasures proposed by communities and local offices of line-ministries were developed as basic references in discussing with the members of UzSC the priority projects to reduce disaster risk in the pilot area.
Apr. and Aug. 2023 UzSC Meetings	Chhatak Upazila Jagannathpur Upazila	• Draft location maps of needed countermeasures proposed by communities and local offices of line-ministries were developed as basic references to discuss with the members of UzSC the priority projects to reduce the disaster risk in the pilot area.
Apr. 2024 1st Workshop	Ulipur Upazila Chilmari Upazila	• Hazard analyses of flood, riverbank erosion, and earthquake shaking were conducted to show visually local characteristics of said hazards.
Aug. 2024 1st UzSC Meetings	Ulipur Upazila Chilmari Upazila	• The risk assessments of flood, riverbank erosion, and earthquake shaking were conducted to estimate the exposed agricultural lands, settlements, DRR-related facilities, and industrial areas for each union • The regional characteristics and DRR targets for each hazard were proposed.
Sep. 2024 2nd Workshop	Ulipur Upazila Chilmari Upazila	• The results of the risk assessments were presented for each union, and the proposed DRR targets based on this assessment were reviewed and approved at the UzSC meeting.
Dec. 2024 2nd UzSC meeting	Ulipur Upazila Chilmari Upazila	• As a basic document for discussing with UzSC members the priority projects for DRR in the upazilas, action plan maps were developed showing necessary countermeasure programs proposed by communities and local offices of relevant departments.

Source: JICA Expert Team

In addition to the target hazards shown in Activity [1-2] (floods, riverbank erosion, and earthquake shaking), drought and lightning were also selected as the hazards covered by the UzDRRAPs in Kurigram District, and the hazard prediction status based on existing reports and other information was explained at the workshops and UzSC meetings.

(3) Activities related to Output 2

[2-1] In collaboration with MoDMR and relevant ministries, DDM establishes a Technical Sub-Committee (TSC) at the central level for practical UzDRRPs, and develops a guideline on basic principles, development methods, selection of measures and implementation procedures of UzDRRPs and its summary version.

1) Establishment of TSC and collaboration with UzSCs

In order to achieve the Project Purpose, the Project set the basic principle that the TSC and the UzSCs would be established as a practical task force for formulating UzDRRAPs at the central and local levels respectively. In the preparatory meeting on 14th of March 2022, the WG2 members consisted of relevant agencies such as LGED, BWDB, and PC, discussed how the TSC could encourage the Development Project Proforma/Proposal (DPP) adoption and inclusion into the Annual Development Programme (ADP). As a result, the need to clarify the roles of the TSC in verifying and promoting the implementation of DRR projects and the UzSC in formulating UzDRRAPs had been identified. And it was also confirmed that the linkage between the TSC and the UzSCs should materialize through the pilot activities in Cox's Bazar District, which was the 1st pilot area of the Project.

Since then, a total of three UzDRRAP formulation workshops were held in Cox's Bazar Sadar and Chakaria Upazilas in Cox's Bazar District from June to October 2022, in which information on hazard risks and existing and proposed projects were collected. Subsequently, the importance of the UzSC as a decision-making body was reaffirmed at the UzDMC meetings in both upazilas in September of the same year, and the UzSC was officially established by Upazila Nirbahi Officers (UNOs) in October. Similarly, UzSC was established in Chhatak and Jagannathpur upazilas of Sunamganj district in April 2023, and in Ulipur and Chilmari upazilas of Kurigram district in March 2024 (Refer to Activity [2-4]).

On the other hand, recognizing that a vertical organizational structure with the central government should be considered when coordinating and deciding on DRR projects at the upazila level, the WG2 and WG3 joint meeting in September 2022 confirmed the need for the TSC to serve as a central government platform to support UzSC activities under central and local coordination. Accordingly, the TSC was officially launched in November 2022 as a body to identify the main implementing agencies from relevant organizations, to monitor structural and non-structural countermeasure projects by sector, and to provide support to UzSCs.

The members of TSC, as well as the responsibilities of TSC and UzSC are listed below.

Table II-8 The Members of TSC

Department/Ministry	Designation
DDM	Deputy Director- (Admin-1)
DDM	Deputy Director- (Planning)
MoDMR	Deputy Secretary (Planning-3)
DDM	Deputy Director- (Training)
DDM	Deputy Director- (Research)

Department/Ministry	Designation
DDM	Deputy Director- (Admin-1)
DDM	Deputy Director- (Planning)
BWDB	Superintendent Engineer (Civil), Planning-3
LGED	Superintendent Engineer, PD, DRMEP Project (LGED Part)
MoP	Deputy Chief/ Forest, Fisheries and Livestock Wing
PWD	Executive Engineer (Establishment)
DAE	Senior Project Economist (Deputy Director, Planning, Implementation and ICT Wing)
DDM	Assistant Engineer (Food For Work Wing)
FSCD	Deputy Assistant Director
DDM	Project Implementation Officer of Pilot Upazilas

Source: JICA Expert Team

Responsibilities of the TSC

- To establish the guidelines and manuals in preparing UzDRRAPs
- To take the initiative of starting up UzSC for preparation of UzDRRAPs
- To summarize the progress of existing DRR-related projects based on the plans that UzSCs submitted
- To request line ministries on the possibility to do further investigation on DRR project needs based on UzDRRAPs
- To make efforts to integrate DRR ideas into DPP, ADP and 5YP in Upazila and line ministries, considering risk and vulnerability in local areas
- To discuss among line ministries on development projects which might affect people or cause disaster

Responsibilities of the UzSC

- To understand Upazila Hazard Map prepared by the UzDRRAP project considering hazard and risk assessment
- To identify more vulnerable areas using Upazila and Union maps
- To discuss proposed countermeasures in UzDMC and workshops
- To understand countermeasures in Upazila Hazard Map using GIS coordinates
- To discuss and share existing plans
- To identify the name of the responsible implementation department for the proposed countermeasure
- To identify the official name of the proposed countermeasure for each department
- To finalize the countermeasure names and change by using GIS coordinates
- To list up the countermeasure name with detailed information
- To finalize the prioritized list for countermeasures considering 'Build Back Better" and also economic development
- To finalize the short-term, mid-term, and long-term projects considering budget and other issues

Source: JICA Expert Team

Figure II-3 Responsibilities of TSC and UzSC

Following its establishment, the second meeting of TSC was hosted by DDM in May 2023 with the agenda of outlining the draft table of contents and proposed measures for the UzDRRAPs of Cox's Bazar Sadar and Chakaria in Cox's Bazar District. In the meeting, it was re-confirmed that the main role of TSC was to monitor existing DRR projects and to communicate vertically with the central and regional authorities in order to move new projects and pipeline projects (projects proposed in the DPP and ADP for securing development budget) to the next step (New projects: F/S implementation; Pipeline projects: DPP approval and securing budget). Furthermore, it was shared that, although TSC can make recommendations on priority projects and give monitoring instructions to line departments

in Upazilas, the TSC itself is only a coordinating committee, and DRR project planning and implementation are in the hands of each ministry and department and, therefore, each line department should take the initiative in implementing the F/S for the preparation of DPPs for priority projects.

2) Development of the Guideline for the formulation of UzDRRAP

Based on the JICA's "8 Steps-Practical Method for Developing Local DRR Strategies/Plans", a guideline for UzDRRAP formulation was developed under the activities by WG2 and WG3.

For the development of the guideline, the content was discussed among the members of WG2 and WG3 based on a draft idea provided by the JICA Expert Team in the preparatory meeting held on March 14, 2022. It was confirmed in the meeting that the guideline should consist of two parts, with the first part explaining the organizational structure for the preparation and implementation of UzDRRAPs, and the second part clearly outlining the process for preparing UzDRRAPs.

After the implementation of the pilot activity in Cox's Bazar and Sunamganj districts, the draft guideline (1st draft: Version-1) was updated, specifically regarding the procedures of setting DRR target reflecting the hazard analysis and risk assessment results as well as the processes of combining DRR-related projects and coordinating and collaborating with implementing agencies, as Version-2, based on findings and lessons learned from the pilot activities. The guideline was then discussed in the WG 2 and 3 meetings held in September 2023. The guideline was then translated into Bengali for better understanding of the UzDMC members.

After the finalization and approval of the UzDRRAPs in Cox's Bazar and Sunamganj districts, it was confirmed at the joint meeting of WG2 and WG3 in February 2024 that the UzDRRAP formulation process would be further reviewed toward activities in Kurigram district, which is the third pilot district. Accordingly, the guideline was updated to a third draft (Version-3). Specifically, the updated version clearly distinguishes between short- to mid-term (approximately 10 years) and long-term countermeasures in setting DRR target and organizes countermeasures and necessary actions by disaster type in relation to the short- to mid-term DRR target, which enables clarifying the process for selecting priority DRR projects. Drawing on lessons from the first and second pilot activities, the updated guideline emphasizes the importance of thorough screening of DRR needs raised by unions and technical assessment in collaboration with implementing agencies such as BWDB and LGED for organizing the necessary countermeasures toward DRR target. It also highlights the need to carefully verify consistency between proposed actions and the policies or project proposals of implementing agencies. Additional changes include renaming the plan to "Upazila DRR Action Plan" in line with the Standing Orders on Disaster (SOD), as well as expanding the scope of risk assessment to include population and asset concentration considering development potential for achieving more multifaceted analysis of disaster risk in the target areas. Subsequently, based on the activities carried out in Kurigram district using the updated guidelines, the document was further revised and updated to a fourth draft (Version-4).

The structure of the finalized guideline is shown below.

Table of Contents

Chapter 1: Introduction
1-1 Purpose of the Guidelines
1-2 Scope of the Guidelines
Chapter 2: DRR Planning Approach and Legal Background
2-1 DRR Planning Concept and Legal Status of Bangladesh
1) What is the Disaster Risk Reduction Plan by Upazila DMC?
2) Features of the Plan
2-2 Benefit of the Local DRR Plans
2-3 Disaster Management Policy in Bangladesh
2-4 Disaster Risk Reduction Considerations in Local Administration
1) Overview of the local administration system in Bangladesh
2) Disaster Risk Reduction Considerations in the Upazila Parishad Act
2-4 DRR as global agenda -SFDRR and SDGs
Chapter 3: Planning Process and method
3-1 Structure of the Upazila Disaster Risk Reduction Action Plan
3-2 DRR plan description
3-3 Planning and Implementation Work flow
1) Guide for the Local DRR Plan by JICA's 8-Step method
2) Planning Work Flow
3) Implementation Schedule
3-4 Organizational structure for support to facilitate planning and implementation
1) Four Working Group
2) Important Input of Working Group 2 and 3
3) Three Committees as platform to formulate the UzDRRAP and promote the implementation
4) Bottom to top Communication between Union DMC, UzSC and TSC
5) Expected supporting system after the LDRRP Project, JICA
6) Training & Capacity Building: Essential Components
3-4 DRR plan description and its instructions

Source: JICA Expert Team

Figure II-4 Table of Contents of the Guideline for Formulation of UzDRRAP

The updated draft guideline was confirmed and finalized at the WG2 and WG3 joint meeting held in February 2025. It was then approved by the MoDMR in June 2025, so that it could be positioned as an official guideline for DDM after the project completion

[2-2] Based on the guideline developed in Activity 2-1, with the support of the TSC, DDM prepares a draft training manual and materials for DDMC and UzDMC in formulating UzDRRP.

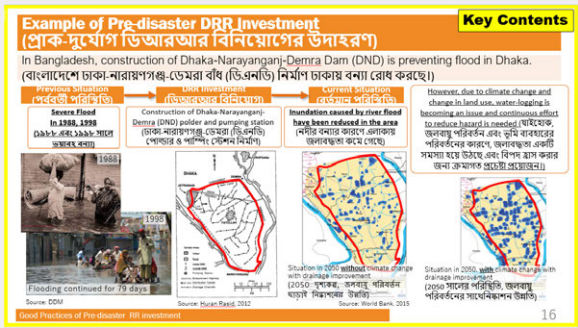
Training materials for the two types of training shown below were prepared in the project. This section describes the activities for preparing and revising training materials and a manual (Activity [2-5]).

1) Basic Training on DRR

For the preparation of the UzDRRAPs, it was necessary for UzDMC members, who were the main body of the formulation, and DDM officials who managed the planning process, to have proper understanding of the importance and concept of DRR and pre-disaster investment which were the goals of the plans. The baseline survey revealed insufficient understanding of DDM officials on international frameworks for DRR and pre-disaster investment, and DDM's training programs had not included curriculum that provided an in-depth understanding of these international frameworks. In response, the project supported the implementation of "Basic Training on DRR" as part of capacity building for DDM officials and UzDMC members.

The training was mainly aimed at fostering understanding of the importance of DRR and pre-disaster investment and was coordinated with the C/P for including this training in the annual training program funded by the DDM side to ensure sustainability of the training program. Training materials were prepared together with DDM officials in the central level who were potential trainers for the training. The training was conducted in cascade approach, with Training of Trainers (ToT) training conducted by these trainers and training for UzDMCs conducted by local and central officials who had received the ToT training.

Discussion on the training materials with DDM officials (left) and ToT training at the central level (right)



Source: JICA Expert Team

Figure II-5 Developed training material (extracted)

The following is a summary of "Basic Training on DRR" which was held during the project period.

Table II-9 Table Summary of the Basic Training on DRR

Program Overview			
Session 1: • Disaster in Bangladesh • Importance and Concept of Disaster Risk Reduction • Countermeasures against Disasters Session 2: • SOD-2019, Role of DRR-Related Institutions and Global Agenda. Importance of Local DRR Strategy. • Global Agenda and How It Is Reflected in Bangladesh Policy. Session 3: • Importance of DRR Strategies at Local Level, Pre-disaster DRR Investment and Good Practices. • Introduction of the UzDRRAPs as a Risk Reduction Action Plan. • Example of UzDRRAP Formulation from the Experience of Pilot Upazila.			
Date	**Lecturer**	**Target Participants/ Upazilas**	**Number of Participants**
Feb. 12, 2024 (ToT Training)	Central official	DDM officials at central and local level	23
Apr. 23, 2024	Mr. Md. Abdullah Al- Mamun, Director (Planning and Development)	Kurigram Sadar, Kurigram	38 (including UzDMC members of Ulipur and Chilmari upazilas)
May. 16, 2024	Mr. Md. Younus Ali, DD (Training and Planning) of DDM Mr. Md. Shahadat Hossain Bhuiyan, PIO of Jagannathpur Upazila, Sunamganj	Bishwamvar, Sunamganj	29
May. 21, 2024	Mr. Md. Younus Ali, DD (Training and Planning) of DDM Mr. Raj Kumar Shil, PIO of Ramu Upazila	Ramu, Cox's Bazar	53 (including CPP volunteers and media)
Jan. 7, 2025	Mr. Sanwar Hossain-DD (Mitigation), DDM Mr. Motahar Hosssain- DRRO, Rangpur	Bhurungamari, Kurigram	35
Jan. 8, 2025	Mr. Sanwar Hossain- DD (Mitigation), DDM	Nageshwari, Kurigram	37
Feb. 11, 2025	Mr. Md Abdus Sobhan- Deputy Director (Planning)	Dowarabazar, Sunamganj	40
Date	**Lecturer**	**Target Participants/ Upazilas**	**Number of Participants**
Feb. 12, 2025	Mr. Md Abdus Sobhan-Deputy Director (Planning)	Tahirpur, Sunamganj	31
May 21, 2025	Mr. Md Abdus Sobhan-Deputy Director (Planning)	Pekua, Cox's Bazar	42
May. 22, 2025	Mr. Md Abdus Sobhan- Deputy Director (Planning) Mr. Md. Hasanul Amin- Deputy Director, Cyclone Preparedness Program (CPP), Cox's Bazar.	Moheshkhali, Cox's Bazar	50

Source: JICA Expert Team

Basic Training on DRR for UzDMCs

2) Training manual and materials for UzDRRAP formulation

In the first period of the project, under the agreement of the members of WG 2 and WG 3, the UzDRRAP formulation guideline was drafted in a way that it could function as training manual and teaching material to make the content more practical. Specifically, detailed procedures for the preparation of UzDRRAPs, such as how to conduct workshops, were to be included in the guideline, and workshop facilitation guides and related materials were made annexes to the guideline.

However, given the current capacity of UzDMCs and the local consultants who supported them in planning, it was concluded that there was a need to develop training materials that make the planning process more visually accessible and easier to understand by UzDMCs and local consultants who supported them to use the guideline after the project is completed.

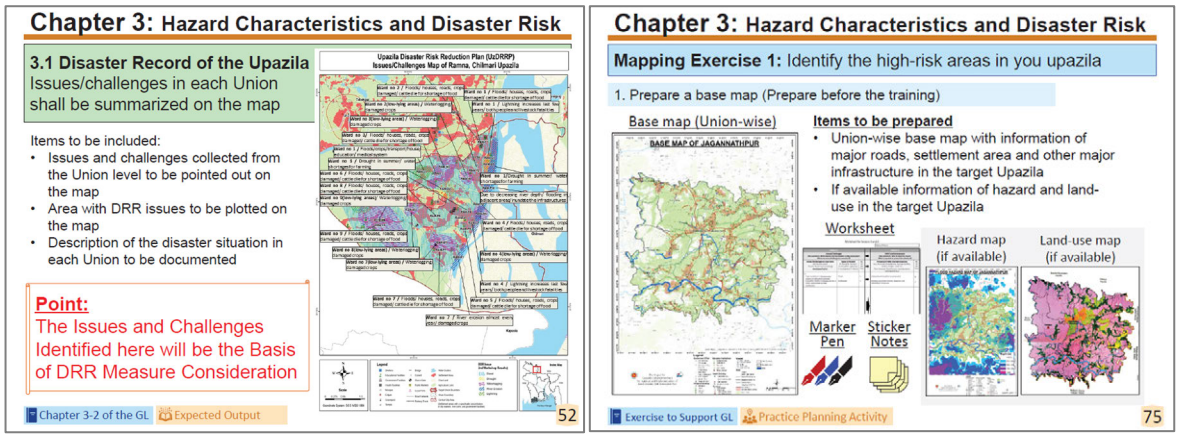
Taking this into consideration, based on the UzDRRAP formulation guideline (Version-3) developed in Activity [2-1], a training material with photos and diagrams from the actual activities conducted during the pilot activities in PowerPoint format as well as a training manual were developed.

The contents of the training material and manual are as follows.

Table II-10 Contents of the Training Material and Manual

	Training Material	Training Manual
Targets	• DDM central level officials • UzDMC and DDMC members • Local consultants	• DDM central level officials
Usage	To be used by DDM during training for UzDMCs and DDMCs on UzDRRAP formulation procedures and methods	To be used by DDM as guide to the procedures and methods of the training on UzDRRAP for UzDMCs and DDMCs, using the training material
Format	Microsoft PowerPoint format	Microsoft Word format
Contents	• Basic principles (e.g., objective of planning, chapters, positioning of the plan, roles of relevant stakeholders) • Planning procedures (information gathering, risk assessment, workshop and field surveys, DRR target setting, consultation with relevant ministries)	• Training procedures (including draft outline and plan for training implementation, selection and pre-arrangement of trainers, selection of target upazilas for training, coordination of dates with target upazilas for training) • Approximate time required for the work • Training curriculum • Budget for training implementation

Source: JICA Expert Team



Source: JICA Expert Team

Figure II-6 Images of training materials

The prepared training materials and training manual showing the procedures for conducting the training were reviewed after the trial training of DDM officials and DRR-related agencies (e.g., BWDB, LGED) conducted on 28th and 29th of April 2025 and finalized in June 2025. The finalized training materials and manual were handed over to DDM to store and manage to ensure their continuous use in the future.

[2-3] Based on the training manual developed in Activity 2-2, with the support of TSC, DDM conducts training for DDMC and UzDMC in the pilot sites.

With the use of the draft guideline of the UzDRRAP formulation which included the functions of training manual and materials shown in Activity [2-2], the activities in each pilot upazila for the UzDRRAP formulation were conducted. These activities for the development of UzDRRAP were conducted in an on-the-job training format so that UzDMC and UzSC members could deepen their understanding of planning through participation in a series of workshops and other activities.

[2-4] Based on the results of Activity 2-3, DDMC and UzDMC formulate the UzDRRP Sub-Committee (UzSC) in the pilot sites with the support of the TSC, and identify the contents and activities required for UzDRRP.

In consideration of the basic responsibility of UzSC, which was defined in Activity [2-1], the UzSC was established in each pilot upazila as the committee which formulates UzDRRAPs in accordance with the "8 Steps-Practical Method for Developing Local DRR Strategies/Plans (JICA)" and which coordinates the UzDRRAP formulation process with DRR-related agencies with the support of TSC. The specific role of UzSC meeting discussed by the members of WG2 and WG3 is as follows:

1st step:

- Understanding Upazila Hazard Map [Prepared by this project considering hazard and risk assessment]
- Identify more vulnerable areas using upazila and union maps.
- Discussion about proposed countermeasures generated from UzDMC and workshop.
- Understanding countermeasures in Upazila Hazard Map using GIS coordinate.
- Discussion and sharing about existing plan.

2nd step:

- Identify the name of the implementation department responsible for the proposed countermeasure.
- Identify the official name of the proposed countermeasure for each department.
- Finalize the countermeasure name and chainage by using GIS coordinates.
- List the countermeasure name with detailed information. [e.g., inclusion in the existing plan, proposed in other DPP, funding, year of maintenance, feasibility study status, etc.]
- Finalize the prioritized list for countermeasures considering "Build Back Better" and economic development.
- Finalize the short-term, mid-term, and long-term projects considering budget and other issues.

Source: JICA Expert Team

Figure II-7 Specific Roles of the UzSC Meeting

The standard members of UzSCs were determined in consultation and coordination with the respective UNOs of the pilot upazilas, such as key policy makers of the upazila as well as respective implementing agencies, as indicated below.

Table II-11 Standard Main Members of the UzSC

Department/Ministry	Designation	Position in the Committee
MoLGRD&C	Upazila Chairman	Chairperson
MoPA	Upazila Nirbahi Officer	Co-chairperson
LGED	Upazila Engineer	Member
Municipality	Executive Engineer、Sub-assistant Engineer, etc.	Member
DAE	Upazila Agriculture Officer	Member
DoL	Upazila Livestock Officer	Member
DoF	Upazila Fisheries Officer	Member
MoHFW	Upazila Health and Family Planning Officer	Member
DPHE	Sub-Assistant Engineer	Member
BWDB	Branch Officer, Sub-Divisional Engineer, etc.	Member
Union Parishad	Chairman, Union Parishad	Member
DDM	Project Implementation Officer (PIO)	Member

Source: JICA Expert Team

[2-5] Based on the results of Activity 2-3 and 2-4, with the support from TSC, DDM reviews and revises the draft guideline (including the summary version), training manual and training materials.

As explained in Activity [2-3].

(4) Activities related to Output 3

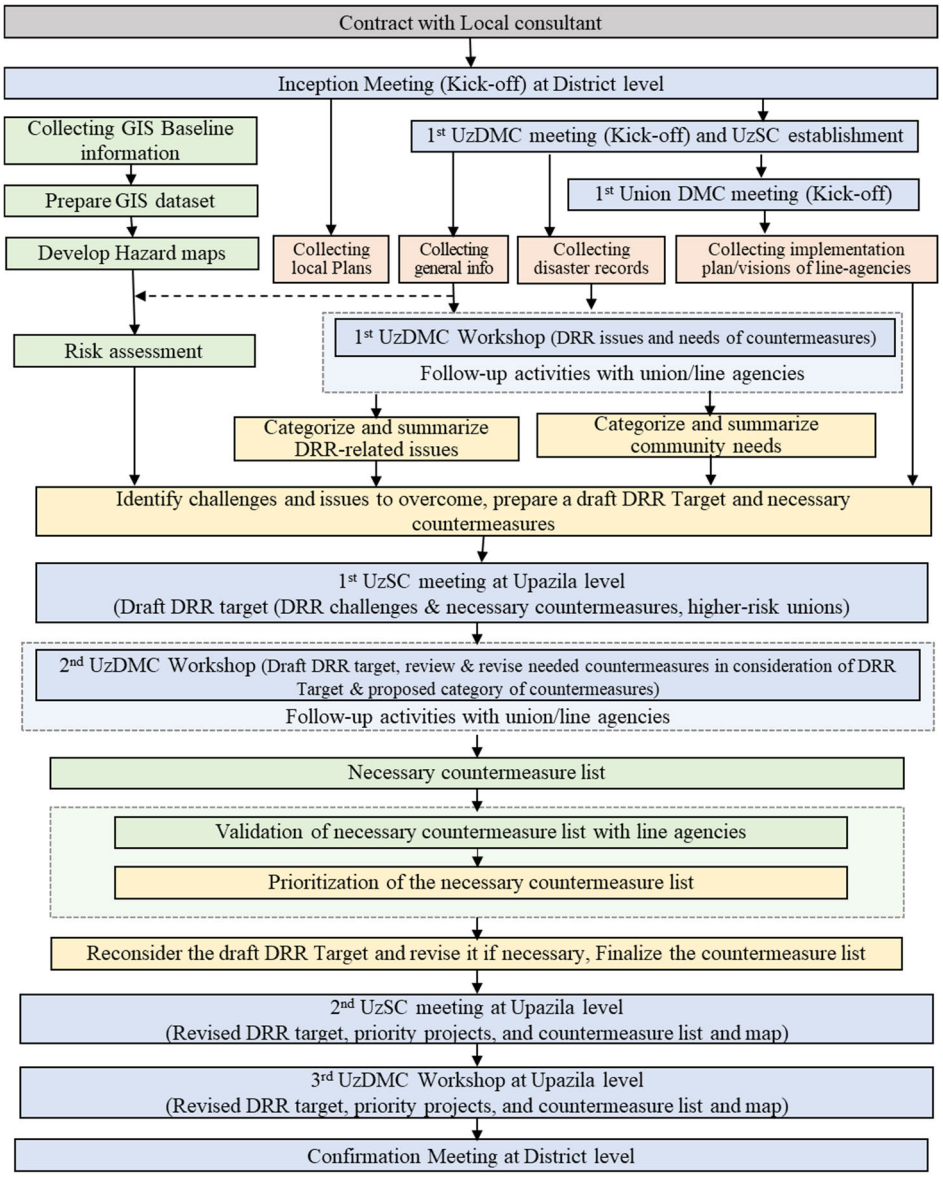
The activities of Output 3 were implemented through the workshops, UzSC meetings, and their follow-up activities mainly at the pilot sites, and the lessons learned from these activities were reflected in Outputs 1 and 2, followed by Output 4. The summary of the activities in pilot areas and an activity flow (Kurigram District) is shown below.

Table II-12 Series of Pilot Activities by WG 3 and the Contents

District	Event	Upazila	Date	Discussion Details
Cox's Bazar	1st workshop	Cox's Bazar Sadar	Jun. 14, 2022	• Understanding local hazards and risk • Existing and needed countermeasures for DRR • Examine specific DRR project proposals
		Chakaria	Jun. 28, 2022	
	2nd workshop	Cox's Bazar Sadar	Aug. 22, 2022	• Confirmation of results of risk assessment • Update specific DRR projects
		Chakaria	Aug. 25, 2022	
	3rd workshop	Cox's Bazar Sadar	Oct. 19, 2022	• Update specific DRR projects. • Location identification of proposed DRR projects
		Chakaria	Oct. 20, 2022	
	1st UzSC meeting	Cox's Bazar Sadar	Jan. 16, 2023	• Confirmation of proposed DRR project • Discussion on the verification of the proposed project from the unions and the plans of the project implementing departments • Discussion on prioritization
		Chakaria	Jan. 17, 2023	
	2nd UzSC meeting	Cox's Bazar Sadar	Mar. 29, 2023	• DRR targets and priority projects, and structure of contents of UzDRRAP
		Chakaria	Mar. 28, 2023	
	4th workshop	Cox's Bazar Sadar	Jul. 25, 2023	• Finalization of the UzDRRAP • Explanation of the Action plan for DRR countermeasures
		Chakaria	Jul. 26, 2023	
	DDMC meeting	Cox's Bazar Sadar and Chakaria	Aug. 31, 2023	• Sharing the concepts and contents of the UzDRRAPs • Getting feedback from the DDMC members
Sunamganj	1st workshop	Chhatak	Nov. 8, 2022	• Understanding local hazards and risk • Existing and needed countermeasures for DRR • Examine specific DRR project proposal
		Jagannathpur	Nov. 9, 2022	
	2nd workshop	Chhatak	Feb. 6, 2023	• Confirmation of results of risk assessment • Update specific DRR projects
		Jagannathpur	Feb. 7, 2023	
	1st UzSC	Chhatak	Apr. 10, 2023	• Understanding the role and responsibility of UzSC
		Jagannathpur	Apr. 9, 2023	
	2nd UzSC	Jagannathpur	Aug. 21, 2023	• DRR target and priority projects, and structure of contents of UzDRRAP
		Chhatak	Aug. 22, 2023	
	3rd workshop	Chhatak	Sep. 26, 2023	• Finalization of UzDRRAP • Explanation of the Action Plan for DRR countermeasures
		Jagannathpur	Sep. 27, 2023	

District	Event	Upazila	Date	Discussion Details
	DDMC meeting	Chhatak and Jagannathpur	Oct. 9, 2023	• Confirmation of the concepts and contents of the UzDRRAPs and approval • Confirmation of hazards and risks • Introduction of proposed DRR projects
Kurigram	Inception meeting	Chilmari, Ulipur	Mar. 5, 2024	• Explanation of the project and planning process
	1st workshop	Chilmari	Apr. 24, 2024	• Explanation of the project and planning process • Confirmation of hazard maps • Consideration of local DRR issues and necessary countermeasures
		Ulipur	Apr. 25, 2024	
	1st UzSC	Chilmari	Aug. 28, 2024	• Roles of the UzSC and the structure of the UzDRRAP • Report on the results of the 1st workshop • Confirmation of risk assessment result • Consideration and confirmation of proposed DRR target
		Ulipur	Aug. 29, 2024	
	2nd workshop	Chilmari	Aug. 25, 2024	• Review of the 1st workshop • Result of risk assessment and DRR target • Verification and update of countermeasures based on the DRR target
		Ulipur	Sep. 26, 2024	
	2nd UzSC	Chilmari	Dec. 31, 2024	• Confirmation of the proposed action plan based on discussions with each implementing agency
		Ulipur	Dec. 30, 2024	
	3rd workshop	Chilmari	Jan. 29, 2025	• Confirmation of the contents of UzDRRAPs
		Ulipur	Jan. 30, 2025	
	DDMC meeting	Chilmari, Ulipur	Feb. 20, 2025	• Confirmation of the contents of UzDRRAP and approval

Source: JICA Expert Team



Source: JICA Expert Team

Figure II-8 Flow of pilot activities for UzDRRAP formulation (Case of Kurigram)

<u>[3-1] UzSC collects historical records of disasters at pilot sites in collaboration with Union DMC.</u>

For the formulation of UzDRRAPs, historical records of disasters at pilot sites in each pilot District and upazila were collected through the workshops and individual interviews to DRROs. Such information was then included in Chapter 3 (Hazard Characteristics and Disaster Risk/Target Hazards and Disaster-Prone Areas) of each UzDRRAP of the pilot Upazila.

Collection and Validation of local information and proposals with union chairman

[3-2] Based on the results of hazards and risk assessment obtained through Activity 1-4 and 3-1, UzSC identifies the disaster risks of pilot sites.

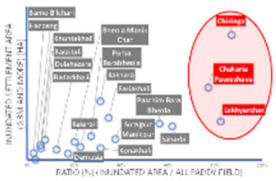
1) Pilot sites in Cox's Bazar and Sunamganj Districts

In Cox's Bazar and Sunamganj Districts, the areas with relatively high expected damage and loss were identified through each hazard analysis and risk assessment in the first two workshops. Then, based on the risk assessment results, the DRR target and unions in which DRR countermeasures should be prioritized (priority unions) for the UzDRRAPs were identified. As an example, the DRR target for Chakaria Upazila Cox's Bazar District is shown below. The DRR target indicated the goals that the upazila aimed to achieve for DRR, the proposed structural and non-structural measures needed, and the priority unions established based on the results of the risk assessment. These were discussed and approved at the subsequent 2nd UzSC. In Sunamganj District, considering the fact that the state of maintenance of the submersible embankments (submerged during rainy season) to protect rice cultivation from the rapid rise of rivers just before the monsoon season is directly related to the reduction of damage in the area, unions where flood risks remain just before the monsoon season even when the existing submerged embankments are functioning were designated as areas requiring urgent measures in the UzDRRAPs.

Priority Unions for Disaster Risk Reduction

- Intensive implementation of countermeasures against disasters in high-risk areas

Disaster	Priority Union
Flood	Chiringa, Lakhyarchar and Surajpur Manikpur Unions, Chakaria Pourashava
Storm Surge	Badarkhali, Bheola Manik Char, Chiringa, Demusia, Konakhali and Paschim Bara Bheola Unions
Sediment Disaster	Bamo Bilchari, Baraitali and Harbang Unions
Earthquake Shaking	Chakaria Pourashava



- Comprehensive improvement of the capacity for disaster risk reduction

Activities	Priority Union
Review of land use plan	Badarkhali, Bamo Bilchari, Baraitali, Bheola Manik Char, Chiringa, Demusia, Harbang, Konakhali, Lakhyarchar, Paschim Bara Bheola and Surajpur Manikpur Unions, Chakaria Pourashava
Improvement of early warning system Construction and maintenance of evacuation centers Implementation of disaster management training and materials Implementation of education and awareness raising	All Unions

Disaster Risk Reduction Target - Mission

- The estimated human and economic damages by the disasters are reduced by 50 % within 10 years (from 2023 to 2033).

Source: JICA Expert Team

Figure II-9 DRR target and priority unions (Chakaria Upazila)

2) Pilot activities in Kurigram District

In the 1st workshop at Kurigram District, the results of each hazard analysis were reviewed, understanding of local hazard risks was promoted, issues related to disasters in the local area were identified, and possible countermeasures to solve the DRR-related issues in the local area were identified. Subsequently, the DRR target was set and the unions with higher disaster risks were identified based on the issues and proposed countermeasures raised from each union, the hazard map of each, and project implementation policies of implementing agencies (such as BWDB and LGED) for the improvement of the feasibility and possibility of implementation. These were approved at the first UzSC meeting and proposed to the UzDMC members at the second workshop. At the second workshop, the action menus of countermeasures were reviewed based on the DRR target.

Table II-13 DRR Target of Pilot Upazilas of Kurigram District (as of March 2025)

Hazard	Target Area	Challenges by Hazard (Countermeasures Policy)	
		Short- to Mid-term	Long-term
Flood	**Inland area**	• Reduce at least the inundation risk of DRR-related facilities (e.g., government, medical care, education, and sanitation) and the central city areas of the Upazila by improving flood control and drainage facilities and raising the land area of key facilities. • Reduce damage to at least people and assets (e.g., property, livestock) and maintain transportation networks during flooding by improving evacuation systems and major roads. • Ensure early evacuation through warning	• Reduce flood damage to the entire area by stormwater drainage facilities and flood control facilities
	Along river	• Reduce at least the inundation risk of DRR-related facilities and the central city areas of the Upazila by improving flood control in some priority areas and raising the land area of key facilities • Reduce damage to at least people and assets (e.g., property, livestock) and maintain transportation networks during flooding by improving evacuation systems and major roads. • Ensure early evacuation through warning	• Reduce flood damage to the entire area, including administration and commercial centers, key infrastructures, residential areas, and agricultural lands, by improving riverbank protection and land use along the river.
	Char area	• Minimize damage to at least people and assets (property, livestock, etc.) and maintain transportation networks during flooding by improving evacuation systems and major roads. • Ensure early evacuation through warning • *Flood control measures to protect the Char area have not been currently planned.	• Minimize flood damage to specific areas and facilities (e.g., residential areas, administrative and commercial centers and key DRR facilities) by land raising and land use improvements.
River Erosion	**Along rivers**	• Urgently Control the progress of riverbank erosion by emergency measures at riverbanks and dredging in areas with recent significant erosion damage.	• Reduce the risk of riverbank erosion in the entire riverfront area through riverbank revetment and channel improvement, etc.
	Char area		• Reduce the risk of riverbank erosion in administrative and commercial centers through emergency measures and dredging of revetments in some areas

Hazard	Target Area	Challenges by Hazard (Countermeasures Policy)	
		Short- to Mid-term	Long-term
Earthquake Shaking	**All areas**	• Promote to compliance with building standards and seismic diagnostics • Raise awareness of earthquake risks and promote preparedness at home and in the community	• Ensure earthquake resilience of buildings and infrastructure through seismic retrofitting, and proactive measures such as redundancy and alternative measures of the infrastructure
Drought	**All areas**	• Promote to expand and improve irrigation and water storage facilities to provide stable water to the fields and for livestock, and to convert to drought-resistant crops and agricultural methods.	
Lightning	**All areas**	• Reduce damage to human life and livestock by establishing and maintaining lightning arresters and evacuation shelters (people, livestock) • Raise awareness of how to evacuate and cope with lightning strikes.	
Common	**All areas**	• Foster human resources through disaster management training and drills, as well as preparing material and equipment to enable rapid disaster response. • Provide DRR education and public awareness raising to encouraging citizens to appropriately understand the hazard risk and prepare for the evacuation and disaster response, regardless of ages or gender.	

Source: JICA Expert Team

[3-3] UzSC studies the plans and implementation status of structural and non-structural measures at pilot sites irrespective of sectors by referring to higher disaster management plans, development plans and outputs of relevant ministries and donors including JICA

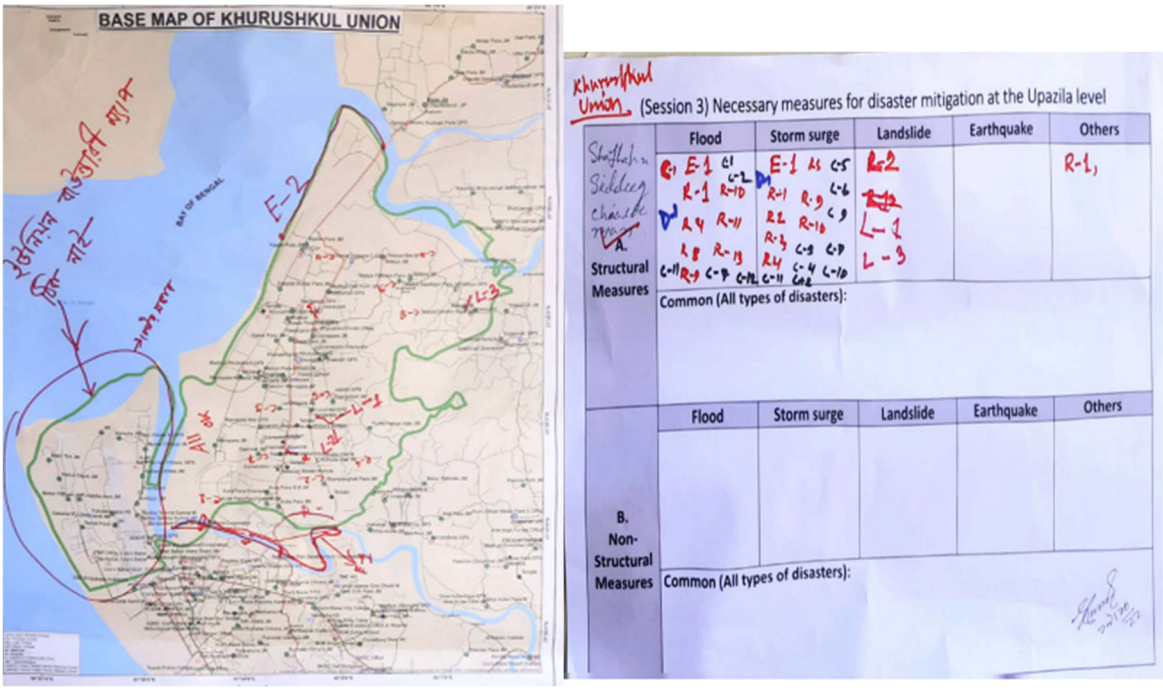
Regarding the implementation and planning status of structural and non-structural measures in the target area, it was found that the implementing agencies at the local level did not disclose project plans that had no prospect of securing budget, and that most of the ongoing or planned DRR projects were not organized in the form of location maps or lists. Therefore, the project decided to organize the necessary countermeasure projects, which were aligned with the Union's needs and DRR goals identified through workshops, into maps and lists, and based on this information, the project organized and compiled the implementing departments' countermeasures status.

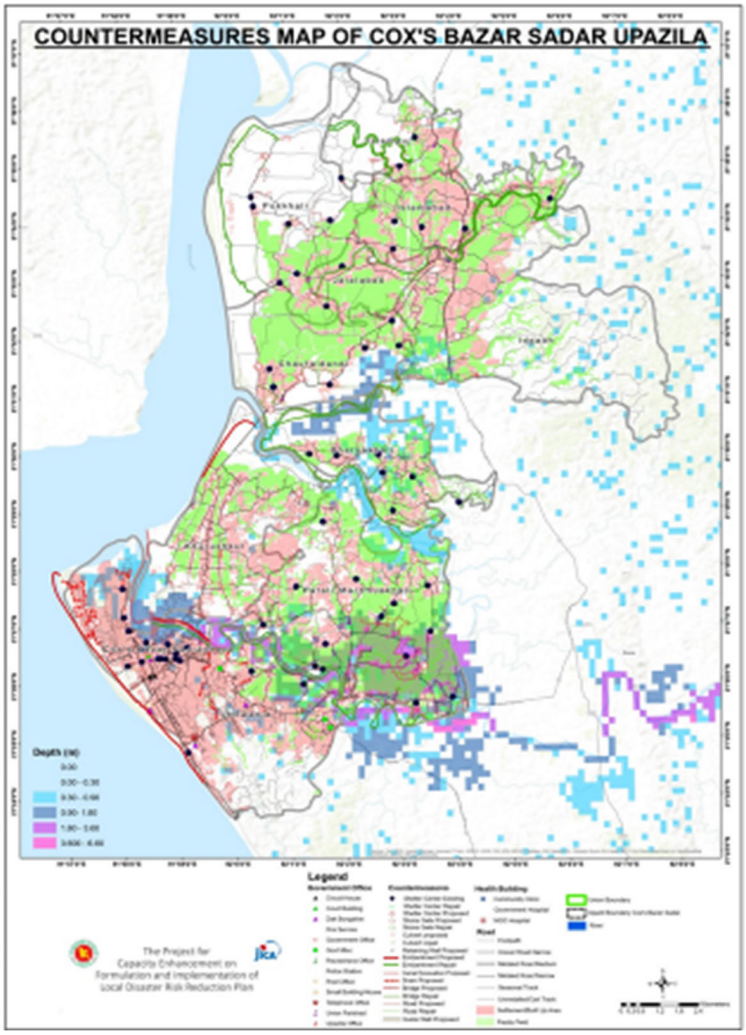
The details of project activities in each pilot upazila are described below. As the status of implementation and planning in the target area is directly related to the planning of structural and non-structural measures (Activities [3-4] – [3-6]), the relevant activities are also described below.

1) Pilot sites in Cox's Bazar and Sunamganj Districts

In the four pilot upazilas in Cox's Bazar and Sunamganj Districts, the proposed necessary structural and non-structural countermeasures for the target upazilas were collected and confirmed by the relevant departments and union officials at the first and second UzDRRAP formulation workshops, and also in the third workshop in the pilot upazilas under Cox's Bazar District and follow-up activities in each union after the workshops. At the workshops, the implementation status and plans, as well as expected effects of flood and storm surge control projects collected mainly through interviews with BWDB were also presented as reference to facilitate consideration of necessary countermeasures.

In the pilot upazilas under Cox's Bazar District, many proposals related to countermeasures for breach prevention and structural reinforcement measures, including the construction or rehabilitation of polders and flood control facilities that were aging due to the frequent large and small storm surges and floods that occur every year, were proposed. In the pilot upazilas under Sunamganj District, many proposals were received for the construction and rehabilitation of submerged embankments to protect rice cultivation from the rapid rise of rivers that occurred just before the monsoon season as a disaster affecting the local economy. In addition, in both districts, there were many other needs for countermeasures related to the development and rehabilitation of infrastructure required during evacuation and emergency response, such as shelters and major roads, indicating that ageing facilities and inadequate post-disaster rehabilitation for emergency response is a serious challenge faced by local areas in the country.





Source: JICA Expert Team

Figure II-10 Results of discussions on countermeasures (Top: Results of the 1st Workshop, Bottom: Countermeasure Proposal Map)

The collected proposed countermeasures were identified and organized in a list and map format, project plans and policies of each agency were checked through interviews with relevant agencies (e.g., DDM, BWDB, LGED, DPHE (Department of Public Health Engineering)), and then the implementing agency, plan status, project effect (estimated number of beneficiaries), estimated cost, etc., were organized accordingly. Furthermore, priority projects were selected, taking into account the high level of disaster risk based on the hazard maps and the importance of each facility.

The items of the action plan developed through this work are listed below.

Table II-14 Items in the Action Plan (Cox's Bazar and Sunamganj Districts)

<table>
<tr><th></th><th>Description</th></tr>
<tr><td>Plan Status</td><td>Status of the Project
<table>
<tr><th>Status</th><th>F/S</th><th>DPP Approved</th><th>ADP</th><th>Annual Budget</th></tr>
<tr><td><Continuing> Project</td><td>+</td><td>+</td><td>+</td><td>+/-</td></tr>
<tr><td><Pipeline>Project</td><td>+/-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td><New> Project</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Unknown</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
"Unknown" indicates "Union's needs" which has not yet been identified by line ministries</td></tr>
<tr><td>ID</td><td>Identification number in this Plan</td></tr>
<tr><td>Type of Need</td><td>Required work such as repair, rehabilitation or new construction proposed</td></tr>
<tr><td>Length</td><td>The length of the individual infrastructures such as embankment and road in case that the scale of the infrastructure is important information.</td></tr>
<tr><td>Official ID Number</td><td>ID by line agency in case of projects that are already identified by line agency</td></tr>
<tr><td>Official Name of Countermeasures</td><td>Official project name used by the implementing agency, such as DDM, BWDB, or LGED</td></tr>
<tr><td>Proponents</td><td>The length of the countermeasure that was proposed by local people, line ministries or other stakeholders etc.,</td></tr>
<tr><td>Direct Beneficiaries/ Interests to be protected</td><td>The beneficiary Union Parishads and wards along the installed countermeasures</td></tr>
<tr><td>Estimated cost for Countermeasures</td><td>The rate and unit price provided by every line department such as LGED, DDM, BWDB. It is shown in Lakh Tk.</td></tr>
<tr><td>Implementation Time Frame</td><td>Short-Term Project; Mid-Term Project; or Long-Term Project
Those categories are based on information by line agencies</td></tr>
<tr><td>Priority in Terms of Hazard Analysis</td><td>High Priority: Project in highly vulnerable Union Parishads.
Medium Priority: Project in vulnerable Union Parishads.
Low Priority: Project in less vulnerable Union Parishads.</td></tr>
<tr><td>Remarks</td><td>"What to do or what has been done" such as DPP approval or next step of this proposal such as feasibility study</td></tr>
</table>

Source: JICA Expert Team

With regard to non-structural measures, although some examples of countermeasures were introduced and proposals from UzDMC members were requested during the workshops, there was a noticeable concentration on emergency responses and disaster awareness activities (e.g., disaster drills, seminars, and emergency response equipment). This tendency is considered to stem from the

insufficient development of necessary structural measures for DRR, as well as the deficient existing structures, which makes early restoration essential. In response, the expert team explained the necessity of additional countermeasures regarding land use regulations and relocation, by considering residual risks after structural countermeasures and the possibility of disasters exceeding the standard design criteria for flood control facilities (e.g., 20-year probability), and proposed that these countermeasures also need to be reflected in UzDRRAP as necessary countermeasure projects.

Workshop (left) and UzSC (right) in the pilot upazilas

2) Pilot activities in Kurigram District

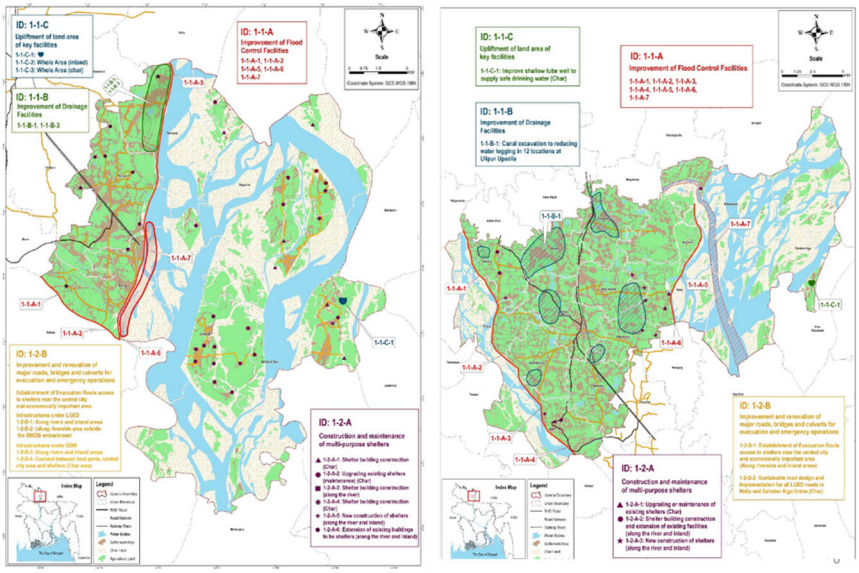
In Kurigram District, the formulation of UzDRRAPs in each upazila was carried out following the process outlined in (4) Output 3, based on the pilot activities conducted in preceding four upazilas. In the first workshop, participants understood potential hazards in the pilot upazilas and confirmed issues and challenges related to hazards and DRR as well as potential countermeasures to address them. Subsequently, hazard analysis and risk assessment were conducted. The results, along with a summary and categorization of the issues and challenges gathered during the first workshop, were reviewed at the first UzSC meeting. Based on this, priority issues for each upazila were identified, and draft DRR target was established. In the second workshop, participants reviewed the draft DRR target discussed at the UzSC meeting and based on this, updated the issues and countermeasures identified in the first workshop. In particular, since the BWDB was not responsible for implementing structural measures against riverbank erosion of the Jamuna River in Kurigram District, non-structural measures were also considered in taking such local characteristics into account.

Workshops in pilot upazila (Left) and UzSC meeting (Right)

One of the changes from the pilot activities in the four preceding upazilas was to discuss and consolidate the proposed countermeasures raised by union parishads from a technical perspective, in order to make the UzDRRAP more feasible for each implementing agency to fit its project scale. These countermeasures were organized as a Program and compiled into an Action Plan. For countermeasures where locations could be determined, the locations were marked on the Action Plan Map shown below.

Information organized in the Action Plan Map

ID	1-1-A
Program	Improvement of flood control facilities in some priority areas
Target area	Inland areas, areas along rivers
ID	1-1-B
Program	Improvement of drainage facilities in some priority areas
Target area	Inland areas
ID	1-1-C
Program	Upliftment of land area of key facilities/ Relocation to elevation areas
Target area	Inland areas, areas along rivers
ID	1-2-A
Program	Construction and maintenance (incl. raising lands) of multi-purpose shelters
Target area	Inland areas, areas along rivers, Char areas
ID	1-2-B
Program	Improvement and renovation of major roads, bridges, and culvert for evacuation and emergency operations
Target area	Inland areas, areas along rivers, Char areas



Source: JICA Expert Team

Figure II-11 Action plan map (Kurigram District)

[3-4] Based on the results of Activities 3-2 and 3-3, UzSC plans the draft structural measures (including budget) to reduce disaster risk at pilot sites with the support of MoDMR, relevant ministries, DDMC and UzDMC

As described in Activity [3-3], an Action Plan was developed that organized the necessary structural countermeasures for each type of hazard, as well as the non-structural countermeasures that took into account residual risks remaining after implementing structural countermeasures, in relation to the DRR target (disaster-related challenges) of the target upazilas. In developing the Action Plan, based on the DRR target, the necessary countermeasures were coordinated with the project implementing agencies that are members of the UzSC through reviewing their project plans and progress. Furthermore, during the process of aligning the needs at the community-level (union-level) with the overall Action Plans, recognizing that many of these needs were subjective and highly localized, a careful screening process was carried out for coordinating practical and effective planning of the countermeasures. This process was coordinated by local officials from DDM and based on the technical judgment of field-level officials from implementing agencies, which were members of the UzSC familiar with the disaster characteristics of the area.

As for the perspective of the Action Plan's effectiveness, the local officials of the project implementing agencies, who were UzSC members, shared information closely with the central TSC members on a vertical line within the organization, and coordinated the implementation of the project within the

implementing agencies, such as implementing a part of the Action Plan within the current development project (DPP project), implementing the Action Plan by the operation and maintenance (O&M) budget of the local office, and aiming to obtain a new development budget.

[3-5] With the support of MoDMR, relevant ministries, DDMC and UzDMC, UzSC – taking into account the reduced risks – plans the draft non-structural measures (including budget) through the implementation of the structural measures planned in Activity 3-4.

Similar to Activity [3-4], the UzSC members coordinated to organize non-structural measures for arranging and implementing the Action Plan. The UzSC members confirmed that the improvement of observation and early warning for meteorological disasters, the implementation of seismic diagnosis of public buildings, and the promotion of DRR-related education should be included in the measures to be taken in the short and medium term and were organized in the Action Plan. On the other hand, the UzSC members confirmed that further coordination would be needed for the implementation of countermeasures to control land use and relocation for the residual risk of flood control measures, although the necessity of such measures had been well understood. In light of this situation, the DRR target was specified as a matter to be addressed over the long term.

[3-6] With the support of DDMC and UzDMC, UzSC holds a workshop for DRR-related agencies (e.g. donors, NGOs, private sectors) in the pilot sites and discusses the principles of implementation of countermeasures.

When holding workshops in the pilot upazilas and districts, the participation of other DRR-related agencies working in the target areas were promoted. There were many NGOs that have local roots and have been conducting activities in collaboration with DDM. Some of the NGOs were also involved in the implementation of evacuation facilities, and it was confirmed that these agencies had collaborated mainly with DDM in disaster awareness and evacuation activities at the community level.

[3-7] Based on the results of Activity 3-2 to 3-6, UzSC identifies the ministries and agencies necessary to implement UzDRRP, and finalizes UzDRRP with the support of DDMC and UzDMC.

The final workshops for the formulation of the UzDRRAP were held in Cox's Bazar in July 2023, Sunamganj in September 2023, and Kurigram in February 2025. During the workshops, the entire UzDRRAP including the DRR target and higher risk unions (e.g., priority unions), countermeasures programs, as well as the Action Plans covering structural and non-structural measures were explained, and then confirmed by the participants, mainly UzDMC. Following this, the formulated draft UzDRRAPs were presented and agreed by DDMC members in the DDMC meetings.

Of the finalized plans, the plans of the four upazilas under Cox's Bazar and Sunamganj districts were presented and finalized at a progress sharing workshop for the formulation and implementation of UzDRRAPs held by the MoDMR and DDM in February 2024, followed by the final approval by MoDMR in June 2024. On the other hand, the plans of the 2 upazilas in Kurigram district were finally approved by MoDMR in May 2024, bounded by DDM, and distributed to each relevant agencies at the

central and local levels. Although these plans did not have a committed budget for implementation, coordination was already promoted on how priority projects would be implemented by the vertical lines of each implementing department at both local and central level, during the coordination phase of the Action Plan formulation under the initiative of DDM as mentioned in Activity [3-4]. Bearing in mind that it is not easy to obtain budget for new projects, it has been coordinated that in the short term, part of the Action Plan will be implemented in the current development projects (DPP projects), or in the O&M budgets of the local offices, and some of the Action Plan have moved to the implementation stage. On the other hand, the implementation of many of the countermeasures requires the acquisition of new development budgets and, therefore, the implementing departments have started to prepare DPPs.

DDMC meetings with the agenda that include discussion of the draft UzDRRAPs (Left: Cox's Bazar, Right: Sunamganj)

[3-8] With the support of DDMC and UzDMC, UzSC reports to the results of Activity 3-7 to MoDMR through DDM, relevant ministries and local governments responsible for structural/non-structural measures and MoDMR request them to take necessary actions for securing budgets.

As described above, it is important for the implementing agencies of each countermeasure to take concrete actions to implement the DRR projects listed in UzDRRAPs. Therefore, taking advantage of the opportunity during the central information sharing meetings and the TSC meetings, how to secure budget and implement measures through necessary procedures, such as F/S and preparation of DPPs, were also discussed with project implementing departments such as BWDB and LGED. Furthermore, the UzDRRAPs were shared and discussed at DDMC meetings, and DDM encouraged relevant agencies and departments to take necessary actions to secure budgets and implement DRR projects based on the UzDRRAPs. Under DDM's initiative, a system has been established to regularly monitor the progress of implementation, including progress in project proposals, at the central and local levels, and it is expected that this system will further promote project implementation by each implementing department. (Specific actions for project implementation are described in Activities [4-3] and [4-4]).

[3-9] By utilizing the existing monitoring system, DDMC and UzDMC review the implementation status of UzDRRP and revise the plan as necessary.

In the Project, methods of reviewing and monitoring systems of the proposed projects in the UzDRRAPs were developed and clarified, and the content was reflected in each pilot UzDRRAP. Based on the developed monitoring method, trial monitoring of project implementation was conducted, and

applicable methods were formulated. Based on these methods, the contents of the Action Plans are expected to be updated periodically.

The details are described in Activity [4-4].

(5) Activities related to Output 4

[4-1] MoDMR and DDM draft an operation manual which elaborates the necessary activities for the development and renewal of UzDRRPs based on the outcomes and lessons learned from Outputs 1, 2 and 3, and finalizes the operation manual through trials in the pilot sites.

The operation manual is a supplementary document to both UzDRRAP formulation guideline and the hazard and risk assessment guideline. It is a document that concisely organizes, in chronological order, the roles and responsibilities of each stakeholder throughout the entire process from the launch of UzDRRAPs formulation project, until the formulation and monitoring of the implementation of plans at the local level. The manual enables DDM officials in charge of the project of UzDRRAPs formulation and the person in charge of this UzDRRAP formulation in UzDMCs to grasp the implementation procedure related to development and renewal of the UzDRRAPs, such as information on how each guideline should be utilized in a practical manner and what governmental procedures need to be taken. The structure of the formulated operation manual is shown below.

1. Introduction
   1.1. Purpose of this Manual
   1.2. Main target of this Manual
   1.3. Expected use of this manual
   1.4. Pre-condition for formulating UzDRRAPs
   1.5. Key Concepts of the UzDRRAP
2. Role of stakeholders for formulating an UzDRRAP
3. Internal Procedure for UzDRRAP Formulation
4. The Procedure Each Relevant Entity Should Take for UzDRRAP Formulation and Implementation
   4.1. LDRRP Unit
   4.2. GIS Unit
   4.3. Local Level (UzSC)
   4.4. Vital letters for UzDRRAP formulation
5. Overall responsibilities within DDM related to UzDRRAP
   5.1. Planning and Development Wing
   5.2. Training and Research Wing
6. List of Annexes of this Document

Annex 1 Manual for the Selection of Priority Upazilas
Annex 2 Assessment Criteria for Local Consultants
Annex 3 Document example for Hiring Local Consultants
Annex 4 Evaluation sheet for hiring Local Consultants
Annex 5 List and Examples of Letters Related to UzDRRAP Formulation

Source: JICA Expert Team

Figure II-12 Contents of the Operation Manual

UzDMC is the main body that develops the UzDRRAPs in accordance with the SOD, which is composed of Upazila chairpersons, UNO, local officials of each DRR-related agencies, union chairperson, and so

on. However, it is not feasible for UzDMC members, who are responsible for many other tasks and projects, to undertake all activities related to the formulation of UzDRRAPs, including data processing and hazard analysis and risk assessment, collection and organization of information from local communities and related agencies, and preparation of draft plans including facilitation of UzDRRAP formulation workshops. Therefore, cooperation from organizations that support in formulation activities of UzDRRAPs is essential.

In the pilot activity of this Project, local consultants and NGOs were brought in as the implementing associates to support the UzDMC in developing UzDRRAPs. As a result, UzDMC was able to focus on the key activities of the formulation of the plan, such as discussing and organizing DRR target (DRR issues to address) and priority projects that require decision-making and coordinating with higher authorities at the central and district levels for project implementation. Based on experience of these pilot activities, the expert team recommended the necessity of deploying a support organization for UzDMC's planning when DDM deploys the UzDRRAPs to other areas in the future, and organized the information on the selection of the implementing associates and the flow of support activities into this operation manual, which was then agreed upon by DDM. Based on experience gained in the pilot activities, the draft Terms of Reference (ToR) was also incorporated in the manual, which outlines the requirements, expertise, and required activities of the implementing associates.

The training session for the organization (local consultants) held prior to the launch of the pilot activities

[4-2] MoDMR and DDM conduct a baseline survey to identify the capacity and local characteristics of DDMC and UzDMC of all upazilas in the country, and prepare a priority list in each division for the development of UzDRRP.

In order to select prioritized areas for expanding the formulation and implementation of UzDRRAPs nationwide, the information related to the capability of DDMC and UzDMC as well as disaster and local characteristics of areas throughout the country were collected at the beginning of the project as the baseline survey. The baseline survey reports, both Individual Assessment and Nationwide Survey, were prepared and their summary reports were translated into Bengali, followed by being presented in the WG leaders' meeting in August 2023. The summary results of the Nationwide Survey are shown below.

1) Nationwide Survey

The Nationwide Survey was conducted to understand and identify the characteristics and the current situation of the DMC of each district and upazilas in the whole country, as well as to prepare a priority list in each division for the development of UzDRRAP. This survey utilized two approaches, which were statistical data analysis and the questionnaire survey, and investigated the current situation of the districts and upazilas by four categories, which are a) socioeconomic status; b) geographic vulnerability and disaster risks; c) governance and administrative capacity for DRR; and d) structural and non-structural measures. All of the necessary information including responses to the questionnaire were collected and analyzed, and some data were utilized for prioritization of upazilas to develop UzDRRAPs. The main findings are given below. (for details, refer to Baseline Survey Report-2)

a) Socioeconomic status (e.g., population, literacy rate, basic infrastructures)

- Continuous population growth in City Corporation and "A" Class Paurashava
- Literacy-related support required in areas with high poverty and low literacy rates
- Potential of future development in Regional Growth Centers

b) Geographic vulnerability and disaster risks (e.g., characteristics of hazards by district)

- Distribution of hazards based on geographical conditions, such as flood and river erosion near major rivers, cyclone and storm surge in coastal region, and flashflood and landslide in hilly areas.
- Multi-hazards to be addressed in addition to major hazards

c) Governance and administrative capacity for DRR (e.g., capacity of upazila offices, current status of DMC)

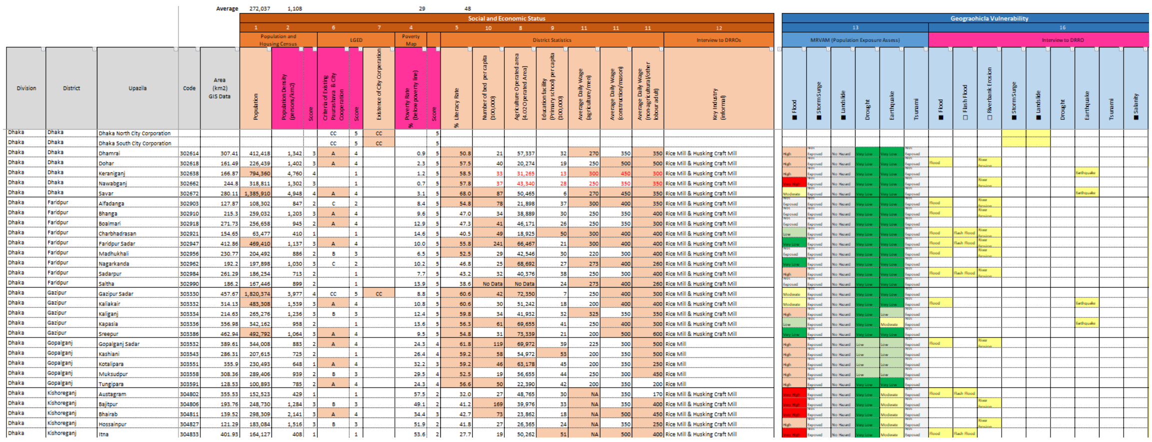
- Relatively low capacity of the governance of planning and budgeting at upazila level
- No DRR-related plans in most districts and upazilas
- Challenge in coordination with relevant agencies for DRROs to hold DMCs

d) Structural and Non-structural Measures (e.g., implementing situation by upazila)

- While cyclone and flood shelters are made in upazilas along the major rivers and in the coastal regions, lightning prevention rods are seen in the northern areas. Embankments are seen along major river systems of Jamuna, Padma, and Meghna rivers.
- Insufficient knowledge of DRROs about the DRR countermeasures in the district. Therefore, confirmation is necessary among related institutions to understand the situation of interventions.

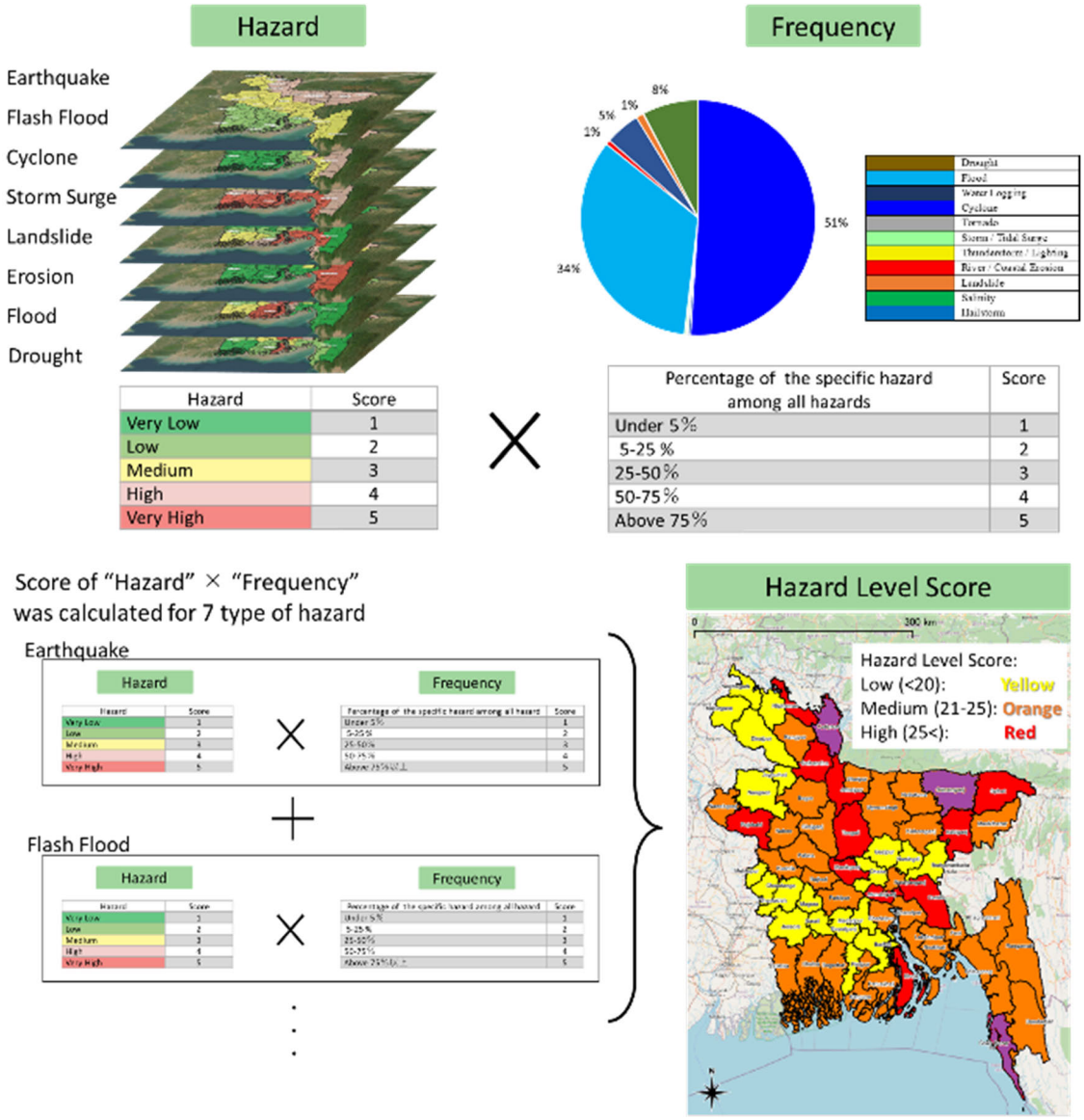
2) Prioritization for the development of UzDRRAPs

In consideration of the geological vulnerability and disaster risks, institutional capacity for DRR, socioeconomic status and current measures for DRR that were collected and compiled as database in the baseline survey, the criteria for the prioritization for the development of UzDRRAPs were established. Following this, based on the prioritization criteria, a list of priority upazilas to be developed was prepared and presented to DDM.



Source: JICA Expert Team

Figure II-13 Database of the baseline survey (nationwide information)



Source: JICA Expert Team

Figure II-14 Flow of study on priorities for the development of UzDRRAP

The organized priority list was used in the selection of the leading target upazilas (100 upazilas) for the nationwide dissemination of the UzDRRAP formulation, which has been promoted by DDM's own initiative. The following is a summary of the nationwide dissemination movement of DDM activities with the support of the JICA Expert Team.

Table II-15 DDM's nationwide dissemination initiative and the support provided by the JICA Expert Team

Date	Movement
Oct. 2024	MoDMR Secretary instructed the PD to prepare a proposal for the development of a Preliminary Development Project Proposal (PDPP) as a response to the completion of this project at the ADP meeting.
Nov. - Dec. 2024	The following items were supported by the JICA Expert Team at the request of the DDM side: • Based on the results of the baseline survey, the priority criteria and the priority upazilas for UzDRRAP formulation (100 upazilas) were proposed to DDM. • The estimated costs of planning per upazila, based on the costs incurred in the pilot activities, were shared with DDM as a reference DDM finalized the list of priority upazilas that need to formulate UzDRRAPs (100 upazilas) based on the above proposal, and completed the PDPP, which was then submitted to MoDMR.
Jan. 2025	MoDMR submitted the PDPP to MoP (Ministry of Planning)

Source: JICA Expert Team

[4-3] MoDMR and DDM conduct information-sharing meeting to coordinate with government agencies to allocate the necessary budget for implementing the approved UzDRRPs

In order to coordinate the budgetary allocations required for the implementation of the UzDRRAPs with the relevant agencies, MoDMR and DDM convened the JCC and TSC members for the first information sharing meeting on 9 May 2024. During this meeting, the outcomes of this Project and the future plans for the implementation of the Action Plan as outlined in the UzDRRAPs were discussed. Subsequently, following the official approval by the MoDMR in June 2024 of the plans for the four pilot upazilas under Cox's Bazar and Sunamganj districts, individual consultations were held with the respective implementing departments to facilitate the implementation of the plans.

Through the central information sharing meeting and individual meeting with each relevant agency, it was discussed that while obtaining a new development budget is important for the actual implementation of the projects in the UzDRRAPs, it is not easy and time-consuming to obtain a budget and, therefore, a policy to address this within the large projects that have been currently planned or implemented, or within the O&M budget was considered. It was also reaffirmed that, in order to secure budgets for the implementation of the project based on the UzDRRAPs in the medium- to long-term, each implementing agency must secure development budgets for their projects listed in the UzDRRAPs, and for that purpose, the necessity of the preparation of Preliminary Development Project Proposals (PDPPs) was emphasized.

A summary of the representative individual meetings conducted at the central level is as follows:

Table II-16 Summary of Major Individual Meetings at the Central Level

Date	Agency	Summary of Discussions
Jul. 16, 2024	LGED headquarters	• Report and explanation of the status of UzDRRAPs' approval • Confirmation of the process of UzDRRAP formulation and the background of the selection of priority projects organized within the plan • Discussion regarding the topics below. 1) Possibility to reflect some of the priority projects organized in UzDRRAP in the LGED's development projects that have already obtained budgets 2) Preparation of the proposal to obtain new budgets for the priority projects of UzDRRAP.
Oct. 28, 2024	BWDB headquarters	It was confirmed that the discussion will be held on the selection of projects to be implemented within the BWDB as soon as a formal letter of request from DDM is received and the preparation of the PDPP will be proceeded with. Based on the plan, it was confirmed that there is room for consideration to include the projects listed in the UzDRRAPs into the ADP and maintenance plan of the BWDB.
Nov. 4, 2024	LGED headquarters	It was confirmed that the PDPP will be prepared, and a concrete project will be considered after a formal letter of request from DDM is received. It was confirmed that the PD in charge of the LGED part of the DRMEP (Disaster Risk Management Enhancement Project) is scheduled to visit Cox's Bazar to better understand the proposed countermeasure projects included in the UzDRRAPs.

Source: JICA Expert Team

[4-4] MoDMR and DDM facilitate district DMC coordination meetings to be held among pilot Upazilas and relevant agencies in implementing each UzDRRP

To promote the implementation of the UzDRRAP of each upazila, individual meetings were held with the LGED and BWDB in each district to firstly confirm the implementation status of the plan in the four upazilas. Based on the results, the implementation statuses of the UzDRRAPs were illustrated on a map and shared with the information of the current implementation status at the district DMC meeting held in April 2025 by the initiative of DDM. At the meeting, the Deputy Commissioner provided guidance to each project implementing department on the need for project implementation and the monitoring of the implementation status.

A summary of major individual meetings with each implementing department and the district DMC coordination meetings are shown below.

Table II-17 Summary of Major Individual Meetings at the District Level

Date	Agency	Main Consultation Departments	Summary of Discussions
Apr. 30, 2024	BWDB Cox's Bazar O & M	• Executive Engineer • Sub-divisional Engineer	Exchange of opinions were conducted related to priority projects listed in UzDRRAP in the two pilot upazilas under Cox's Bazar district. 1) Confirmation of the status of the projects for which BWDB is responsible. 2) Problems and issues in promoting the implementation of those projects. 3) Issues in implementing projects to promote DRR in the region in the future as BWDB.
Feb. 12, 13, 2025	LGED Cox's Bazar	• Executive Engineer, Assistant Engineer, Sub-Assistant Engineer • Superintending Engineer (LGED headquarters)	Confirmation of projects being implemented with local government budgets, JICA, and World Bank budgets. Site visit in projects included in the UzDRRAP which will be the subject of a PDPP by LGED in the future and confirmation of the situation in the field. In particular, in Cox's Bazar Sadar, the location of a road that should also serve as a dike was confirmed and information for the PDPP to be prepared in the future was collected.
Feb. 13, 2025	BWDB Cox's Bazar	• Sub-Divisional Engineer	Confirmation of 66/3 and its extension being implemented with World Bank funds. In addition, other projects implemented with local government budgets and DPP prepared projects were confirmed. Regarding Chakaria, it was confirmed that the project is currently being implemented in areas where urgent action is required, and that the project will be proceeded after the master plan for the Nodi project is completed.
Feb. 16, 2025	BWDB Sunamganj	• Executive Engineer	Confirmation of that project is being implemented with the local government budget. In addition, a DPP is being prepared for project proposals in Haor, which will cover around 20 of the projects identified in the UzDRRAP.
Feb. 16, 2025	LGED Sunamganj	• Executive Engineer • Chhatak Upazila Engineer • Jagannathpur Upazila Engineer • PIO, Jagannathpur • Sub-Assistant Engineer	Confirmation that the projects for roads, bridges, culverts, etc. are being implemented with local government budgets. Also, it was confirmed that some projects are also being carried out with ADB funds.

Source: JICA Expert Team

Table II-18 Summary of District DMC Coordination Meetings

	Date	Major Participating Organizations	Summary of Discussions
Sunamganj	Apr. 15, 2025	Deputy Commissioner, Deputy Director of DDM, DRRO, PIOs, representatives from DAE, DSHE, LGED, BWDB, PWD, RHD, and other departments	• Confirmation of the necessity of project implementation and guidance from the Deputy Commissioner to each project implementing agency to promote implementation • Confirmation of the importance of monitoring the implementation status
Cox's Bazar	Apr. 22, 2025	Deputy Commissioner, Deputy Director of DDM, DRRO, PIOs, representatives from DAE, LGED, DSW, FSCD, and other departments	

Source: JICA Expert Team

The lessons learned for the implementation of UzDRRAP projects from the central-level information sharing meetings (Activity [4-3]) and district DMC coordination meetings (Activity [4-4]) are summarized below.

(1) Value of the local needs in supporting promotion of plans

UzDRRAP is unique and advantageous in that it is a comprehensive plan based not only on the use of simplified but scientific hazard maps and quantitative risk assessment studies, but also referring to the disaster history and the needs of the communities. The project implementing agencies generally consolidate necessary projects from local areas in a bottom-up manner and make decisions centrally. Therefore, this plan can be used by the project implementing agencies as a basis for conveying local needs to the central government.

(2) Horizontal coordination between departments

Coordination among relevant agencies is crucial to the efficient and effective implementation of the projects identified in the UzDRRAP. Rather than viewing flood control measures only as a project of the BWDB, which is the agency primarily in charge, it is also necessary to consider flood control functions in road and facility development. In cases where multiple agencies are in charge of similar facilities, coordination is necessary to ensure that facility development proceeds from priority areas without duplications. In the construction of shelters, under the coordination of DDM, the selection of priority facilities in the Upazila was promoted through horizontal collaboration among the relevant agencies (DDM and LGED).

(3) Vertical communication between local and central levels

In order to facilitate the smooth formulation and implementation of the UzDRRAPs, it is important to have bi-directional communication, with supervision and instructions from the central to local officials through vertical coordination among the related agencies, and communication or request of consultation from the local to the central level. This is because the instructions from the central to the local office are effective for information sharing and project implementation monitoring. The central office also makes considerations and decisions on which projects included in the UzDRRAP are to be handled by existing DPP projects.

(4) Collaboration with ongoing/planned projects

Since it is not easy to obtain budget for new development projects in the implementation of UzDRRAP, adjusting the feasibility of priority projects within ongoing or planned DPP development projects is also a realistic approach. For example, it is possible to adjust the feasibility of infrastructure improvement projects that have already been decided to be implemented, such as raising roads to provide flood and storm surge protection or selecting priority facilities that had been listed in the UzDRRAPs in the planning stage of the shelter improvement projects, thereby increasing the feasibility of the project.

(5) Scaling up the upazila-level projects to make them suitable for DPPs

In terms of obtaining budget for new development projects, one strategy is to combine the priority projects listed in multiple UzDRRAPs as a single project that are spatially and budget-wise consistent with the project scale of each project implementing agency, which requires a certain scale. For example, flood control projects under the jurisdiction of the BWDB require a spatial scale that spans multiple upazilas. In this Project, project implementing agencies, including BWDB and LGED, were asked to confirm the project implementation policy such as for a watershed and road network over a larger area including pilot upazilas, and the UzDRRAPs were coordinated based on these policies, which enabled the project team to set up effective measures for a larger area. However, given the situation that it is rare for implementing agencies with many projects awaiting implementation to plan development budgets for a single upazila, upazila-level plans should be ideally consolidated at the district level, paying attention to consistency with the project scale of the implementing agencies in the future.

(6) Role of DDMC in connecting central and local levels for monitoring and accelerating implementation

As the superior body of the UzDMC, DDMC oversees the activities of the upazila and plays an important role in consolidating upazila information and connecting it to the central level. Therefore, DDMC is a key player in the vertical linkage between the local and central levels in monitoring the implementation of the UzDRRAP project. In addition, as mentioned above, in order to consolidate plans at the upazila level in the district level and to conduct a comprehensive project review, it is effective to hold consultations and coordination among relevant agencies at DDMC.

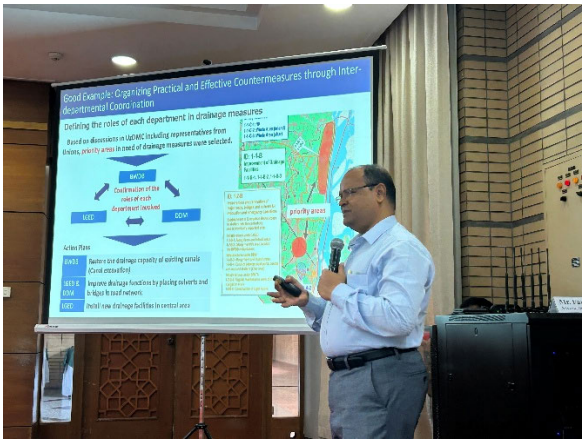
[4-5] MoDMR and DDM hold a lessons-sharing seminar by inviting as many Upazilas and district DMC as possible from pilot UzDRRPs at the end of this project

On June 23, 2025, a seminar was held to convene MoDMR senior officials, officials from WG and TSC component member agencies, pilot district and upazila officials (e.g., DRRO, PIO), and relevant NGOs and local consultants to share lessons learned through the project. There were 87 participants who attended it. During the seminar, DDM officials provided an overview of the activities and major achievements of the Project, the lessons learnt from the pilot activities for UzDRRAP formulation, as well as challenges and needed actions for achieving the Overall goal. A summary of the seminar's contents is shown below.

Table II-19 Summary of the Lesson-Sharing Seminar

Program	Facilitator/ Resource Person	Summary of the Contents
Major Achievements of the Project and Lessons Learnt	Mr. Syed Ashraful Islam, Communication Media Specialist, DDM	• Achievement summary of each output activity, report on the Training in Japan Program • Achievement of the Project Purpose • 6 lessons learnt for the UzDRRAP formulation and implementation (Refer to Activity [4-4])
Lessons Learnt from the Pilot Activity for UzDRRAP Formulation	Mr. Dilip Kumar Sen, Project Implementation Officer (Attached with Planning Cell), DDM	• Outline and features of the UzDRRAP • Lessons learnt from the pilot activities (e.g., activities of the UzDMC including collecting needed data and information, validation, and coordination with project implementing departments) • Way forward (e.g., monitor and promote project implementation, conduct training)
Challenges and Needed Actions for Achieving the Overall Goal	Mr. Md. Abdullah Al-Mamun, Director (Planning & Development), DDM	• Report on the project activities to strengthen DDM's coordination capability and challenges for achieving the overall goal after the project completion • Needed actions for achieving the overall goal (e.g., Activity of FPOCG, proper operation of monitoring, training for UzDRRAP formulation)
Open Discussion	All participants	• Importance of strengthening coordination among related agencies for implementing the plans, necessity of continuous participation in activities related to UzDRRAP formulation and project implementation, and necessity of DDM's initiative (LGED) • Importance of the UzDRRAPs, expectation of risk mitigation through the project implementation, need for further coordination among related agencies, and securing donors for project implementations (BWDB) • Necessity of raising awareness among communities, importance of horizontal as well as vertical coordination among related agencies, etc. (NGO) • Mechanisms for monitoring and updating UzDRRAPs through the Upazila Development Coordination Committee (UzDCC) and the specialized unit established within DDM (DDM)

Source: JICA Expert Team



The lesson-sharing seminar

II.1.4 Efforts to strengthen planning and implementation capabilities

In this project, in order to achieve the Project Purpose - "The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies, and local

governments", the project focused on "strengthening the capabilities for UzDRRAP formulation" and "strengthening the capabilities of DDM's coordination" through the collaboration of Output 1 to 4.

The following outlines the initiatives and efforts undertaken during the implementation of each activity.

1) Activities to strengthen the capability for UzDRRAP formulation

As part of the efforts to strengthen the capability to formulate UzDRRAP, the project activities were undertaken to establish and strengthen mechanisms to support DDM in formulating UzDRRAPs. Specifically, the following activities were carried out.

- The development of a "Basic Training on DRR" was supported to raise awareness among central and local DDM officials as well as UzDMC members about DRR, and also the development and implementation of plans. This training program continues to be implemented using DDM's annual training budget, fostering DDM's ownership.
- UzDRRAP formulation guideline and UzDRRAP formulation training materials were developed, and UzDRRAPs were formulated with DDM officials and WG members in pilot upazilas. Through three pilot activities, the involvement of the DDM officials gradually increased and UzDRRAP formulation process that incorporated a support organization (implementing associates) for UzDRRAP formulation was organized.
- To ensure the continuity of planning capabilities, intensive capacity enhancement activities were conducted for three DDM officials. Additionally, through the development of training materials for UzDRRAP formulation and the implementation of trial training for DDM officials, a training system was established to promote the development of UzDRRAPs, aiming to build a framework where DDM officials can conduct training independently.

The content of the technology transfer for the three DDM staff members is as follows:

Table II-20 Content of the Intensive Technology Transfer

	Person in Charge	Position	Activity Contents
Implementation and Management of UzDRRAP	Mr. Md. Abdus Sobhan	Deputy Director of Planning, Planning and Development Wing, DDM	• Discussion on building a monitoring system for the implementation of the plan • Implementation of UzDRRAPs and coordination among DRR-related departments • Establishment of a training system and a trainer for "Basic Training on DRR"
Hazard Analysis and Risk Assessment	Mr. Hafizur Rahman	Assistant Director (GIS), Monitoring and Information Management Wing, DDM	• Consideration of hazard and risk assessment methods • Coordination for the technical WG activities and hazard and risk assessment training
UzDRRAP Training and Strengthening of Local DMCs/Resources	Mr. Dewan Nurul Huda	Assistant Engineer, Food For Work Wing, DDM	• Discussion and consideration of the training program for UzDRRAP formulation

Source: JICA Expert Team

2) Activities to strengthen coordination capabilities with other departments for UzDRRAP implementation

As activities to strengthen DDM's coordination capabilities with other departments for UzDRRAP implementation, the Project focused on a) strengthening coordination functions for UzDRRAP implementation at the central level through the establishment and activities of the TSC, and b) promoting project implementation by strengthening coordination functions between implementing departments at the local level, and promoting cooperation between the central and local levels within implementing departments.

The situation at the initial time of the project activities and the corresponding activities are shown below.

a) Strengthening coordination functions for implementing UzDRRAP at the central level through the establishment and management of TSC

In order to promote the implementation of UzDRRAP, it is necessary to understand the project plans and concepts of each project implementing departments at the UzDRRAP formulation stage and to ensure consistency with these related plans (strategies). In addition, given the limited discretion of local governments in implementing projects, it is necessary to ensure the effectiveness of countermeasure projects, ensuring budgets, during the implementation phase of the UzDRRAP. However, when the planning process began in the pilot upazilas, the local offices of each implementing departments tended to refuse to provide project plans or concepts. This was due to two main reasons: 1- local offices were not authorized to make decisions regarding information disclosure on their own; and 2- there were concerns that disclosing internal organizational information would raise residents' expectations and demands for implementation. On the other hand, there was little information sharing or coordination among relevant departments to ensure the effectiveness (budget) of countermeasure projects. Various relevant departments implemented projects individually, based on their own judgment, with minimal coordination. Furthermore, the discretion of local officials of the project implementing departments for the project implementation was limited. Given this situation, the project established a TSC at the central level and operated it as a coordination platform at the central level and as a supervisory and directive body for district and upazila DMCs, in order to ensure consistency with related plans and strategies, and to secure the effectiveness (budgets) of countermeasure projects.

Initially, the TSC operated with the support of the JICA Expert Team. However, through regular activities conducted in parallel with pilot activities, the DDM and project implementing departments (e.g., BWDB, LGED) came to understand the functions of TSC and the need for central-level supervision and guidance in the UzDRRAP implementation. Finally, the following actions were observed at the end of the project.

- DDM instructed through TSC that, in order to ensure consistency in planning, the project plans and concepts of each implementing department should be shared within the upazila DMC during the UzDRRAP formulation stage, and that upazila and district officials should collaborate with other departments at DMC meetings.
- Under the leadership of DDM, coordination between central and local levels within each implementing department was strengthened through TSC, regarding the priority projects

outlined in UzDRRAP in the pilot upazilas, reflection to the project implementation plans of each relevant department, their integration into ongoing or planned large-scale projects, increase in O&M budget, and the promotion of formulation of PDPPs was performed.

- Discussions were held on methods for continuous monitoring of the implementation of UzDRRAP across relevant departments, and based on the results of these discussions, DDM established a project monitoring system.

As a result, under the instructions from the central level through the TSC, local offices of implementing departments provided project plans and concepts, as well as promoted consistency with relevant plans and strategies. In addition, PDPPs for the implementation of priority projects in the pilot upazilas were submitted by the project implementing departments and efforts were strengthened to ensure the effectiveness (budget) of project implementation.

b) Strengthening the coordination capability with other implementing departments at the local level and promoting vertical coordination within implementing departments

The main activity of the upazila DMCs was the coordination regarding disaster response in emergencies and, therefore, at the start of the project, there was little basis for discussion of DRR during normal times. Under this circumstance, with the aim of securing budgets through the coordination and organization of practical and effective countermeasure projects, in pilot upazilas, UzDRRAP formulation with upazila DMCs and consultations with related departments in an on-the-Job training format was conducted, under the leadership of DDM local officials (DRROs, PIOs). As a result, understanding of the significance of UzDRRAP formulation among district and upazila DMC members had been promoted, and information sharing within DMCs had been activated. Through these activities, horizontal coordination among DMC members and vertical coordination among implementing departments (central government and local governments) were promoted, and the following actions had been observed.

- Organizing practical and effective countermeasures through inter-departmental coordination
  - Example 1: Flood-resilient local road improvement (LGED)

    Organizations other than the BWDB, which is responsible for flood control, had implemented their own projects with little consideration for flood risk reduction so far. However, since the discussions between relevant departments at the DDMCs and UzDMCs were promoted, road development projects, including road elevation and slope reinforcement to maintain embankment functions, were considered in flood-prone areas along rivers and near disaster management facilities. In this way, DRR concepts gradually spread even into sectors not directly related to flood control.

  - Example 2: Defining the roles of each department in drainage measures and coordination of action plans (DDM, BWDB, LGED, Paurashava)

    Regarding drainage measures in central areas of upazilas along the rivers, various stakeholders had been implementing projects individually according to their own plans. Through this Project, the formulation of the UzDRRAP and opportunities for

coordination among relevant departments were provided, which led to the identification of priority areas for drainage measures. In addition, this clarified the roles of each department in the targeted areas and promoted coordination as follows: BWDB took charge of restoring the drainage capacity of existing canals (canal excavation), LGED and DDM improved drainage functions by placing culverts and bridges as part of road development, and LGED further took responsibility for installing new drainage facilities in central area of the upazilas.

- Example 3: Prioritizing evacuation facilities for development and maintenance through close coordination among relevant departments (DDM, LGED, EED (Education Engineering Department))

  The development of evacuation facilities had been carried out independently by various organizations based on their own judgments. However, through this project, opportunities for consultation among relevant organizations were provided, which enabled the identification of areas or facilities that require priority measures. Additionally, coordination of roles related to the construction and maintenance of evacuation facilities was facilitated among organizations implementing similar projects (DDM, LGED), thereby promoting the development of evacuation facilities that could minimize damage to people and assets. During consultations among relevant departments, information such as the number of estimated evacuees and evacuation routes, as well as maps showing the locations of current and proposed evacuation facilities, were referenced to facilitate constructive exchanges of opinions among relevant departments.

- Regular project implementation monitoring by DDMCs and UzDMCs and reporting to the central level (DDM established a UzDRRAP implementation monitoring system)

As a result, under the direction of the central government through the DDM headquarters and TSC, consultations and coordination centered on UNO were promoted in each pilot upazila. Furthermore, cooperation among relevant departments in project implementation was promoted, and consequently multiple examples of project implementation were observed. In addition, a DDM-led monitoring system was established through discussions with local offices of project implementing departments on methods for cross-departmental and continuous monitoring system of the UzDRRAP project implementation.

While the coordination and collaboration efforts with related agencies to formulate UzDRRAPs and promote its implementation in each pilot upazila were new to DDM central and local officials (DRROs and PIOs), the understanding of how to organize the necessary countermeasure projects and to approach the project implementing departments to obtain budgets has been improved through the pilot activities. However, as indicated in the endline survey results mentioned above, the capacity enhancement was limited to the DDM officials who have been involved in the pilot activities. Therefore, it is necessary to systematically continue planning, implementation, and monitoring activities through opportunities such as dissemination to other areas to maintain the coordination function that were established during the project period (Referred to Chapter 4 (for details, refer to Chapter 4).

II.2 Achievements of the Project

II.2.1 Achievement of Outputs and Indicators

Indicators and the achievement levels of each output are shown in the table below. All the planned outputs had been achieved.

Table II-21 Indicators and Achievement Levels of Each Output

Outputs	Objectively Verifiable Indicator	Means of Verification	Achievement Levels
1. The system and methods of hazards and risk assessment for UzDRRP are developed.	1.1 The guideline on hazard and risk assessments is developed and approved by MoDMR	Guideline on hazard and risk assessments approved by MoDMR	Achieved The practical method of hazard analysis and risk assessment applied for the UzDRRAP planning was developed and reviewed by WG1 and applied to the process of developing UzDRRAP planning in pilot upazilas. The guideline was officially approved by MoDMR in June 2025 after the final Technical WG in April 2025.
2. The institutional arrangement is developed in DDM to support the formulation of UzDRRP.	2.1 The UzDRRP guideline is developed and approved by MoDMR.	UzDRRP guideline approved by MoDMR	Achieved The UzDRRAP formulation guideline was reviewed and developed with the members of WG2 and WG3 and applied to the process of UzDRRAP formulation in the pilot upazilas. The guideline was finalized based on the results of the pilot activities and officially approved by MoDMR in June 2025 after the WG meeting in February 2025.
	2.2 The training manual and materials are developed.	Training manual and materials Training reports	Achieved Through the pilot activities, training materials and manuals were developed in to train UzDMC members on UzDRRAP formulation procedures, and these were updated and finalized based on the results of trial training for DDM officials and relevant agency in April 2025.
3. Practical UzDRRP is developed at pilot sites in collaboration with relevant ministries and local governments.	3.1 Number of UzDRRP developed and approved by UzDMC (Target:6)	UzDRRP approved by UzDMC	Achieved UzDRRAPs were developed in pilot upazilas (3 districts x 2 upazilas each: **6 upazilas in** total) through workshops, field activities, and meetings, and approved by the UzDMC and DDMC at the final workshop and DDMC meeting. It was subsequently approved by MoDMR.
4. The mechanism is developed to implement the UzDRRPs.	4.1 Operation manual is developed	Operation manual	Achieved Based on lessons learned from the pilot activities and discussions among WG members, an operation manual was developed and approved by DDM.
	4.2 Number of information sharing meetings for implementation of UzDRRPs (Target: 4 times)	Meeting records	Achieved An information sharing meeting with the project planners of the implementing agencies (e.g., BWDB, LGED, DDM) was held **once** at the central level (chaired by the DDM Director General) and **once** each in Cox's Bazar and Sunamganj Districts (chaired by Deputy Commissioner). The utilization of the UzDRRAPs at the project coordination and proposal stages, as well as the project implementation status and future issues were confirmed. Additionally, individual meetings were held **more than 8 times** in total with each department to review project implementation and to discuss the approaches and issues for obtaining budgets. (**11 times** in total)

Outputs	Objectively Verifiable Indicator	Means of Verification	Achievement Levels
	4.3 Number of lessons learnt through the coordination meetings among pilot Upazilas (Target: 6 lessons)	Meeting records	Achieved UzDRRAP implementation status was confirmed at the coordination meetings in the pilot upazilas, and 6 lessons learned for the implementation of the project were consolidated and organized. The outline of the lessons learned is as follows: (1) Value of the local needs in supporting promotion of plans (2) Horizontal coordination between departments (3) Vertical communication between local and central levels (4) Collaboration with ongoing/planned projects (5) Scaling up the upazila-level project to make them suitable for DPPs (6) Role of DDMC in connecting central and local levels for monitoring and accelerating implementation
	4.4 Number of participants of seminars and workshops for formulation of the UzDRRPs (Target: 800 participants in total)	Participants lists of seminars and workshops	Achieved A total of **1,546 people** participated in workshops related to formulating UzDRRAPs in the pilot upazilas.

Source: JICA Expert Team

II.2.2 Project Purpose and indicators

Indicators and their achievement levels for the project purposes are shown in the table below.

Table II-22 Indicators and the Achievement Levels of Project Purposes

Project Purpose	Objectively Verifiable Indicator	Means of Verification	Achievement Level
The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments.	1. Number of reports of hazard and risk assessments which employ methods developed by the Project (Target:6)	Hazard and risk assessments reports	Achieved The practical method of hazard analysis and risk assessment was considered, and the corresponding reports were completed and included in the UzDRRAPs of Cox's Bazar, Sunamganj, and Kurigram Districts (6 upazilas).
	2. Number of the proposals submitted from implementing departments to respective ministries for implementation of structural and non-structural measures in UzDRRPs (Target: 4)	Project proposals	Achieved Of the 2,653 structural and non-structural measures in UzDRRAPs of the pilot upazilas (4 upazilas), a total of 38 structural projects were confirmed to have been implemented, as indicated in the 15 DPPs approved by the respective ministries of the project implementing departments.

Source: JICA Expert Team

II.3 History of PDM Modification

PDM modification was conducted three times in this project. The modified contents of PDM are shown below.

Table II-23 Modified Contents of PDM

Parent Document	Date of Signing	Modified Content		
		Revised parts	Before revision	After revision
Revised R/D	Jan. 2, 2024	Project Period	Four (4) years	Four and a half (4.5) years
5th JCC	Feb. 28, 2024	Overall Goal	The nationwide development plan of Upazila Disaster Risk Reduction Plans (UzDRRPs) is implemented, and investments in DRR are promoted in line with the development of UzDRRPs.	Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs.
		Project Purpose	The mechanism is established for DDM to develop, implement and expand UzDRRPs in collaboration with MoDMR, related agencies and local governments.	The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments.
		Activity 2-2	Based on the guideline developed in Activity 2-1, the TSC prepares a draft training manual and materials for DDMC and UzDMC in formulating UzDRRP.	Based on the guideline developed in Activity 2-1 with the supports of the TSC, DDM prepares a draft training manual and materials for DDMC and UzDMC in formulating UzDRRP.
		Activity 2-3	Based on the training manual developed in Activity 2-2, the TSC conducts training for DDMC and UzDMC in the pilot sites.	Based on the training manual developed in Activity 2-2 with the supports of the TSC, DDM conducts training for DDMC and UzDMC in the pilot sites.
		Activity 2-5	Based on the results of Activity 2-3 and 2-4, the TSC reviews and revises the draft guideline (including the summary version), training manual and training materials.	Based on the results of Activity 2-3 and 2-4 with the supports of the TSC, DDM reviews and revises the draft guideline (including the summary version), training manual and training materials.
		Output 4	The mechanism is developed to expand the formulation of UzDRRPs nationwide.	The mechanism is developed to implement the UzDRRPs.
		Activity 4-3	MoDMR and DDM develop a Nationwide Development Plan of UzDRRPs (including a budget plan) in line with the operation manual developed in Activity 4-1 and a priority list developed in Activity 4-2, and DPP will implement the Plan.	MoDMR and DDM conduct information-sharing meeting to coordinate with government agencies to allocate the necessary budget for implementing the approved UzDRRPs.

Parent Document	Date of Signing	Modified Content		
		Revised parts	Before revision	After revision
		Activity 4-4	-	MoDMR and DDM facilitate district DMC coordination meetings to be held among pilot Upazilas and relevant agencies in implementing each UzDRRP.
		Activity 4-5	-	MoDMR and DDM hold a lessons-sharing seminar by inviting as many Upazilas and district DMC as possible from pilot districts/Upazilas at the end of this project.
6th JCC	Oct. 23, 2024	Objectively Verifiable Indicators for Overall Goal	• Number of UzDRRPs • Structural and non-structural measures (6 projects) are implemented in line with UzDRRPs	• Structural and non-structural measures (6 projects) are implemented in line with UzDRRPs * Another indicator -Number of UzDRRPs was delated.

Source: JICA Expert Team

II.4 Others

II.4.1 Results of Environmental and Social Considerations

Environmental and social considerations were not required during the implementation of this Project. However, the project activities were conducted while keeping in mind that some of the projects proposed in the UzDRRAPs require an assessment of their impact on the natural and social environment when planning, designing, and implementing them.

II.4.2 Results of Considerations on Gender/Peace Building/Poverty Reduction

In order to consider the needs of women in DRR, women representatives from community and gender-related organizations were encouraged by UNO to participate in the UzDRRAP formulation workshops. As a result, the participation of the Upazilas Women Welfare Officers was confirmed in most of the workshops, as well as the participation of women union chairperson and education officers in some workshops. In addition, at the union meetings under the pilot upazilas/district held as part of the Project, issues related to mobility difficulties of people with disabilities, including women, and issues related to shelter and disaster information collection were discussed, and it was agreed that gender perspectives should be incorporated in disaster awareness projects.

III. Project Evaluation and Lessons Learned

III.1 Results of Review Based on DAC Evaluation Criteria

The results of the evaluation at the end of the project with respect to the six DAC evaluation items (Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability) of the project are described.

III.1.1 Relevance

The Project was evaluated as highly relevant based on the following reasons.

(1) Conformity with the Policies in Bangladesh for Development and DRR

The Project is consistent with the "Eighth Five Year Plan (July 2020- June 2025)," the mid-term national development plan of Bangladesh. This Project is highly relevant because the plan's initiatives for better DRR include building better coordination systems within and across ministries and the government, strengthening guidelines for disaster impact and risk assessment, and reducing disaster response and recovery costs through increased investment for climate change risk reduction.

In addition, the "National Plan for Disaster Management (2021-2025)", which is the national plan related to DRR, has action plans for each priority action based on the SFDRR. These action plans include "To involve the community in DRM projects and programs as a way of building awareness, including participating in hazard mapping, risk assessments and risk-informed planning" (Priority Action 1), "To strengthen the capacity of DMCs at all levels for policy advocacy and effective operations for resilient DRM" and "(To) formulate risk mitigation and contingency plans at the local level." (Priority Action 2), as well as "To carry out physical works and structural measures for resilience" and "To strengthen flood management through existing and new policies and programs on river management" (Priority Action 3). This project directly supported the implementation of these action plans by developing UzDRRAPs based on disaster risk assessments, strengthening the capacity of DMCs, and promoting the implementation of these plans.

(2) Conformity with social needs of Bangladesh

Bangladesh is subject to annual flooding associated with fronts and cyclones, and is ranked 9th out of 193 countries in the world in the "World Risk Report 2024" published by the Bundnis Entwicklung Hilft and the Institute for International Law of Peace and Armed Conflict (IFHV). On the other hand, the Government of Bangladesh has set a goal of increasing income and is working to increase domestic and foreign investment, but the country's vulnerability to disasters has not been fully overcome, and although the number of deaths from disasters is decreasing, the increased cost of rehabilitation due to damage to infrastructure and the loss of livelihoods of the poor due to disasters are the various factors that hinder sustainable social and economic development. Therefore, DRR is an urgent issue for promoting sustainable development in Bangladesh, and is consistent with the needs of Bangladeshi society. In addition, the project promoted studies based on the issues and countermeasure needs of the upazila

DMCs in planning the DRR projects in the pilot upazilas, thereby promoting the study and implementation of DRR projects that are consistent with the needs of the target societies.

III.1.2 Coherence

The project was evaluated as highly coherent for the following reasons.

(1) Coherence with Japanese government and JICA's development cooperation assistance policy

Japan's Country Development Cooperation Policy for the People's Republic of Bangladesh, formulated in February 2018, states in the "(2) Overcoming social vulnerability" that Japan will provide support for disaster prevention and measures to tackle climate change, focusing on disaster forecasting and warning, earthquake disaster mitigation, and river management". Based on Japan's cooperation policy, JICA has also identified "Disaster management and Climate Change Countermeasures" as a development issue to be addressed in the JICA Country Analysis Paper for The People's Republic of Bangladesh (March 2023). In particular, the support for the improvement capabilities of central government agencies and local governments on local DRR planning will be continued. In addition, JICA has identified the realization of SFDRR formulated in 2015 as one of the most important issues in the field of DRR, and this Project is an effort to contribute to its Global Target (e). Therefore, this Project is in line with Japan's cooperation policy.

(2) Harmonization and coordination with other projects and institutions in Bangladesh

In Bangladesh, efforts related to climate change and DRR have been continued with large-scale projects such as the UNDP-supported "Comprehensive Disaster Management Programme" (Phase 1, 2004-2009; Phase 2, 2010-2014), The World Bank's "The Emergency 2007 Cyclone Recovery and Restoration Project" (2009-2018). In this project, activities were implemented with attention to continuity and improvement with these related projects that have been implemented over a long period of time. The workshop-based information gathering and organization methods of needed countermeasure at the community level from the district and upazila disaster management planning process developed in the Phase 2 activity in the "Comprehensive Disaster Management Programme" were utilized. The results of the "Multi-Hazard Risk Vulnerability Assessment" conducted as part of "The Emergency 2007 Cyclone Recovery and Restoration Project" component were also directly utilized in this project as the results of hazard analysis and risk assessment across the country of Bangladesh for multiple disaster types, and contributed to ensuring continuity of related projects and effective utilization of resources in the institutions.

In addition, activities were conducted paying attention to harmonization and coordination with other JICA projects. The "Project for Planning Capacity Enhancement and Establishment of a Technology Adaptation Cycle on Comprehensive Nodi (River) Management" with BWDB as the C/P is one such example. In particular, the plans for small and medium rivers, as well as the flood management and countermeasure studies for larger rivers, developed under the said project, were incorporated in the process of formulating the UzDRRAPs in the pilot upazilas, such as DRR target and Action plans. Furthermore, in terms of project implementation based on the developed DRR plan, the project promoted

efforts to implement small-scale project within the "Disaster Risk Management Enhancement Project" and "Southern Chattogram Regional Development Project" implemented by JICA, and harmonization and coordination with related projects involving C/P agencies were achieved. As described above, it can be said that the Project was implemented in harmony with several other projects.

(3) Coherence with international development and DRR policies

This project is highly relevant to the "Sendai Framework for Disaster Risk Reduction 2015-2030" and has been able to contribute to Priority Action 1 "Understanding disaster risk" through implementation of hazard and risk assessment and improvement of the capacity to use. Furthermore, through the development of UzDRRAPs, the project contributed to the promotion of Priority Action 2 "Strengthening disaster risk governance to manage disaster risk" and the achievement of the Framework's Global Target (e) "Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020". The project also contributed to Priority Action 3, "Investing in disaster risk reduction for resilience" by promoting pre-disaster investment at the local level through the development and implementation of UzDRRAPs.

The project also contributed to strengthening the overall disaster management capacity of Bangladesh, including adaptation to climate change, and thus it is in line with SDGs Goal 1 "End poverty in all its forms everywhere", Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable", Goal 13 "Take urgent action to combat climate change and its impacts", and related indicators (1.5.4, 11.b.2, 13.1.3 "Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies". *All the same indicators).

III.1.3 Effectiveness

The Project was evaluated as highly effective for the following reasons.

(1) Achievement of Project Purpose

In this project, practical methods for hazard analysis and risk assessment (which form the basis of development of UzDRRAPs) were established, and a system for formulating and promoting implementation of UzDRRAPs was developed through activities in pilot upazilas together with DDM, relevant ministries, and local government (DMC). In addition, guidelines, various training materials and manuals, and an operation manual for UzDRRAP formulation were developed to maintain the system. In the pilot upazilas, concrete actions were taken to implement the projects indicated in the formulated UzDRRAPs, including coordination with ongoing development projects, utilization of local office's O&M budgets, and preparation and submission of proposals to the relevant ministries and agencies to secure new development budgets.

Thus, the Project purpose, "The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies, and local governments" is considered to have been achieved. On the other hand, the maintenance of the established system requires voluntary and continuous efforts on the part of Bangladesh.

(2) Causal Relationship between Output and Project Purpose

In this project, a method and system for hazard and risk assessment necessary for the formulation of UzDRRAPs was established, and human resource development activities were conducted through WG activities in Output 1. In Output 2, the development of guidelines for UzDRRAPs, training materials, and manuals was supported, and DDM was encouraged to build a support system for formulation and implementation through the conduct of training programs. In Output 3, the project utilized the results from Outputs 1 and Output 2 to establish a system for more practical and sustainable development of UzDRRAPs by trialing them in pilot areas. In addition, through consultations at the central and district levels with relevant ministries and departments, the implementation of UzDRRAPs in the pilot areas was encouraged and the structure of plans was also reviewed to make it more effective. The project had largely achieved its Project purpose, "The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments.", with the expression of these Outputs.

Therefore, it can be said that the achievement of this Project Purpose was triggered by the accomplishment of each Output.

III.1.4 Efficiency

This project was rated as moderately efficient in terms of implementation arrangements on the Bangladesh side.

(1) Implementation structure of the Japanese side

The input of Japanese side was extended by 11 months mainly due to the impact of COVID-19 and the flood damages in pilot areas. But each output was achieved within the project period to promote continuing activities remotely by making effective use of local staff and sub-consultants. In order to carry out follow-up on technology transfer continuously for enhancing the ownership and self-reliance of the C/P, the timing of dispatch of experts was planned so that one expert at least was always working with the C/P directly as much as possible.

(2) Implementation structure of the Bangladesh side

From the beginning of the Project, it was understood that DDM had limited manpower and was not expected to be adequately staffed to implement the Project. Although the R/D was supposed to assign at least one PIO on the DDM side to each output of the Project, the input of PIOs, which were 1) in charge of Hazard Analysis and Risk Assessment, 2) in charge of UzDRRAP Training and strengthening of local DMCs/resources, and 3) in charge of Implementation and Management of UzDRRAP (3 in total), were not realized until February 2024, during the second phase of the project. DDM had limited involvement in project activities because of its minimal staff requirements and its many concurrent duties. Due to DDM's limited staffing and performing many duties, its participation in the project activities was constrained.

On the other hand, the JICA Expert Team encouraged DDM's participation in the project by requesting its participation in WG meetings and UzDRRAP formulation workshops in pilot upazilas, and through

ToTs in training sessions. As a result, in the latter half of the project, there was active participation from DDM in project activities. In particular, the "Basic Training on DRR" was funded by the Bangladesh government, and DDM staff served as lecturers for training UzDMCs.

III.1.5 Impact

The impact of this project is expected to be high.

Although it is too early to measure the degree of achievement of the overall goal at the end of the project, no negative impacts were observed at this point, and the following specific examples of positive impacts were observed. Therefore, it is expected to achieve the overall goal: "Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs".

(1) Preparation of DPP and implementation of projects based on the plan

UzDRRAPs were developed in the six pilot upazilas under this project, and efforts were made to promote their implementation. These activities resulted in the preparation of PDPP and other concrete efforts to secure budgets by the project implementing agencies (BWDB, LGED, and DDM) for several of the projects stipulated in the plans.

(2) Raise awareness of disaster risk reduction among DDM staff

Promotion of pre-disaster investments requires a correct understanding of DRR by DDM staff. In this Project, awareness-raising activities on DRR were conducted through the Project activities. Specifically, in the "Basic Training on DRR" and planning activities as well and actions to enhance UzDRRAP implementation in the pilot upazilas and districts, there was improvement on the understanding of international DRR frameworks and measures that can contribute to DRR. As a result, it was confirmed that there was great improvement on the understanding of DDM officials on the international frameworks on DRR, and their understanding on tools for hazard analysis and risk assessment as well as characteristics of disasters in the country and their jurisdictions, which is the foundations of DRR, was enhanced.

(3) Implementation of voluntary efforts to expand to other regions

In order to utilize the results of this project and promote the preparation of UzDRRAPs in other regions, DDM selected upazilas (100 in total) that are considered to be in need of priority UzDRRAPs and submitted a PDPP to MoDMR. The development of plans and their implementation is expected to promote nationwide pre-disaster investments in Bangladesh.

III.1.6 Sustainability

The sustainability of the project is moderate.

Regarding the implementation of the formulated UzDRRAPs, the monitoring system related to implementation of the plan has already been developed in DDM, and confirmation of the status of project implementation and encouragement of the implementation of the project is expected using the opportunity of Focal Point Operational Coordination Group (FPOCG), chaired by the DDM Director

General and attended by director-level officials from each implementing department (varies by department, but representatives of Joint Secretary class or equivalent), hold once in three months.

On the other hand, it is unclear whether the DDM initiative will be sustained in the long term within the normal course of business and annual budgets, given the situation where the Bangladesh side will no longer be able to allocate human resources and budget for this project under the TAPP. In fact, the post-project activity plan prepared by DDM indicates that some of the work will be carried out using the DPP budget, and DDM has prepared a PDPP for this purpose and is working to obtain a budget to ensure the continuity of the work. The project has focused on human resource development of permanent staff to ensure the retention of skills and knowledge, but the decision making of the Director General of DDM and key department directors is absolute, and there is concern that the sustainability of the project may decline due to the transfer of key personnel such as the Director General of DDM and key department directors who have implemented this project together.

The issue is to secure the necessary budget for activities for DDM to steadily continue development of UzDRRAPs and implementation activities in other regions on a self-sustaining and developmental basis after the completion of the project, and to maintain the mechanism for implementation and promotion of the project by relevant organizations other than DDM. Sustainability will be enhanced if DDM's new projects related to development and implementation of UzDRRAPs are approved by MoDMR.

(1) Financial Aspect

The UzDRRAP formulation itself is consistent with the SFDRR, SDGs, and national disaster management planning policies to which the Bangladesh government aims to contribute, and the Project is highly sustainable from the Bangladesh policy perspective. On the other hand, it is necessary to secure human resources and budgets supporting planning by district and upazila DMCs as well as to establish coordination and cooperation of the relevant agencies for UzDRRAP formulation. The SOD stipulates that the district and upazila DMCs are to formulate Risk Reduction Action Plan as part of Disaster Risk Management Plans (DRMPs) and cooperate in planning. On the other hand, in reality, it is difficult to proceed with the planning without the central allocation of budget for DMC activities and requests for cooperation for relevant agencies. Therefore, this Project has supported obtaining budget for development activities related to the formulation of UzDRRAPs by DDM as well as the continuity of TSC function and coordination among relevant departments. As a result, actions to obtain budgets have been taken by DDM, such as the preparation of a PDPP for nationwide dissemination of UzDRRAP formulation, which has been submitted to the Ministry of Planning through the MoDMR. If the PDPP is approved and the budget is secured on the Bangladeshi government's side, financial sustainability will be guaranteed. However, this is not easy in reality, and given the current situation, it must be said that financial sustainability is unlikely. Meanwhile, DDM plans to continue the "Basic raining on DRR" and "UzDRRAP Formulation Training" using the annual training budget. The "Basic Training on DRR" had been implemented annually using DDM's budget for training during the project period to ensure sustainability. The implementation of these training programs using the annual budget for training makes the project to be considered as sustainable.

(2) Institution and systems

DDM traditionally has an overwhelming shortage of personnel in charge of disaster management and local disaster risk reduction planning, and needs staff in charge of implementing sustainable local disaster risk reduction plan formulation, updating, and monitoring. In this project, a person in charge of guiding the development of UzDRRAPs and another one in charge of implementation and management of the UzDRRAPs were selected during the project period. The Project had focused on encouraging their participation in activities for planning and implementation in the pilot upazilas as well as in various training programs. With regard to monitoring the implementation of the UzDRRAPs, based on the proposal from the Project, it was decided that the FPOCG will review the implementation status of the UzDRRAPs quarterly. In addition, a formal project implementation monitoring unit was established within DDM under the direction of the Director General. Therefore, going forward, sustainability will be ensured by having a permanent staff of whom the technology has been transferred in this Project remains in DDM and continually formulate, update, and monitor UzDRRAPs based on the established mechanism and procedures. In terms of sustainability, it is also important to establish a cycle in which the implementing departments of countermeasures use UzDRRAPs as a basis and decision-making tool for promoting their own projects. Currently, implementing departments such as LGED are preparing PDPPs to obtain funding for countermeasures based on the 6 UzDRRAPs formulated in this Project. It is necessary that this action will lead to obtaining budget and accumulate good examples of UzDRRAP implementation.

(3) Technology

The central officials of DDM often transfer to other departments, and it would be unlikely that officials with leadership roles in each Output of the Project remained in the organization and engaged in related projects for a long period of time after the Project had been completed. Hence, there was a possibility that knowledge and technology transferred in the Project would be lost. Therefore, a focal person for technology transfer was appointed from DDM's permanent officials in this Project, and intensive technology transfer was implemented. In addition, the guideline for hazard analysis and risk assessment and the guideline for formulating UzDRRAPs prepared by this Project were approved as official DDM documents and are planned to be stored on the DDM website for easy access by all, and other efforts were made to maintain the knowledge and technology related to this project. In addition, instructors of “Basic Training on DRR” and “UzDRRAP Formulation Training” were trained and it was encouraged that these trainings be included in DDM's annual training program. It can be considered that it is possible to maintain the transferred skills in the future through the continuous activities by officials in charge and instructors of the training programs.

III.2 Key Factors Affecting Implementation and Outcomes

(1) Overall Activities

1) Strengthening Collaboration with the C/P

In addition to the restrictions of the activities due to the COVID-19 pandemic and the repeated occurrences of disasters such as flooding, this Project was affected by the idling period to wait for the TAPP approval, which is the budget acquisition procedure for implementing agencies that will carry out technical cooperation projects in Bangladesh. Due to these factors, the project period had to be extended. In situation that it was impossible to conduct activities to involve the other agencies, such as workshops and JCC meetings, before getting the approval of the TAPP, since March 2021, when the project was launched, the JICA Expert Team had been communicating continuously with the PD and PM, called TAPP preparation meetings, and cooperated with DDM in writing the TAPP. Then, after the TAPP was submitted, JICA Expert Team strived to build a relationship with DDM by monitoring the status of the review at the Ministry of Planning (MoP) as much as possible, supporting it with administrative procedures related to revision and registration. As a result of these efforts, the JICA Expert Team was able to begin the full-scale project activities in the country from October 2021 smoothly, when the TAPP was officially approved.

Since the start of field activities in March 2021 and through the end of the project, there had been at least three changes in the Director General of DDM; the Director of Planning and Development, who was the Project Director; and the Director of the Planning Division, who was the Project Manager. In addition, the section chiefs of other departments and the administrative officers of the pilot districts and upazilas were also frequently transferred, which could have resulted in a situation where a lack of detailed handover of responsibilities could have resulted in obstacles. In each case, the JICA Expert Team took the time to explain and discuss the background of the activities, roles, issues they were facing at the time, and proposed solutions, focusing on creating understanding and building relationships. In the process of taking these steps, the understanding of the project activities deepened, especially among DDM's professional staff, and the involvement of those who had been transferred to DDM became smoother.

In July to August 2024, student protests, triggered by demands for reform of the quota system for special preferential quotas for civil service actions, intensified and resulted to the imposition of curfews and government restrictions on the use of data communications, and travel restrictions were imposed. The lower floors of DDM's main office, including the entrance hall, where the project office is located, were damaged by the demonstrators, and electrical circuits were destroyed, which restricted activities at the project office even after travel resumed. The project took care to minimize the impact on activities by promoting communication and coordination with DDM staff through local staff so that activities could progress even under such circumstances.

2) Involvement of Relevant Departments

For the formulation and implementation of UzDRRAPs, it was imperative to build a system led by DDM and involve project implementing agencies in each sector, with the same goal of reducing

disaster risk in pilot areas at both the central and local levels. The project established a TSC that brought together working-level officials from relevant central agencies to share information and strengthen coordination among the agencies involved. The TSC also facilitated faster decision-making on the implementation of priority projects in the pilot areas by utilizing the central and local networks within the relevant agencies. As a result of these efforts, certain results were achieved in the support structure for the formulation and implementation of the upazila disaster management plan, implemented centrally by TSC under the leadership of DDM and locally by the DMC in the districts and upazilas. In addition, the activities of each working group took into account the characteristics of the Bangladesh national bureaucracy, and by taking into account the positions of the members, the structure was designed to enable the convening of other ministries and agencies, thereby enhancing the effectiveness of the implementation system.

(2) Output 1

1) Introduction of hazard maps that can identify disaster characteristics at upazila level

Although hazard analysis and risk assessment were stipulated as DDM's responsibilities in the SOD, there was a lack of human resources in DDM, and no mapping had been conducted by DDM yet. In addition, in the baseline survey, it was revealed that the upazila-level hazard maps that could objectively identify disaster potential had not been prepared, while low-resolution hazard maps at the national level were prepared with the cooperation of donors. Therefore, based on the capacity of DDM for data analysis and its versatility for local activities, the JICA Expert Team developed a relatively simple but scientific procedure for creating hazard maps based on spatial and statistical data published by free DEMs and government agencies. This method was tested in a pilot upazila for understanding disaster characterization and risk assessment and developed as a hazard analysis and risk assessment method for the development of UzDRRAPs after discussion and validation by the WG, and finally was approved by MoDMR as an official document.

2) Introduction of a simple risk assessment method that leads to the setting of quantitative DRR target

While the CRA method was already in place to evaluate disaster risk in Bangladesh, this method mainly collected disaster history at the community level. In this Project, the JICA Expert Team proposed a method to quantitatively evaluate the amount of damage at the union level, and developed a process to set DRR targets using such amount of damage as one guide. This approach was applied to the pilot activity and proved to be effective as an approach for setting DRR targets while reaching consensus among UzDMCs with many stakeholders.

(3) Output 2

1) Creation of opportunities for relevant agencies to discuss planning and implementing DRR projects on a cross-organizational basis.

The implementing agencies carried out infrastructure improvement and development projects nationwide in a top-down manner based on their own plans and budgets, while the local offices of

these agencies were responsible for on-site management of the projects under the direction of the central government. As a result, at the local level, there was insufficient information sharing and coordination on projects being implemented or planned by agencies. Thus, in improving the effectiveness and efficiency of DRR-related projects at the local level, it had been a challenge to strengthen coordination and establish a cooperative system among the various implementing agencies at the central level. For this purpose, as described in "(1) Overall Activities", TSC has been temporarily established with the participation of the representatives responsible for the project planning of the relevant agencies (such as the Secretaries or the Superintendent Engineers depending on the implementing agencies). This was intended to discuss and organize how to involve relevant agencies in formulating UzDRRAPs and the procedure of listing countermeasure projects which should be indicated in the plan through horizontal cooperation among the agencies concerned. Also, through the vertical collaboration between the central and local officials of these relevant agencies, instructions were given in a timely manner from the central government to these officials, and consequently active involvement of relevant agencies in the formulation of UzDRRAPs was promoted by providing information to the UzDMC and cooperating in follow-up activities.

2) Involvement of DDM central officials in pilot activities

The SOD clearly states that DDM's responsibilities include supporting the implementation of risk analysis at the local level, developing policies and systems for DRR, and coordinating with related disaster management agencies. On the other hand, at the beginning of the project, DDM's pre-disaster activities focused on preparing for relief activities, and the activities for DRR were limited. Therefore, the formulation and implementation of UzDRRAPs, a new initiative, was assigned to DDM's Planning and Development Wing, while the strengthening of planning capacity was the responsibility of the Training and Research Department, requiring the initiative and active involvement of the department heads and section managers in charge of their respective departments. In the Project, the involvement of these DDM decision makers were promoted, not only in working activities and various project progress review meetings, but also in workshops on pilot activities that were practically being implemented in local areas and district and upazila DMC meetings, which provided them with the opportunities to explain what DRR projects are needed at the upazila level as a representative from DDM and consequently created DDM's initiative and fostered their ownership.

3) Development of a training system for the conduct of Basic Training on DRR

DDM officials (especially local officials) and upazila DMCs, which are responsible for formulating UzDRRAPs, have historically focused on emergency support and response after disasters, resulting in a lack of awareness regarding disaster risk reduction and pre-disaster investments. This lack of awareness had become increasingly apparent through baseline surveys and meetings with C/P. Therefore, the project identified the need to enhance the basic knowledge of upazila officials regarding disaster risk reduction as a key challenge. As a result, the project proposed the "Basic Training on DRR" targeting upazila DMCs and developed training materials. The training materials were designed with local staff's knowledge, skills, and interests in mind, incorporating numerous diagrams and illustrations, case studies from Bangladesh, and content translated into the local

language. Additionally, to ensure the sustainability of the training and the ownership of the C/P, meetings were held with central officials of DDM, including members of WG4, and trial training sessions were conducted to cultivate instructors. Efforts were also made to incorporate the training into the C/P's annual budget. As a result, the implementation framework for the "Basic Training on DRR" of DDM was established, and the training was incorporated into the annual training plan funded by the DDM budget.

(4) Output 3

1) Promoting understanding of DRR for the development of UzDRRAPs by the Pilot UzDMCs

The upazila DMC activities focused on disaster response, and at the start of the project, the concept of disaster risk reduction and pre-disaster investment was not fully understood by the relevant parties in the pilot upazilas. Through the training in Japan and "Basic Training on DRR", the project carefully explained in the local language how pre-disaster investment can reduce human and economic damage and reduce the enormous amount of time, effort, and expenditure required for post-disaster response. The project aimed to raise awareness and promote understanding of the necessity and effectiveness of disaster risk reduction and pre-disaster investment among the upazila DMCs in the pilot areas.

2) Prioritization of measures based on the implementation process of line ministries

At the upazila level, local agencies of relevant ministries (such as BWDB and LGED) implement infrastructure development projects based on their own plans and budgets, and upazila budgets are limited. Thus, they are not in a position to take the lead in implementing disaster risk reduction projects. Additionally, these local offices of relevant ministries and agencies (particularly BWDB) plan and implement projects at the district or national level rather than at the upazila level, resulting in discrepancies in project scale between proposals raised at the local union or upazila level and the actual projects being implemented. Therefore, the project clarified the implementing entities for each proposed project organized at the district level, established a division of roles among relevant agencies, and aligned the proposed projects at the district level with the project plans of each local office (project implementing entity) to ensure that each project implementing entity could carry out projects based on the UzDRRAPs. Additionally, these were explicitly stated in the guidelines for the formulation and implementation of UzDRRAP, incorporated into training materials for plan formulation, and suggested to publish on the DDM website, among other measures, to promote their adoption in Bangladesh.

(5) Output 4

1) Consultation and coordination with relevant agencies for the implementation of the formulated UzDRRAP

In Bangladesh, there are few examples of planning and implementation based on cross-organizational consultation and coordination related to disaster risk reduction at the local level, and this was the first attempt in the pilot upazila of this project. Therefore, in order to ensure that the UzDRRAP

formulated in the pilot activity would be implemented, support was provided for information sharing meetings between relevant agencies at the central and local levels, led by the DDM. Additionally, multiple individual consultations with TSC members and relevant agencies were held to discuss the feasibility and challenges of project implementation and continued to advocate for the implementation of priority projects. As a result, there has been movement toward securing new development budgets within each agency. In addition, priority projects are being implemented using ongoing project budget and local office maintenance fees, demonstrating success.

2) Establishment of the project monitoring system

Continuous monitoring of the implementation status of priority projects based on UzDRRAP is important for promoting project implementation and ensuring sustainability. As mentioned above, there had been few formulation and implementation of cross-organizational plans related to disaster risk reduction at the local level in Bangladesh, and it was necessary to establish a new monitoring system. Therefore, the project supported DDM in establishing a system for monitoring the implementation status of priority projects based on UzDRRAPs. Additionally, toward the end of the project, the functions of TSC, which was temporarily established as a central coordinating body for relevant agencies, were transferred to the FPOCG, a coordinating body chaired by the DDM Director-General and comprising representatives from each implementing agency and is held once every three months). This transfer aimed to foster DDM's ownership in coordinating project implementation with relevant agencies.

III.3 Evaluation of risk management results for each project

With regard to the challenges in project management such as activity restrictions due to the spread of COVID-19, natural disasters, and changes in C/P members, both the Bangladeshi and Japanese sides held discussions as necessary and made efforts to prevent the project situation from deteriorating.

III.4 Lessons Learned

(1) Output 1: Data preparation and utilization for hazard analysis and risk assessment, taking into account the skill levels of DDM officials and UzDMC members

As mentioned above, Bangladesh lacked the data and information necessary for hazard analysis and risk assessment at the upazila level, and there was also a shortage of organizations and personnel capable of conducting hazard analysis and risk assessment. Furthermore, through project activities, it became clear that entrusting the entire hazard analysis and risk assessment process to the upazila DMCs was challenging, and that securing personnel capable of operating GIS was necessary when developing new UzDRRAP. Therefore, this project assumed that personnel capable of operating GIS would be involved in the planning process. The project aimed to organize guidelines for obtaining parameters used in hazard mapping (e.g., 20-year probability flood levels at major coastal points in Bangladesh) and data required for hazard analysis and risk assessment (e.g., free numerical elevation data, satellite imagery, and demographic data), and to make a series of analysis and processing procedures using GIS available

as reference materials (video tutorials). These activities were carried out with a focus on data preparation and technical training tailored to the capabilities of DMC and DDM officials.

(2) Output 2: Methods for gathering information to implement each countermeasure project

Since each ministry and department's local office implements projects under the direction from the headquarters at the central level, there has been insufficient information sharing and coordination among them at the local level, such as DDMC and UzDMC, regarding the projects being implemented or planned by each ministry and agency. Also, it was revealed that the local offices did not make lists or maps of their planned projects and disclosed them to the public, while it is common that only a limited number of officials, such as the executive engineers who are the heads of the local offices, are aware of future plans and projects that should be undertaken as soon as possible. Therefore, it was essential to collect information by dialogue with these officials, spending a lot of time and care in conducting it when consolidating higher level plans and DRR-related plans in the formulation of UzDRRAPs. It can also be said that the direction of the information sharing from headquarters at the central level is effective and indispensable in order to involve the officers from local offices in such information consolidation. Based on this understanding, the project conducted multiple consultation meetings with relevant agencies and sought their cooperation through measures such as issuing official letters from central offices.

(3) Output 3: Effective collaboration method with each relevant government agency

In order to reflect the list of countermeasure projects organized in the UzDRRAPs of each pilot area in the project plans of implementing agency, it was necessary to clarify the position of the project by comparing those shown in the list of countermeasure projects with the ones planned by the implementing agency. In the pilot activities, this matching work required a lot of human resources and time for visiting each office of the project implementing agencies that are members of the UzDMC. Through interviews with the relevant ministries and agencies that made up the TSC, it became clear that since the project plans of each ministry and agency were not maintained by the central government, it was necessary to organize a list of planned projects of each local offices of the project implementing agencies that are members of UzDMC through the inquiry procedure implemented in the project's pilot activities, rather than collecting information through the TSC. Thus, at each phase of the Project, from the formulation of the plan to its implementation, it was recognized that liaison and coordination were necessary, paying attention to the information possessed by the ministries concerned and the relationship between the central and local governments.

In pilot upazilas in Cox's Bazar District, information on the flood analysis results and countermeasures for the Matamuhuri River, which had been developed under the "Project for Planning Capacity Enhancement and Establishment of a Technology Adaptation Cycle on Comprehensive Nodi (River) Management (JICA)" was shared between Projects. As a result, alignment between the countermeasure policies and the Action Plans in the UzDRRAP was achieved. Going forward, it is expected that these river basin management plans will be developed by BWDB in other regions of the country and shared

with the UzDMC, thereby enabling discussions among relevant agencies on necessary countermeasures based on these plans.

(4) Output 4: Conditions for project implementation and budget allocation by project implementing agencies

Support was provided to encourage project implementing agencies, including DDM, to implement the developed UzDRRAPs, and changes in the status of some projects became evident. However, as revealed through coordination with relevant agencies, while UzDRRAPs, which compiles the opinions of local residents and determines necessary actions for local disaster risk reduction, is effective, each implementing agency faces the following issues: 1) There are many projects awaiting implementation nationwide beyond the pilot areas, making it impossible to prioritize implementation in pilot areas alone. 2) The spatial scale at the upazila level is relatively small and difficult to handle compared to the scale required to secure development budgets. As a result, it was confirmed that there is a need to expand the formulation of UzDRRAPs to additional areas, with a focus on practical implementation, such as by bundling projects at the district level. It was also confirmed that these plans could be utilized in selecting implementation sites for large-scale projects that have already had their approved DPPs. For example, regarding priority river improvement projects identified in the Chakaria UzDRRAP, it was confirmed that BWDB intends to address these within the implementation of the Matamuhuri River Basin Management Plan, which was developed under the "Project for Planning Capacity Enhancement and Establishment of a Technology Adaptation Cycle on Comprehensive Nodi (River) Management (JICA)".

IV. Recommendations for Achieving the Overall Goal

IV.1 Prospects for Achieving the Overall Goal

The overall goal of this project is "Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs" and the objectively verifiable indicators are set as "Structural and non-structural measures (6 projects) are implemented in line with UzDRRPs."

As indicated in the "Impact" section of the six evaluation criteria in the previous chapter, this project has confirmed signs of progress toward achieving the Overall Goal, such as observable efforts by disaster risk reduction project implementation agencies in pilot upazilas to carry out projects outlined in the UzDRRAP. To achieve the Overall Goal, the following initiatives are necessary moving forward.

(1) Maintaining TSC Functions

In order to promote the investment in disaster risk reduction based on the UzDRRAP, it is necessary to ensure that the projects outlined in it are implemented. Therefore, it is essential to conduct cross-agency project monitoring under the leadership of DDM and to maintain coordination opportunities at the central level to promote the implementation of the established UzDRRAP. In this project, a temporary organization called TSC was established with the aim of strengthening cooperation and building a collaborative system among central-level implementing agencies to improve the effectiveness and efficiency of DRR-related projects based on UzDRRAP. TSC was established and started to operate with the support of the project team. Through regular activities in parallel with the pilot activities, DDM and the implementing departments gained a better understanding of the functions of TSC and the need for central-level supervision and direction in the implementation of the UzDRRAPs. Notable functions of TSC include: 1) ensuring consistency of plans by sharing the project plans and concepts of each implementing department within UzDMC; and 2) promoting implementation and budgeting of projects outlined in the UzDRRAPs of the pilot upazilas through information sharing and monitoring. On the other hand, since TSC was a temporary organization during the project period, its functions have to be transferred to a permanent organization in Bangladesh (i.e., FPOCG, which is described below) to ensure continuity of its function for the future.

(2) Continuous monitoring of established UzDRRAP

DDM must continuously monitor the implementation status of the projects listed in the UzDRRAPs (six plans in total), established through the pilot activities of this project to ensure that structural and non-structural countermeasures are implemented reliably. In this project, as a monitoring method for the formulated UzDRRAPs, support was provided to DDM for developing monitoring guidelines and monitoring sheets that are expected to be utilized by the DDM's responsible unit. This guideline explained a process whereby each implementing department submits monthly progress reports on project implementation, and monthly project progress reviews are conducted at the Upazila Development Coordination Committee (UzDCC) meetings as well as at the District Development Coordination Committee (DDCC) meetings. In particular, at each monthly DDCC meeting, discussions

on implementation should be held in the presence of project implementing departments, including identifying factors that impede progress in projects that are experiencing delays. It is essential that the UzDRRAP formulated based on this monitoring plan will promote project implementation through the conduct of regular and continuous monitoring.

(3) Expansion of UzDRRAP formulation and implementation in other regions

In order to promote the investment in disaster risk reduction through the reliable implementation of structural and non-structural countermeasure projects in Bangladesh, it is necessary to formulate and promote the implementation of UzDRRAPs based on objective hazard analysis and risk assessment not only in the pilot upazilas but also in other regions. As mentioned above, during the project period, as an initiative to expand the formulation of UzDRRAP to other regions, proposal documents (PDPP) for the formulation of plans in 100 upazilas were created by DDM and submitted to the Ministry of Planning through MoDMR. Therefore, it is necessary to continue taking action toward their realization.

IV.2 Recommendations to the Government of Bangladesh

The recommendations to the Bangladesh government in response to the aforementioned three necessary initiatives are presented below.

(1) Strengthening the functions of the FPOCG as a cross-ministerial coordination agency

After the project ends, it was confirmed with DDM that the FPOCG, which meets once every three months, will maintain the coordination function among implementing departments in formulating and implementing the UzDRRAPs, hence it will be the organization responsible to continue the above-mentioned TSC functions. The FPOCG is chaired by the Director General of DDM, and composed of LGED, which is also the implementing department for the projects organized in the UzDRRAPs, the Department of Public Health Engineering (DPHE), the Bangladesh Red Crescent Society (BDRCS), etc. It is mainly responsible for appropriately coordinating the activities of UzDMCs at the national and local levels and providing advice on necessary initiatives. At the FPOCG meeting held in April 2025, it was approved to include BWDB, the main project implementing department of the UzDRRAPs, as an additional member, with a view to maintaining the functions of TSC. It was also reported that UzDRRAPs have been formulated for six upazilas under this project, and cooperation from each member has been sought in implementing the project. From the DDM side, under the leadership of DDM, a policy and plan have been presented to periodically review the implementation status of each UzDRRAP at the regular meeting of the FPOCG held once every three months. Based on the policy and plan, it is expected that sharing and confirming the monitoring results of the implementation status of the UzDRRAPs will be positioned as one of the regular agenda items in the FPOCG, and that the coordination function of each related organization for the implementation of UzDRRAPs will continue.

(2) Appropriate operation of UzDRRAP implementation monitoring

As mentioned above, to achieve the Overall Goal, it is necessary to continuously monitor and promote the implementation of UzDRRAP at both the central and local levels. It has been decided through

discussions with DDM and results of trial implementation monitoring with the project implementing departments that FPOCG will review the project's progress quarterly at the central level, and monthly at the local level using the established project progress monitoring mechanism. In addition, a formal project implementation monitoring team (UzDRRAP Monitoring Unit) was established within DDM by the direction of the Director General. This team will review the progress of projects and provide advice based on the results of monitoring by DDCCM as reported by each DRRO. It will also serve as secretariat to organize information for discussions at the FPOCG. After the project ends, it is expected that by utilizing the established mechanism for monitoring the progress of priority projects, it will be possible to continue monitor the progress of projects at each implementing department under the leadership of DDM's Monitoring Unit, making maximum use of the opportunities provided by the regular coordination meetings held by FPOCG at the central level and the DCCM meetings at the district and upazila levels.

(3) Utilization and improvement of guidelines and manuals

In this project, as part of the establishment of a system for the formulation and implementation of UzDRRAPs, the hazard analysis and risk assessment guideline and its video tutorials, the guideline for the UzDRRAP formulation, and training materials and the manual were developed. These were created with consideration for the current abilities and knowledge of DDM officials, and training of instructors and data preparation were also carried out through project activities. Furthermore, at the final JCC Meeting held in June 2025, DDM announced a plan to expand the formulation of UzDRRAPs nationwide by implementing five specific initiatives utilizing the training systems established under the project. Specifically, they are as follows:

1) Continuation of "Basic Training on DRR" (Research and Training Wing)
   10 upazilas per year, implemented with DDM's annual training budget
2) Continuation of "UzDRRAP Formulation Training" (Research and Training Wing)
   Twice a year, implemented with DDM's annual training budget
3) Expansion of "UzDRRAP Formulation Training" (Research and Training Wing)
   Assumed to be implemented five times for 5 years with ADP budget after DPP approval
4) Expansion of UzDRRAP formulation in the three pilot districts (Planning and Development Wing)
   Assumed to be implemented with ADP budget after DPP approval covering 22 upazilas for a year
5) Expansion of the UzDRRAP formulation in other areas (Planning and Development Wing)
   Assumed to be implemented with ADP budget after DPP approval for 78 upazilas for four years

Even after the project is completed, in order for the formulation and implementation of UzDRRAPs to be promoted nationwide under the initiative of DDM, it is expected that DDM will continue to provide trainings to local DDM officials who are strongly involved in the implementation and monitoring of the plans, upazila DMC members who are the plan formulators, and local consultants who support the plan formulation, in accordance with the above-mentioned plan, using the guidelines and manuals developed by DDM.

APPENDIX

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APPENDIX 1: Project Design Matrix (PDM) A1-1

APPENDIX 2: Baseline Survey Report and Endline Survey Report A2-1

APPENDIX 1

Project Design Matrix

Project Design Matrix

Project Title: The Project for Enhancing Capacity on Planning and Implementation of Local Disaster Risk Reduction _
Implementing Agency: Department of Disaster Management (DDM)
Target Group: Officials of DDM and relevant agencies
Period of Project: 4 years (48 months)
Project Site: Dhaka Model Site: Cox's Bazar, Sunamganj and Kurigram

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Over Goal Nation-Wide Development Plan of Upazila Disaster Risk Reduction Plans (UzDRRPs) is implemented and investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs	- Number of UzDRRPs (Target: XX) - Structural and non-structural measures are implemented in line with UzDRRPs	- UzDRRP developed - Interviews - Annual reports	
Project Purpose The mechanism is established for DDM to develop, implement and expand UzDRRPs in collaboration with MoDMR, related agencies and local governments	- Number of reports of hazard and risk assessments which employ methods developed by the Project (Target: 5) - Number of structural and non-structural measures in UzDRRP that are listed in a project list of Planning Commission (Target: XX) - Budgets for structural and non-structural measures in UzDRRP are approved by local governments	- Hazard and risk assessments reports - Budget reports - Project list - Annual reports	New organogram of DDM is approved and implemented
Outputs 1. The system and methods of hazards and risk assessment for UzDRRP are developed	The guideline on hazard and risk assessments is developed and approved by MoDMR	- Guideline on hazard and risk assessments approved by MoDMR	Huge disasters which negatively affect project implementation do not happen during the project period
2. The institutional arrangement is developed in DDM to support the formulation of UzDRRP	- The UzDRRP guideline is developed and approved by MoDMR - The training manual and materials are developed - The training reports are prepared	- UzDRRP guideline approved by MoDMR - Training manual and materials - Training reports	
3. Practical UzDRRP is developed at pilot areas in collaboration with relevant ministries and local governments	- Number of UzDRRP developed and approved by UzDMC (Target: 5)	- UzDRRP approved by UzDMC	
4. The mechanism is developed to expand the formulation of UzDRRPs nationwide	- The nationwide UzDRRP development plan is formulated and approved by MoDMR and referred to in Annual Report of MoDMR - Operation manual and brochure are uploaded on the website of DDM - DPP for the Nationwide Development Plan is submitted to Planning Commission	- The nationwide UzDRRP development plan approved by MoDMR - Annual report of MoDMR - Operation manual and brosure on the website of DDM - DPP submitted	

Activities	Inputs: Japanese Side	Inputs: Bangladesh Side	Important Assumptions
1-1. Study the availability of hazard information and risk analysis in Bangladesh and identify issues to apply them to UzDRRPs. 1-2. Based on the results of Activity 1-1, in collaboration with MoDMR, methods for hazard and risk assessments are established, which are applicable to UzDRRP 1-3. With the supports of MoDMR, DDM prepares a guideline on hazard and risk assessments applicable to UzDRRP, and conducts training with the guideline. 1-4. Trained personnel at Activity 1-3 conduct hazard and risk assessments in consideration of local characteristics of pilot areas. 2-1. In collaboration with MoDMR and relevant ministries, DDM establishes a Technical Sub-Committee (TSC) at central level for practical UzDRRPs, and develops a guideline on basic principles, development methods, selection of measures and implementation procedures of UzDRRPs and its summary version. 2-2. Based on the guideline developed at Activity 2-1, TSC prepares a draft training manual and materials for DDMC and UzDMC to formulate UzDRRP. 2-3. Based on the training manual developed at Activity 2-2, TSC conducts training for DDMC and UzDMC at pilot areas. 2-4. Based on the results of Activity 2-3, with the supports of TSC, DDMC and UzDMC formulate UzDRRP Sub-Committee (UzSC) at pilot areas and identify the contents of, and activities required for UzDRRP. 2-5. Based on the results of Activity 2-3 and 2-4, TSC reviews and revises a draft guideline (including a summary version), training manual and training materials. 3-1. UzSC collects historical records of disasters at pilot areas in collaboration with Union DMC. 3-2. Based on the results of hazards and risk assessments obtained through Activity 1-4 and 3-1, UzSC identifies disaster risks of pilot areas. 3-3. UzSC studies the plans and implementation status of structural and non-structural measures at pilot areas irrespective of sectors, by referring to higher disaster management plans, development plans and outputs of relevant ministries and donors including JICA. 3-4. Based on the results of Activity 3-2 and 3-3, with the supports of MoDMR, relevant ministries, DDMC and UzDMC, UzSC plans draft structural measures (including budgets) to reduce disaster risk at pilot areas. 3-5. With the supports of MoDMR, relevant ministries, DDMC and UzDMC, UzSC plans draft non-structural measures (including budgets) by taking into account of reduced risks through the implementation of the structural measures planned at Activity 3-4. 3-6. With the supports of DDMC and UzDMC, UzSC holds a workshop for DRR-related agencies (e.g. donors, NGOs, private sectors) at pilot areas and discusses the principles of implementation of countermeasures. 3-7. With the supports of DDMC and UzDMC, based on the results of Activity 3-2 to 3-6, UzSC identifies ministries and agencies necessary to implement UzDRRP, and finalizes the UzDRRP. 3-8. With the supports of DDMC and UzDMC, UzSC reports to the results of Activity 3-7 to MoDMR through DDM, relevant ministries and local governments responsible for structural/non-structural measures and MoDMR requests them to take necessary actions for securing budgets. 3-9. By utilizing existing monitoring system, DDMC and UzDMC review the implementation status of UzDRRP and revise the plan if necessary. 4-1. MoDMR and DDM draft an operation manual which elaborates necessary activities for the development and renewal of UzDRRPs based on the outcomes of and lessons learned from Outputs 1, 2 and 3, and finalize them through trials at pilot areas. 4-2. MoDMR and DDM conduct a baseline survey to identify capacity and local characteristics of DDMC and UzDMC of all upazilas in country and prepare a priority list in each division for the development of UzDRRP. 4-3. MoDMR and DDM develop a Nationwide Development Plan of UzDRRPs (including a budget plan) in line with the operation manual developed at Activity 4-1 and a priority list developed at Activity 4-2, and DPP to implement the Plan.	(1) Assignments of Experts 1) Leader/ DRR Planning 2) Disaster Risk Assessments 3) Hazard Information 4) Local DRR Governance 5) DRR Investment 6) DRR Training Program 7) Local DRR Planning 8) Structural Measures 9) Non-structural Measures 10) DRR Program Management (2) Short-term Training in Japan 1) Promotion of Mainstreaming of and Investment in DRR 2) Development of Local DRR Plans 3) Implementation of Local DRR Plans	(1) Assignments of Counterparts (2) Office space with facilities necessary for the Project (3) Running expenses for project activities (salary, travel/daily allowance, etc.)	Security situation does not deteriorate **Pre-condition** 1. At least 1 counterpart personnel from PIO is assigned for each Working Group. 2. TAPP is approved by commencement of the Project.

Project Design Matrix

Project Title: THE PROJECT FOR CAPACITY ENHANCEMENT ON FORMULATION AND IMPLEMENTATION OF LOCAL DISASTER RISK REDUCTION PLAN

Implementing Agency: Department of Disaster Management (DDM)
Target Group: Officials of DDM and relevant agencies
Period of Project: 4 years and 6 months (54 months)
Project Site: Dhaka **Model Site: Cox's Bazar, Sunamganj, Kurigram**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal			
Investments in Disaster Risk Reduction are promoted in line with developed UzDRRPs	- Structural and non-structural measures are implemented in line with UzDRRPs	- Interviews - Annual reports	
Project Purpose			
The mechanism is established for DDM to develop and implement UzDRRPs in collaboration with MoDMR, related agencies and local governments.	- Number of reports of hazard and risk assessments which employ methods developed by the Project (Target:6) - Number of the proposals submitted from implementing departments to respective ministries for implementation of structural and non-structural measures in UzDRRPs（Target: 4）	- Hazard and risk assessments reports - Project proposals	New organogram of DDM is approved and implemented
Outputs			
1. The system and methods of hazards and risk assessment for UzDRRP are developed.	- The guideline on hazard and risk assessments is developed and approved by MoDMR	- Guideline on hazard and risk assessments approved by MoDMR	Huge disasters which negatively affect project implementation do not happen during the project period
2. The institutional arrangement is developed in DDM to support the formulation of UzDRRP.	- The UzDRRP guideline is developed and approved by MoDMR - The training manual and materials are developed	- UzDRRP guideline approved by MoDMR - Training manual and materials - Training reports	
3. Practical UzDRRP is developed at pilot sites in collaboration with relevant ministries and local governments.	- Number of UzDRRP developed and approved by UzDMC (Target:6)	- UzDRRP approved by UzDMC	
4. The mechanism is developed to implement the UzDRRPs.	- Operation manual is developed - Number of information sharing meetings for implementation of UzDRRPs (Target: 4) - Number of lessons learnt through the coordination meetings among pilot Upazilas (Target: 6) - Number of participants of seminars and workshops for formulation of the UzDRRPs (Target: 800 participants in total)	- Operation manual - Meeting records - Participants lists of seminars and workshops	

Activities	Inputs: The Japanese Side	Inputs: The Bangladesh Side	Important Assumption
1-1. Study on the availability of hazard information and risk analysis in Bangladesh and identify issues to apply them to UzDRRPs. 1-2. Based on the results of Activity 1-1, in collaboration with MoDMR, methods for hazard and risk assessments are established, which are applicable to UzDRRP. 1-3. With the support of MoDMR, DDM prepares a guideline on hazard and risk assessment applicable to UzDRRP and conducts training with the guideline. 1-4. Trained personnel in Activity 1-3 conduct hazard and risk assessment in consideration of the local characteristics of the pilot sites.	(1) Assignments of Experts 1) Leader/ DRR Planning 2) Deputy Team Leader 3) Disaster Risk and Vulnerability Assessment 4) Local DRR Governance 5) DRR Training Program 6) Local DRR Planning 7) DRR Investment 8) Flood hazard information and Countermeasure 9) Landslide hazard Information and Countermeasure 10) Coastal area hazard Information and Countermeasure 11) Earthquake hazard Information and Countermeasure 12) Risk Information Management 13) DRR Program Management 14) Project Coordination/Project Program Management Assistance (2) Short-term Training in Japan 1) Promotion of Mainstreaming of and Investment in DRR 2) Development and Implementation of Local DRR Plans	(1) Assignments of Counterparts (2) Office space with facilities necessary for the Project (3) Running expenses for project activities (salary, travel/daily allowance, etc.)	Security situation does not deteriorate
2-1. In collaboration with MoDMR and relevant ministries, DDM establishes a Technical Sub-Committee (TSC) at the central level for practical UzDRRPs, and develops a guideline on basic principles, development methods, selection of measures and implementation procedures of UzDRRPs and its summary version. 2-2. Based on the guideline developed in Activity 2-1 with the supports of the TSC, DDM prepares a draft training manual and materials for DDMC and UzDMC in formulating UzDRRP. 2-3. Based on the training manual developed in Activity 2-2 with the supports of the TSC, DDM conducts training for DDMC and UzDMC in the pilot sites. 2-4. Based on the results of Activity 2-3, with the supports of TSC, DDMC and UzDMC fomulate UzDRRP Sub-Committee (UzSC) in the pilot sites and identify the contents of, and activities required for UzDRRP. 2-5. Based on the results of Activity 2-3 and 2-4 with the supports of the TSC, DDM reviews and revises the draft guideline (including the summary version), training manual and training materials.			
3-1. UzSC collects historical records of disasters at pilot sites in collaboration with Union DMC. 3-2. Based on the results of hazards and risk assessment obtained through Activity 1-4 and 3-1, UzSC identifies the disaster risks of pilot sites. 3-3. UzSC studies the plans and implementation status of structural and non-structural measures at pilot sites irrespective of sectors by referring to higher disaster management plans, development plans and outputs of relevant ministries and donors including JICA. 3-4. Based on the results of Activities 3-2 and 3-3, with the supports of MoDMR, relevant ministries, DDMC and UzDMC, UzSC plans the draft structural measures (including budget) to reduce disaster risk at pilot sites. 3-5. With the support of MoDMR, relevant ministries, DDMC and UzDMC, UzSC plans the draft non-structural measures (including budget) by taking into account the reduced risks through the implementation of the structural measures planned in Activity 3-4. 3-6. With the supports of DDMC and UzDMC, UzSC holds a workshop for DRR-related agencies (e.g. donors, NGOs, private sectors) in the pilot sites and discusses the principles of implementation of countermeasures. 3-7. With the supports of DDMC and UzDMC, based on the results of Activity 3-2 to 3-6, UzSC identifies the ministries and agencies necessary to implement UzDRRP, and finalizes UzDRRP. 3-8. With the supports of DDMC and UzDMC, UzSC reports to the results of Activity 3-7 to MoDMR through DDM, relevant ministries and local governments responsible for structural/non-structural measures and MoDMR request them to take necessary actions for securing budgets. 3-9. By utilizing the existing monitoring system, DDMC and UzDMC review the implementation status of UzDRRP and revise the plan as necessary.			**Pre-Conditions** 1. At least 1 counterpart personnel from PIO is assigned for each Working Group. 2. TAPP is approved by commencement of the Project.
4-1.MoDMR and DDM draft an operation manual which elaborates the necessary activities for the development and renewal of UzDRRPs based on the outcomes and lessons learned from Outputs 1, 2 and 3, and finalize them through trials in the pilot sites. 4-2. MoDMR and DDM conduct a baseline survey to identify the capacity and local characteristics of DDMC and UzDMC of all upazilas in the country, and prepare a priority list in each division for the development of UzDRRP. 4-3. MoDMR and DDM conduct information-sharing meeting to coordinate with government agencies to allocate the necessary budget for implementing the approved UzDRRPs. 4-4. MoDMR and DDM facilitate district DMC coordination meetings to be held among pilot Upazilas and relevant agencies in implementing each UzDRRP. 4-5. MoDMR and DDM hold a lessons-sharing seminar by inviting as many Upazilas and district DMC as possible from pilot districts/Upazilas at the end of this project.			

APPENDIX 2

Baseline Survey Report and Endline Survey Report

Baseline Survey Report- 1. Individual Assessment

July 2022

1 Objective

The objective of this survey is to assess the existing capacities on DRRM of DDM officials, as part of the baseline activity. The results of the survey will be utilized to understand the current status of DDM officials and to plan for the pilot activities as well as to evaluate the effects of the project.

2 Method and respondents

2.1 Survey Method

This survey utilized the questionnaire method to investigate the capacities of DDM officials. The basic information of the respondents and their backgrounds, their understanding on the Sendai framework for DRR, roles and responsibilities of DDM, disaster-wise risks, purpose of each plan related to DRR, and structural and non-structural measures for DRR were asked. The questionnaire format was created in English, then translated to Bengali before being distributed. For those who had difficulty in filling in the questionnaires, the national staff of the project interviewed the respondents directly.

After analysing the questionnaire results, the JET conducted follow-up interviews to deeply understand the factors of some remarkable survey results, namely a relatively low understanding of the international frameworks, the role of other DRR-related agencies, and disaster risk assessment. The interviewees were mainly selected from the questionnaire respondents who have worked for many years in DDM and, therefore, are expected to deeply know the situation of the DDM and the factors of the facing issues.

2.2 Respondents

The respondents of the questionnaire were DDM officials of the central level as well as of the pilot districts and upazilas, namely Cox's Bazar (Cox's Bazar Sada, Chakaria), Sunamganj (Chhatak, Jagannathpur), and Kurigram (Chilmari, Ulipur). The questionnaires were distributed to 25 personnel and 19 responses were collected as of June 2022. The list of the respondents and their backgrounds are shown on the next page.

Table 2-1 List of Respondents and their Background

Name	Position Held	Years of Working Experience in DRRM	Academic Background
Mr. Md. Shahabuddin	Deputy Director- M&E-1	5	Master's Degree
Mr. Md. Aminul Hoque*	Deputy Director (Admin.-1)	20	Diploma in Engineering (Civil)
Dr. Md. Habibullah Bahar	Deputy Director (Admin-2)	4-5	Master's Degree
Mr. ABM Akram Hossain	Deputy Director- MIM & Relief-1	20	Diploma in Engineering (Civil)
Mr. Md. Masum Kabir Nazrul Islam	Deputy Director- Relief-2	20	Diploma in Engineering (Civil)
Mr. Md. Nuruzzaman	Deputy Director-KABIKHA-2	20	Diploma in Engineering (Civil)
Ms. Mushfiqua Hasnin Chowdhury	Deputy Director-Mitigation & Deputy Director-Planning (In charge)	1 Year	Master's Degree
Mr. Abdur Rahman	Deputy Director (VGD)	10	Master's Degree
Mr. Nikhil Kumar Sarker*	Assistant Director (Training)	20	Master's Degree (Management)
Md. Hafizur Rahman	Assistant Director (Vehicle & GIS)	15	BSc in Engineering (Civil)
Ms. Susmita Mannan	Assistant Director	Less than 1	Master's Degree (DSM)
Mr. Probir Kr. Das*	Programmer	20	Master's Degree (Applied Physics & Electronics)
Mr. Dewan Nurul Huda*	Assistant Engineer-FFW	17	BSc in Engineering (Civil)
Mr. Jahangir Alam	DRRO, Cox's Bazar	19	BSc in Engineering (Civil)
Mr. Forhad Hossain	PIO, Cox's Bazar Sadar	11	BSc in Engineering (Civil)
Mr. Md. Aminul Islam	PIO, Chakaria, Cox's Bazar	5-10	Diploma in Engineering (Civil)
Ms. Rekha Rani Halder	DRRO (Attached with Planning wing of DDM)	20	Diploma in Engineering (Civil)
Mr. KM Mahbub Rahman	PIO, Chhatak, Sunamganj	2.5	Diploma in Engineering (Civil)
Mr. Md. Abdul Haye Sarkar	DRRO, Kurigram	10-20	Diploma in Engineering (Civil) & Bachelor of Social Science (BSS)

Notes:
DRRO: District Relief and Rehabilitation Officer
PIO: Project Implementation Officer
M&E: Monitoring and Evaluation
MIM: Monitoring and Information Management
VGD: Vulnerable Group Development
*: Interviewees of the follow-up interviews[1]

[1] In addition to the interviewees, the JET had an interview with Mr. Netai Chandra Dey Sarker who is the Designation Director (MIM) since he also had many working experiences in DDM.

3 Main findings of the Survey and their implications

The main findings of this survey and their indications are shown below.

(1) Limited understanding of the international framework related to the DRR (e.g., SFDRR)

The result of the self-assessment survey indicated that not many are aware of the global trends and their contents such as the Sendai Framework for DRR (SFDRR). According to the follow-up interviews with several DDM officials, the factor is that training and educational programs for DDM officials do not include the contents that make officials deeply understand the international framework, while some officials seem to have heard about the name of the SFDRR in training. In addition, since the DDM officials, especially field officials who are mainly working for disaster response, do not have opportunities for attending training and activities that are connected with the SFDRR, their knowledge of the international framework is limited. Also, even though the 7th Five Year Plan (FY 2016-2020) explains that the government's disaster resilience strategy is in line with the SFDRR, the dissemination of the information might be limited even among the agencies. As the leading agency for DRR to promote DRR investment in Bangladesh, both national and local officers of the DDM are required to clearly understand the international framework of the DRR, which is integrated into the goals and activities for the disaster management of the country. Awareness of the international framework can encourage the officials to better understand the justification for DRR investment and the importance of DRR, which leads to the promotion of investment in the field. In order to increase the understanding of the international framework, for instance, explanation of these frameworks should be included into annual training programs and lectures as the background of the country's disaster strategy.

(2) Understanding well the roles and responsibilities of DDM officials, but not so much of the roles of other DRR-related agencies

The respondents generally have a good understanding of their roles and responsibilities as well as the planning framework of DRR as DDM officials. Many respondents have received training related to DRR and their responsibilities. Conversely, the respondents have less understanding of the roles and responsibilities of other agencies that DDM should work with. This tendency is more pronounced among local officials. According to the follow-up interview results, one of the reasons is that the DDM (DMC at both the District level and Upazila level) does not hold meetings with other DRR-related agencies at normal times unless they are required to communicate and coordinate under specific projects. Therefore, they do not have opportunities for coordination with other agencies, and consequently do not know their regular roles and responsibilities well. Even though the DDM collaboratively implements specific projects with other agencies such as BWDB, FSCD and LGED mainly at the central level, the collaboration

finishes at the same time as the project ends. It was also revealed that, even though the DDM at both the central and field levels convenes with other related agencies for holding meetings, other agencies do not actively attend meetings due to the low priority of the DRR and the busyness of other tasks. The respective agencies independently implement their projects based on their own plans and directions from the central level. Therefore, they are not currently required to inform DDM of their project activities and roles, which is also one of the factors on why the DDM officials do not know well the role and responsibilities of other DRR-related agencies. For effective and efficient local DRR projects, collaboration and cooperation between DDM and other DRR-related agencies are crucial. In order to promote collaboration, a forum and a system for information sharing and discussion between agencies at the central level can be an effective solution. In this project, it is aimed to mature DMCs as a forum for information sharing and to establish a central coordinating body, the Technical Sub-Committee (TSC), composed of related ministries to promote collaboration and cooperation between collaborative systems.

(3) The disaster risk profile is well known, but understanding of risk assessment and tools is low

While the respondents have a better understanding of the DRR context and the risk profiles of national and local areas, they have less understanding of risk assessment in general, their tools, and training. According to the Standing Orders on Disaster (SOD), MoDMR is responsible for the assessment of hazards, vulnerability and risks as well as for the preparation of hazard/risk maps of disaster-prone areas. Also, DDM has a responsibility to the identification of the risks and vulnerability to natural disasters on maps. However, according to the follow-up interview, in practice, risk assessment is currently not regular work in DDM, although there is a Wing that has a responsibility for CRA (Community Risk Assessment) and URA (Urban Risk Assessment). As a result, training and programs for DDM officials on disaster risk assessment are not regularly conducted. Therefore, there is a gap between the duties under the jurisdiction and the practical situation. Although some field staff had experience in community risk assessment under the CDMP, they are expected to forget the procedures due to the lack of practices and the deficit of funds to continue their activities. Also, the follow-up interview revealed that there is no skilful staff who can implement risk assessment at the local level as well as even the central level, therefore, scientific risk assessment for the whole country has also not been implemented in the country. This can conclude that DDM does not have the technical personnel and capacity to enable this in practice, as well as the system to conduct a risk assessment. For the development of adequate local DRR projects, understanding disaster risk and implementing disaster risk assessment is highly required as a basis of the plans. In order to tackle the situation, the Project will develop applicable methods of risk assessment that can form a guideline. Also, the Project tries to establish the mechanism for the dissemination of the local disaster risk reduction plan, which will cover the training and the implementation of risk assesment.

(4) Relatively good understanding of cyclone and floods, but disaster measures not well known

While the respondents are aware of the disasters in the local context and the disasters that many encounter frequently, most of the respondents did not have a good understanding of the disasters that occur less frequently in the country. In addition, not so many of the respondents have much understanding of structural and non-structural measures for disasters. One possible factor is that the disaster risk reduction by DDM had so far focused mainly on preparation for relief operations, with the exception of some structural measures including small-scale village road maintenance. Conversely, according to the preceding survey for the Project, structural measures have been undertaken by other ministries, with the BWDB planning and implementing the construction of embankments and other water-related infrastructures, the LGED planning and maintaining branch roads, bridges, etc., and the PWD responsible for ensuring adequate implementation of national building standards and assisting in seismic strengthening works. Therefore, there is no department within DDM that is primarily responsible for structural measures related to disaster risk reduction, which may explain the relative lack of understanding of preventive measures. For the planning and implementation of adequate DRR projects, enhancing the understanding of the DRR measures is significantly important. In the Project, DDM officials will have numerous opportunities to have lectures from the JET and to discuss with other DRR-related ministries including BWDB and LGED. These opportunities can encourage the DDM to more understand the DDR measures and eventually lead the discussion as the coordinator between relevant ministries.

(5) Less understanding of the local planning process and DRR fund

Even though understanding the local planning process and the budgeting system is significant for DRR investment, not many respondents well understand the local planning process of the development plan, land use plan, among others. One possible reason is that the DDM implements their own projects based on their plans and budgets, and therefore, does not have many chances to understand the local planning process and its contents. Also, many respondents have less understanding of the DRR funds. While the Disaster Management Act 2012 defines "National Disaster Management Fund" and "District Disaster Management Fund", these funds are supposed to be utilized during disasters or after disasters. Enriching the understanding of the importance of the DRR funds and adequately obtaining it is also essential to promote disaster risk reduction activities. Through the Project, DDM officials will be encouraged to understand the local planning process and the necessity of the DRR funds for DRR investments at local levels.

4 Results of the Survey

4.1 Training Attended as a Participant

The table below shows the training sessions which the respondents have taken part in*.

Under the mandate of the SOD, it is clear that the respondents have received training related to DRR and their responsibilities as DDM officials. These training sessions are held by DDM, and for other topics, DDM uses either their own funds or funding from donors and NGOs for lecturers and training.

Table 4-1 Types of Training Received by the Respondents

Name or type of training (free-text entry*)	Number of people who participated
DRR related	15
CRA	5
Foundation training	5
Procurement/management	5
Other disaster related trainings	5
Office management	4
Early warning system	2
Digital Risk Information, Geo Informatics	2
Emergency response	2
DRRP, risk reduction action plan in refugee camps	2
Earthquake	2
ToT	2
Pre-disaster planning	1
Other training sessions which are not directly related to DRR	7

*The number of training sessions was not limited to one, thus the total number of responses is more than the total number of respondents.

*Free text answers by respondents were categorised by the JET.

4.2 Self-Assessment

Self-assessments were made for each respondent for each question. The respondents were required to respond with a scale from 1 to 5, with 5 having better understanding on the topic.

4.2.1 Sendai Framework for DRR, ASEAN initiatives and other international Frameworks for DRRM

Q1: Sendai Framework for DRR, ASEAN initiatives and other international Frameworks for DRRM

While many of the respondents have heard of the Sendai Framework, most do not have a well understanding of the contents.

Q2: DRRM context in the Bangladesh, legal framework

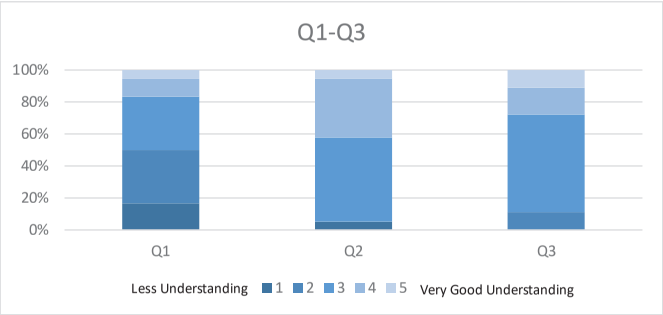
Most respondents had a fairly good understating of the DRRM context in the Bangladesh legal framework such as the National Plan for Disaster Management, Standing Order on Disaster 2019.

Q3: Disaster Risk Profile

The respondents have a general understanding of the disaster risk profile of the country, but there are only a few who have good knowledge. Thus, it can be said that they require educated and detailed

information on disaster risk.

Comparing the responses for Q1 to Q3, it is clear that while the respondents have better understanding of the DRRM context of Bangladesh and the risk profiles of local areas, not many are aware of the global trends and their contents such as the Sendai Framework for DRR (SFDRR).



4.2.2 Roles and Responsibilities of DDM

Q4: Prevention & Mitigation

Most respondents have good understanding of the roles of DDM for prevention and mitigation

Q5: Preparedness

Most respondents have good understanding of the roles of DDM for disaster preparedness.

Q6: Response

Most respondents have good understanding of the roles of DDM for disaster response.

Q7: Recovery and Rehabilitation

Some respondents were not sure of the responsibilities of DDM for recovery and rehabilitation.

Q8: Roles and Responsibilities of each NPDM related agencies

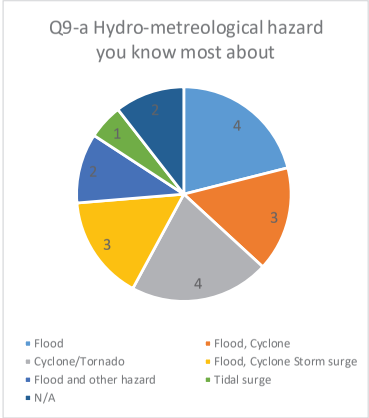
Some respondents are not aware of the responsibilities of other related agencies identified in the National Plan for Disaster Management (NPDM). Generally, DDM official have less understanding of the responsibilities of other agencies.

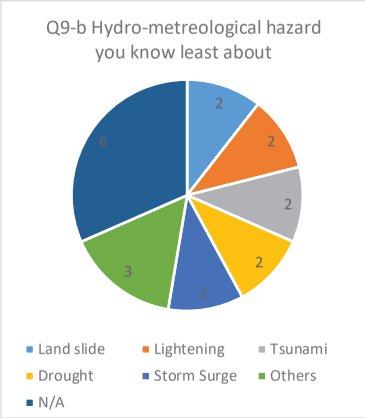
Looking at the responses from Q4 through Q8, the respondents have less understanding for Q8, which is the roles and responsibilities of other agencies which DDM should work with. In the context of DRR investment, understanding what kind of measures are taken by relevant organizations is crucial. Also, in order to promote the implementation of the local DRR plan, the collaboration between DDM and other DRR related agencies is significant. However, the result of Q8 indicates that this is not the case.

4.2.3 Hydro-meteorological Hazards

While cyclones and floods are relatively well-known by the respondents, hazards such as landslides, lightning, tsunami, droughts and storm surges were not well known among the respondents.

The result of Q9 indicates that disasters with high frequency in Bangladesh such as cyclones and floods are well known since it is easier actually experience those disasters which heightens awareness, whereas disasters such as landslides occur only in certain areas in the country.



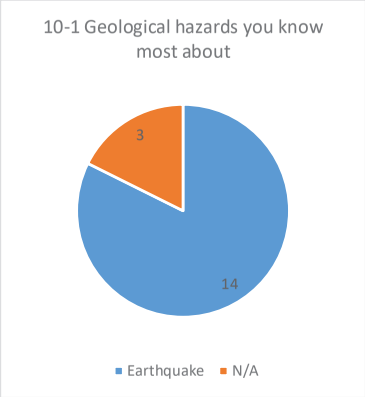


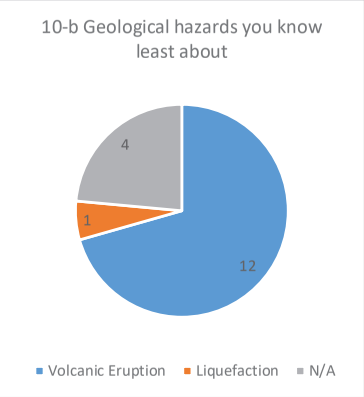
4.2.4 Geological Hazards

Regarding the geological hazards, while many respondents know about earthquakes, volcanic eruption is not well-known among them.

Bangladesh has been also affected by earthquakes, including Nepal earthquake in 2015, therefore the

result for Q10-1 implies that the respondents have relative interest in earthquakes.





4.2.5 Risk assessment

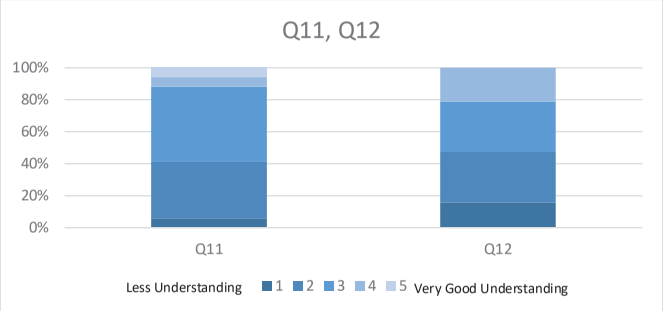
Q11: Hazard and disaster risk assessment programs conducted by DDM

There are some respondents who know of the programs conducted by DDM.

Q12: Tools and training on hazard and disaster risk assessment provided by DDM

The respondents do not know much about the tools and training for hazard and disaster risk assessment.

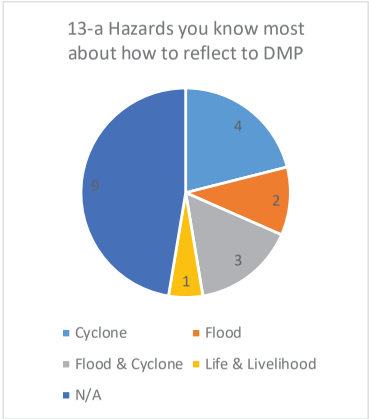
From the results, it shows that the respondents have less understanding on risk assessment in general. Not knowing much of the tools and trainings on hazard and disaster risk assessment means that it is a challenge for the DDM to take initiative to assess risks. For the development of the adequate local DRR projects, understanding the disaster risk assessment is highly required as a basis of the plans.

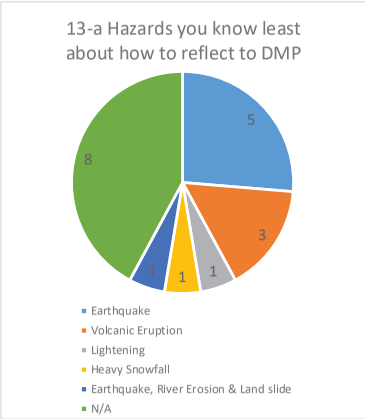


4.2.6 Understanding on how to reflect hazard and disaster risk assessment into planning process

The respondents have a better idea on how to reflect hazard and disaster risk assessment into the planning process for cyclones and floods. On the other hand, they know least about how to reflect assessment for earthquakes into the planning process.

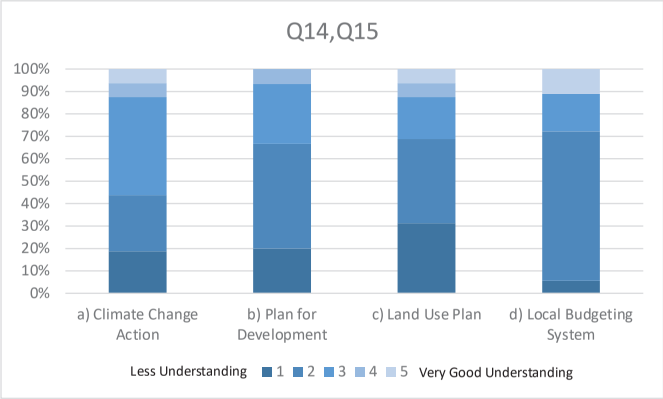
While the respondents understand well about preparedness for the disasters that they face yearly such as cyclones and floods, for those disasters that do not frequently occur in the country, they have less experience resulting in them not knowing how to reflect those disasters in the planning process. Reflecting any disaster into a plan is also another topic which should be considered.





4.2.7 Local development planning process in general

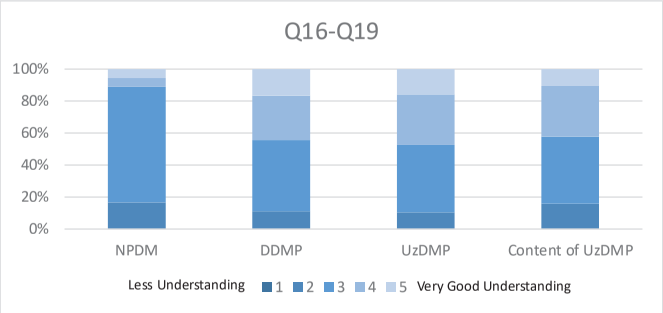
The graph below shows the understanding of respondents for important aspects of general local planning processes, namely a) Plan for Climate Change Action, b) Plan for Development, c) Land Use Plan and d) Local Budgeting System. Respondents have a relatively better image for climate change action, however many of the local development plans are established through support from donor agencies with less involvement of the officials of Bangladesh, making it difficult for the respondents to have good understanding on all four of the aspects required for good planning for development. Understanding the budgeting system is especially important for DRR investment.



4.2.8 Purpose of DRR related plans

Most respondents do not have a good understanding of the purpose of the National Plan for Disaster Management (NPDM). On the other hand, they have better understanding for both the District Disaster Management Plan (DDMP) and Upazila Disaster Management Plan (UzDMP).

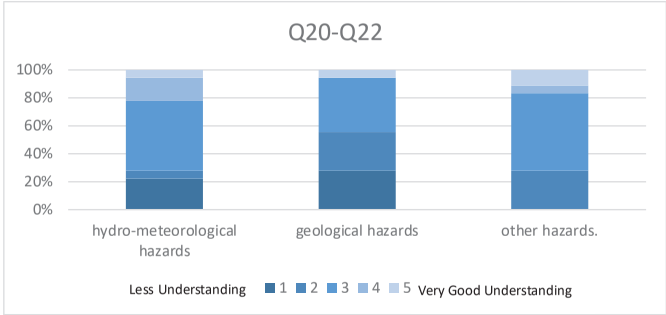
This shows that while the DRR officials have a good understanding of their roles and responsibilities as DDM officials, they do not have a good idea of what each of the DRR plans are for.



4.2.9 DRRM structural measures against hazards

The respondents have a better understanding of structural measures against hydro-meteorological hazards compared to geological hazards. In any case, the level of understanding for most respondents is less than good understanding.

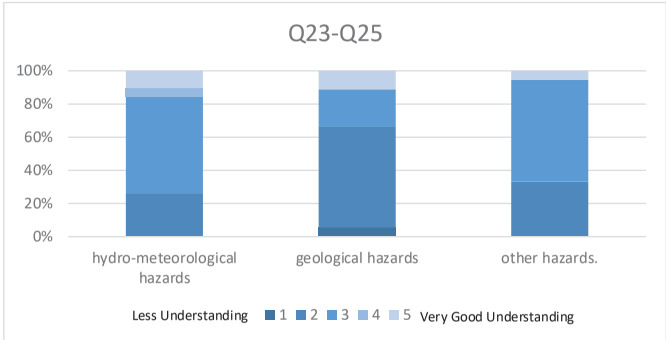
The respondents have a better understanding of measures for hydro-meteorological disasters since this occurs most frequently with big magnitude. However, not knowing the structural measures implies that they might not have a good connection and collaboration with the relevant ministries and agencies that implement DRR structural measures.



4.2.10 DRRM non-structural measures against hazards

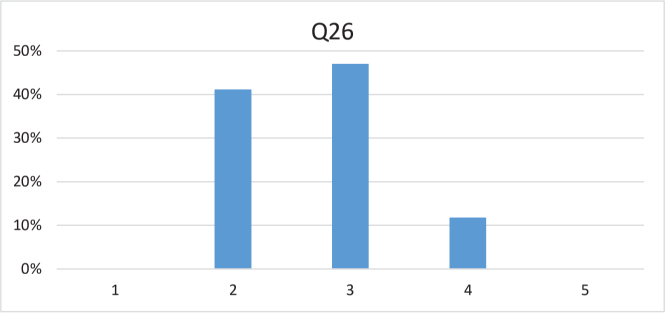
The respondents have better understanding of non-structural measures against hazards in general compared to structural measures. As hydro-meteorological hazards are more common in Bangladesh, the respondents have better understanding for non-structural measures for this hazard.

However, while the respondents understand well about their roles and responsibilities as DDM officials, they understand well about procedures of disaster response where DDM officials take action after disasters occur, but they are not aware of specific non-structural measures that they can take or plan for which are required prior of any disasters. This might be one of the reasons why there are not many DMPs established or updates/revised.



4.2.11 Evaluation process or methods to set priorities implement measures

The respondents have a fair understanding of the evaluation process or how to set priorities for implementing measures.

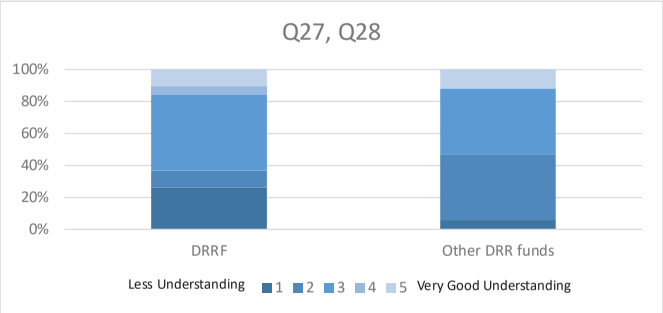


Note: Level of understanding 1 being lower and 5 being higher

4.2.12 Funding

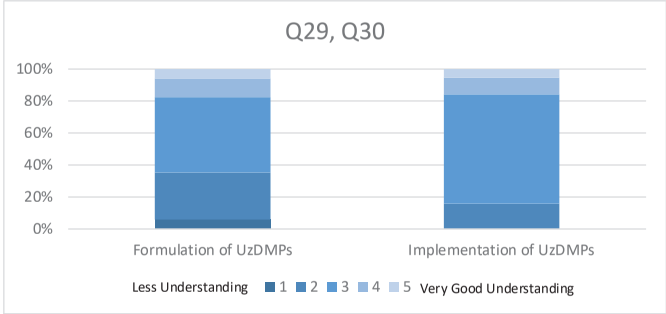
While funding is an important to prepare for disasters, many respondents have less understanding for DRR funds, and even less for other funds related to the implementation of DRR measures. Only a handful of the respondents have a good understanding.

DRR fund management for the National and District level is mentioned in the SOD as well as the responsibilities of the UzDMC for funding, however there are no specific descriptions on how to obtain and manage funds in it. This may be one of the reasons of the low understanding on funding.



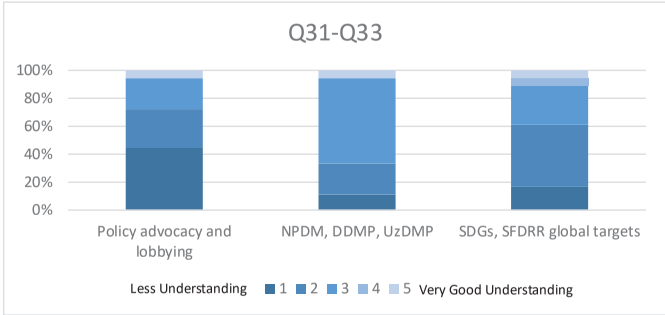
4.2.13 Monitoring and evaluation of planning and implementation

Most of the respondents have less than good understanding of the monitoring and evaluation of both the formulation of UzDMPs and the implementation of UzDMPs. There is only a handful of the respondents who understand the monitoring and evaluation of both the formulation and implementation of UzDMPs.



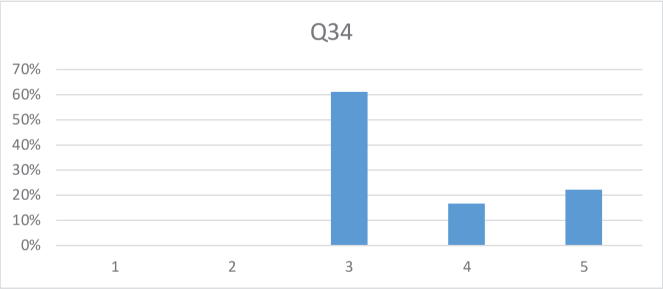
4.2.14 Review process

Generally, the respondents have less understanding of the review process for global targets such as SDGs and SFDRR. The results show that they have a better understanding of the DRR related plans in the nation, although there is a fair percentage of the respondents who has less understanding, which may be since they have a fair understanding on the national level plans but not so much on the plans in the local level.



4.2.15 Level of familiarity with disaster risk scenario of own working place

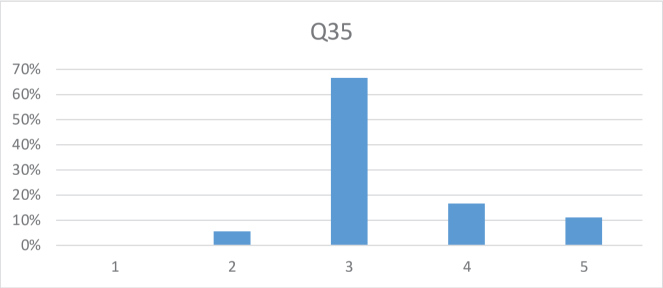
The respondents had an overall good level of familiarity with disaster risks in their own working places.



Note: Level of familiarity 1 being lower and 5 being higher

4.2.16 Reflectance of community based DRR/traditional knowledge implication in the on-going project of its own locality

Most respondents reflected their community-based knowledge on DRR and traditional knowledge in the on-going projects of their own locality to some extent.

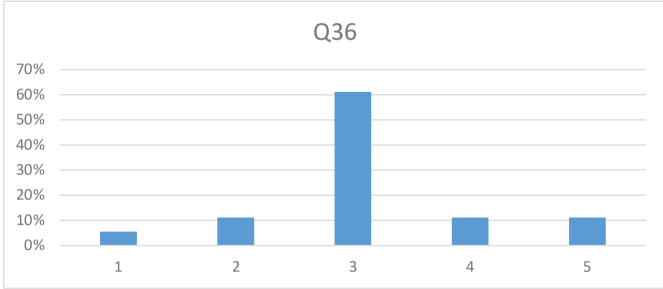


Note: Level of knowledge 1 being lower and 5 being higher

4.2.17 The capacity shortfalls of a system/individual are exposed when a disaster hits, so identify the gaps through experience in major disaster events like coordination, information accessibility and community participation

Most respondents think they can identify the gaps in major disaster events through coordination, accessing information and participating in the community.

THE PROJECT FOR CAPACITY ENHANCEMENT ON FORMULATION AND IMPLEMENTATION OF LOCAL DISASTER RISK REDUCTION PLAN



Note: Level of gaps 1 being lower and 5 being higher

- End -

Baseline Survey Report- 2. Nationwide Survey

May 2023

1 Objective

The objective of this survey is to understand and identify the characteristics and the current situation of the DMC of each district and Upazila in the whole country, as part of the baseline activity, as well as to prepare a priority list in each division for the development of UzDRRP. The results of the survey will be utilized to plan for the nation-wide dissemination of the planning of Local Disaster Risk Reduction Plan and relevant training in the whole country.

2 Method and respondents

2.1 Survey Method

This survey utilized two approaches to investigate the current situation of the districts as well as Upazilas, namely the statistical data analysis and the questionnaire survey analysis. While the socio-economic situation and disaster vulnerability were investigated through the analysis of census data, the current conditions and status of the DMC at the district and Upazila level including coordination with relevant organizations and training experiences were surveyed by the questionnaire approach. The questionnaire format was created in English, then translated to Bengali before being distributed. The research items and the utilized methods are shown below.

Table 2-1 Survey items and information sources

Category		Sub-category	Information Source
Socio-economic Status	1	Population	Population and Housing Census
	2	Population Density (Upazila wise)	Population and Housing Census
	3	Population Density	World Pop
	4	Poverty Rate	Poverty Maps of Bangladesh 2016 (BBS)
	5	Literacy Rate	District Statistics of each District (2013-2015)
	6	Classification of Paurashava	LGED
	7	City Corporation	LGED
	8	Agriculture Operated Area	District Statistics 2011 of each District
	9	Education Facility Number	District Statistics of each District (2013-2015)
	10	Number of Bed (Government and Non-Government)	
	11	Average Daily Wage (agricultural / construction / non-agriculture)	
	12	Length of Road Constructed	LGED
	13	Number of Markets Constructed	
Geographic Vulnerability	14	Hazard, Disaster Prone Area	DRIP, MRVAM, BARC, CDMP
	15	Exposure	DRIP, MRVAM

Category		Sub-category	Information Source
and disaster risks	16	Vulnerability, Risks	DRIP
	17	Disaster Damage and Loss Data	Bangladesh Disaster-related Statistics 2021
	18	Disaster Experience	Questionnaire to DRROs
	19	Elevation	SRTM
Governance and Administrative Capacity	20	Overall administrative capacity - Institutional capacity - Financial management capacity - Planning and budgeting capacity - Transparency and accountability	5th Performance Assessment: 2020-2021, UGDP
	21	Budget preparation and expense	
	22	Planning and budgeting capacity	
	23	The number of members of UzDMC and DDMC	Questionnaire to DRROs
	24	Frequency of the DDMC meetings	
	25	Development of DDMPs/UzDMPs	
	26	Coordination with other departments/organizations	
	27	Level of understanding of DRRM among the DDMCs	
	28	Challenges of the DDMCs	
Structural and Non-Structural Countermeasures	29	Structure measures implementation situation	Questionnaire to DRROs
	30	Non-structural countermeasures implementation situation	

2.2 Respondents of the Questionnaire

For speedy collection of the information, the questionnaires were sent to each of the DRROs in the whole country (64 districts), who in turn collected necessary information from PIOs for the information of the Upazila level if necessary. The questionnaires were sent out to the DRROs in July 2022, and all the responses were collected by 23rd of September 2022. After sorting out the results, the JET asked some DRROs again to confirm their answers and updated them.

3 Main findings of the Survey and their implications

The main findings of the survey and their indications are shown below.

3.1 Socio-economic status

(1) Continuous Population Growth in City Cooperation and "A" Class Paurashava

According to the data analysis of the population distribution dataset from 2000 to 2020, Bangladesh has been experiencing significant population growth, particularly in urban areas such as Dhaka, Gazipur, and Chittagong Districts with the highest population densities. In addition, by examining the location of the City Cooperation and Upazilas with class "A" Paurshavas, trends in population growth have been identified in these areas. Particularly the population growth was high in Dhaka, Gazipur, Narayanganj District in the Dhaka Division and Comilla, Chittagong, Cox's Bazar District in Chittagong Division.

Therefore, in City Cooperation and the class "A" Paurshavas it could be assumed as an area with a higher population growth rate which means these areas have higher potential of exposure to natural hazards. For the development of an UzDRRP, this trend should be considered to reduce the exposure against hazards.

(2) Support Required in Area with High Poverty and Low Literacy Rate

According to the Poverty Maps of Bangladesh, which was issued in 2016, Rangpur Division has the highest poverty rate at 47.23%, followed by Mymensingh, Rajshahi, Khulna, and Barisal Divisions at around 30%. The literacy rate is low in Sylhet, Mymensingh, Rangpur, Rajshahi Divisions and in the east hill area of the Chattogram Division. Considering that connection with high poverty rate and low literacy rate which result by a limited access for poor population to education, or population with low literacy rate with has limited access to information to earn higher incomes. It could be considered that the area with high poverty rate and low literacy rate are connected factors representing the vulnerability in the area and consequently connected to less cooping capacity against hazards, which should be recognized in the formulation of an UzDRRP.

Furthermore, for the formulation of the UzDRRP, the limitation of the capacity for planning, especially data collection from the union level, shall be considered, especially in the Division of Rangpur, Mymensingh, Rajshahi, Khulna, Barisal, Sylhet, and the east hill area of the Chattogram Division.

(3) Potential of Future Development in Regional Growth Centers

According to the LGED database, the current situation on the investment of major infrastructure of roads and markets and the situation of daily wage per capital in the construction sector has a clear trend of the high investment on the construction in Dhaka and Chattogram Division in both indicators. Regarding the daily wage per capital, also in some of the Upazilas in Mymensingh Division and Sylhet Division the same trend can be identified. Regarding the distribution of markets (growth center, rural

markets), there was a high distribution in some of the Upazilas in the division of Mymensingh, Sylhet, Rangpur, Khulna. Taking into consideration of the fact that the growth center and rural markets is strategically developed by LGED to be a center of economic growth in each Division, Upazilas with higher number of markets or high average wage rate could be considered to have a potential of development in the future. Therefore, in the development of UzDRRPs in these Upazilas, it could be assumed that these areas have more potential for investment in the local economy, and thus increase the importance to invest in disaster risk reduction countermeasures to prevent the impacts on the future investment.

3.2 Geographic vulnerability and disaster risks

(1) Distribution of Hazards based on the Geographical Condition

According to the result of hazard analysis and several evaluation results of the district wise hazard level, the distribution of the hazard are deeply connected with the geographical condition. The major hazard in Bangladesh could be categorized based on three geographic condition, which is 1) Flood and river erosion in the area along the major rivers (ex; Jamuna, Padma, Meghna) and in the haor area, 2) Cyclone, storm surge in the coastal region, 3) Flash flood and landslide in the hill area along the border area of India and Myanmar in the North to the East area. Based on these geographical conditions, the hazard type which is dominant in the area and the corresponding countermeasures could be clarified. Although detailed examination is needed, in the divisions of Rangpur, Mymensingh, Rajshahi, and Dhaka, major rivers flow through, and flood and river erosion have a major effect, in the division of Khula, Barisa as a coastal region cyclones and storm surges have a major effect, the division of Chittagon and east of Sylhet and north of Mymensingh as a hill area flash floods and landslides have a major effect. And for the extent of the hazard, it could be said that the divisions along the major rivers, and divisions in the coastal areas have relatively higher exposure to hazards. However, it should be also considered that there are some districts with the character of several geographical condition, such as Chattogram Division with the character of both a hill side area and a coastal area or Sylhet Division with the character of both hill side area and haor area. According to the disaster damage and loss data from Bangladesh Disaster-related Statistics formulated in 2021, based on the damage caused by disaster which happened from 2015 to 2020, Flood (including flash flood) and Cyclone is the two major cause of damage in the national level.

In the formulation of UzDRRPs, target hazards that Upazilas shall tackle to minimize the damage and loss should be identified in consideration of the geographical conditions and hazard characteristics of each Upazila.

(2) Multi-Hazard to be Addressed in addition to the Major Hazard

Although Flood, including flash flood and cyclone is one of the two major hazards, it is also important to recognize that Bangladesh is a country with multi hazards affecting the area. According to the disaster damage and loss data from Bangladesh Disaster-related Statistics formulated in 2021, besides flood and cyclone, other types of hazards such as storm surge, hailstorm, thunder/lightning and drought have major impact. In addition, it shall also be taken notice of the existence of rather low-frequency hazards such as earthquake and tsunami but once the event happens the impact is major. Furthermore, according to the questionnaire to DRROs, disasters such as salinity or arsenic were also mentioned as hazards which frequently have impacts. In regard to the multi-hazard situation, the Chattogram division have various types of hazards in the division due to its geographical condition. In the northern area such as division of Rangpur, Mymensingh, Rajshahi and Sylhet hazard with minor but non-negligible hazards such as hailstorm or earthquake are observed. In the coastal division of Khulna, Barisal and Chattogram the effect of Tsunami and Salination are observed which requires additional attention.

Therefore, in the development of an UzDRRP, although focusing on the hazards with major impacts in the area, the effect and impact of the multi-hazard in the area shall be also assessed and possible countermeasures shall be considered.

A2-11

3.3 Governance and administrative capacity for DRR

(1) Difficulties in the governance of planning and budgeting at Upazila level

According to the performance assessment results under UGDP, the governance and administrative capacity of Upazilas has been improved nationwide, as the number of Upazilas that passed preconditions (e.g., regular Upazila Parishad meetings, the establishment of Upazila Committees, Preparation of annual budgets) significantly increased. However, looking at the budget and planning situation, over 40 % of Upazilas do not prepare their Upazila project proposal and do not discuss it at UCs or UZC meetings. Also, around 40% of Upazila had over 31% gap between the initial budget and the actual expenditures. Therefore, there are still many Upazilas facing difficulties in the governance of planning and budgeting. For the UzDRRP formulation, it is encouraged for the central government to take a responsibility to support local governments, in consideration of the current administrative capacity at the Upazila level. Also, it should be also recognized that the level of each Upazila's administrative capacity is vary.

(2) No existence of DRR-related plans in most district and Upazilas

According to the questionnaire survey to DRROs, over 90% of districts and Upazilas do not have their plans for disaster risk reduction including DMP (Disaster Risk Management Plan), even though the SoD stipulates the necessity. In addition, although some districts/Upazilas have developed plans, the plans had been mainly formulated under the CDMP in 2014 and have not been updated, or even

forgotten by related concerns. Therefore, in the formulation of an UzDRRP, the current status that most of the districts and Upazilas do not have experience in local DRR planning should be considered. In addition, capacity enhancement training for the local DRR planning should be developed and implemented for stakeholders of the UzDRRP formulation.

(3) While DDMC are sufficiently conducted in accordance with the SODs, the coordination with relevant agencies is a challenge.

A questionnaire survey revealed that most DDMCs conduct their meetings regularly in accordance with the SoD and all DDMCs coordinate with other DRR-related organizations. However, as the organizations that DDMCs often coordinate with are the Red Crescent Society and the FSCD (Bangladesh Fire Service and Civil Defence) indicate, the local DMCs tend to emphasize disaster response and preparedness activities in collaboration with these agencies. Conversely, the DDMCs that coordinate with DRR countermeasures' implementing agencies such as BWDB and LGED are only around 15%. In addition, many DRROs face difficulties in coordination with other DRR-related agencies and DMC members, as well as complaints about their relatively low position in convening committee members for implementing DMC activities. Also, a lack of knowledge and training hinders DMC activities. In response to the current situation and to develop an UzDRRP in each Upazila, the coordination between the local DDM officials and DRR-related agencies (e.g., PWDB, LGED) needs to be strengthened. Further, training and knowledge enhancement on DRR is required to develop meaningful local DRR plans in each Upazila and to improve their DMC activities.

3.4 Structural and Non-Structural Measures

(1) Coordination among Related Institutions to Understand the Situation of Intervention

According to the result of the questionnaire to DRROs, the major intervention of structural measures for DRR is constructing shelters for cyclone or flood and lightning prevention rods. In the areas along major rivers such as Jamuna, Padma, Meghna and some of the rivers in the plain of Cox's Bazar Division, countermeasures of Mujib Killa, embankments and blocks or Sandbags are also pointed out by the DRROs. On the other hand, since interventions for river management and on roads are mainly conducted by BWDB and LGED respectively, it shall be noted that DRROs do not recognize all the intervention done in each area. Since the data of intervention by BWDB and LGED is managed by the central level and the district level, it is necessary to collect information at the district level for accurately understanding the current countermeasures in each area. Regarding the non-structural measures at the local level, evacuation drills or evacuation simulation was confirmed by the results of the questionnaire, while it should be noted that it is difficult to grasp the whole picture of this type of intervention due to the varieties of the institutions that are involved in such activities. The trend that

the DDM officials at the district level do not fully know the countermeasures that have been implemented in their areas by other departments is supposed to be seen at the Upazila level as well. For the development of a UzDRRP in each Upazila, it is significant to identify the current implementation status and plans of DRR countermeasures through communicating with DRR-related agencies such as BWDB and LGED, and other organizations like NGOs.

(2) Knowledge of DRROs about DRR Countermeasures in the District

As mentioned above, there was a gap in the questionnaire result between DRROs' recognition of structural and non-structural measures of DRR and the actual interventions implemented in their areas. This gap could reflect the level of understanding of the DRROs on the DRR countermeasures implemented in the district by various and different organizations. Since the DRRO's leadership and understanding of DRR countermeasures in each district are vital for the process of a UzDRRP formulation, the enhancement of the ability of DRROs is required. Also, it is expected that the DRROs can improve their understanding of the current status of DRR countermeasures in their districts and subsequently can propose needed countermeasures, through being involved in the formulation processes of the UzDRRPs.

4 Results of the Survey by categories

4.1 Socio-economic status

Socio-economic status such as population density, poverty rate and public facilities are one of the important factors to understand the vulnerability and resilience of the district and Upazila. For understanding the socio-economic situations of each district and Upazila, the following survey items were gathered and evaluated. The result of the survey is shown from the next page.

Table 4-1 Information Items on Socio-economic Status

	Sub-category	Information Source
1	Population	Population and Housing Census
2	Population Density (Upazila wise)	Population and Housing Census
3	Population Density	World Pop[1]
4	Poverty Rate	Poverty Maps of Bangladesh 2016 (BBS)
5	Literacy Rate	District Statistics of each District (2013-2015)
6	Classification of Paurashava	LGED*[2]
7	City Corporation	LGED*[2]
8	Agriculture Operated Area	District Statistics of each District (2013-2015)
9	Education Facility Number	District Statistics of each District (2013-2015)
10	Number of Bed (Government and Non-Government)	District Statistics of each District (2013-2015)
11	Average Daily Wage (agricultural / construction / non-agriculture)	District Statistics of each District (2013-2015)
12	Length of Road Constructed	LGED*[2]
13	Number of Markets Constructed	LGED*[2]

*[2] Data obtained from the LGED database

In consideration of the social vulnerability, some of the collected data are connected with the global agenda of the SDGs. The relationship of the data and the SDGs global targets were summarized below, while there are some unavailable data items.

Table 4-2 Linkage of the Data with the SDGs Global Targets[2]

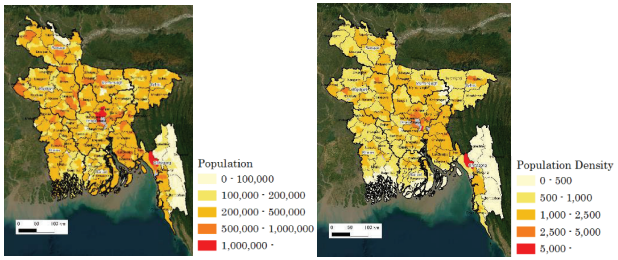
SDGs Target	Applicable Item	Relation to DRR
1. No Poverty	Poverty Rate	✓✓✓
2. Zero Hunger	Agriculture Operated Area	✓✓
3. Good Wealth and Well-Being	Number of Beds per Capital (100,000)	✓✓
4. Quality Education	Literacy Rate	✓✓
5. Gender Equality	No applicable items	
6. Clean Water and Sanitation	No applicable items	✓
7. Affordable and Clean Energy	No applicable items	✓
8. Decent Work and Economic Growth 9. Industry, Innovation, and Infrastructure	Category of Existing Paurashava Average Daily Wage	✓✓✓
11. Sustainable Cities and Communities	No applicable items	
12. Responsible Consumption and Production	No applicable items	
13. Climate Action	No applicable items	✓✓✓

Source: Prepared by the JICA project team

[1] URL of the homepage the data was required (https://hub.worldpop.org/geodata/summary?id=1364)
[2] *Target 10, 14, 15, 16 and 17 is not applicable from the point of view of the disaster risk reduction capacity enhancement

4.1.1 Population and Population Density

The Upazila-wise population and the population density was collected from the Population and Housing Census conducted in 2011[3] As an overall trend, the population is high in the Upazila where A class Paurshava is located comparing with the figure shown in Figure 4-4. In the division level, the population is relatively small in Sylhet, Barisal, and the west area of Chattogram division. In the districts level, Dhaka, Gazipur and Chattogram district have a relatively large number of populations including the population density.



Source: Population and Housing Census

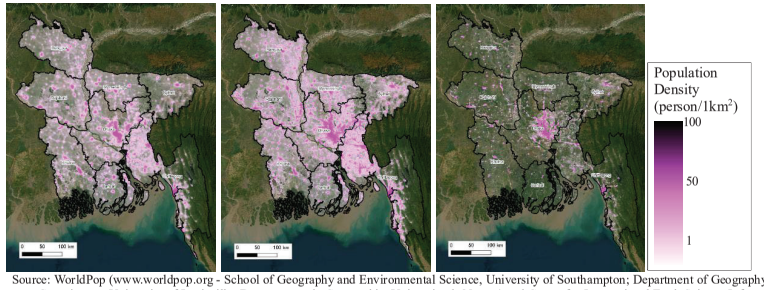
Figure 4-1 Population (Left) and Population Density per Capital (Right) in Bangladesh

In addition, to understand the demographic trend in Bangladesh, the distribution data of population density for the year 2000 and 2020 from World Pop[4] was utilized. As shown in Figure 3-1, the change in the population could be seen from 2000 to 2020 with expansion to the sub-urban areas. The figure on the bottom of Figure 3-1 describes the difference between year 2020 and 2000 and show the area which increased in 20 years.

According to the survey result, while most of the major Upazilas in each district are experiencing an increase in the population, Dhaka Division and Chittagong Division are the two Divisions where there is a relatively large increase. Dhaka District, Gazipur District, Narayanganj District in the Dhaka Division and Comilla District, Chittagong District, Cox's Bazar District in Chittagong Division can be considered as districts with major population increases.

[3] For the data based on the latest population census on 2022, a preliminary report was issued, however the detail information is not available at the Upazila level.

[4] 1 km mesh population density distribution data for the year 2000 and 2020, collected from the WorldPop websites: https://dx.doi.org/10.5258/SOTON/WP00670



Source: WorldPop (www.worldpop.org - School of Geography and Environmental Science, University of Southampton; Department of Geography and Geosciences, University of Louisville; Departement de Geographie, Universite de Namur) and Center for International Earth Science Information Network (CIESIN), Columbia University (2018). Global High Resolution Population Denominators Project - Funded by The Bill and Melinda Gates Foundation (OPP1134076). https://dx.doi.org/10.5258/SOTON/WP00670)

(Left: 2000, Middle: 2020, Right: Difference between 2020 and 2000)

Figure 4-2 Population Distribution in Bangladesh

4.1.2 Classification of Existing Paurashava

The data of the classification of the Paurashava was collected from LGED in order to understand the concentration of population and assets nationwide. This classification was done into three groups; level A, B and C, based on the revenue resources per year of each Paurashava. The result of the classification is shown below.

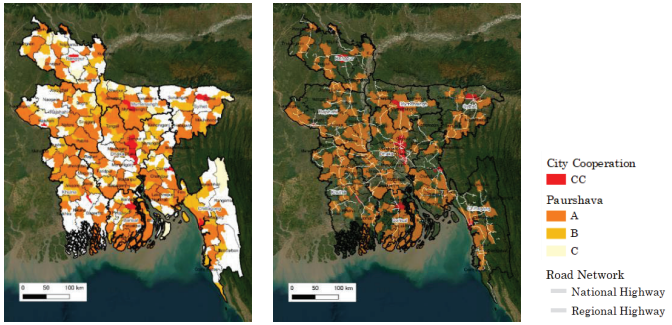
Table 4-3 Classification of Paurashava in Bangladesh

Classification	Own revenue resources per year
A	More than Tk. 8 million
B	Between Tk 4 million & Tk. 8 million
C	Between Tk 2 million & Tk. 4 million

Source: Mott MacDonald (2011)

Class A Paurashava is scattered across the country and usually located along the major national and regional roads and in the transportation node representing the areas with an accumulation of assets and investment which can be assumed to have more exposure against hazard. The number of Paurashava in each district matches with the trend of the poverty rate and those districts with high poverty rates have fewer Paurashava which indicates low activity in local economy and asset accumulation.

In addition to the category of the Paurashava, the Upazilas with existing city corporation were also listed as a criterion to recognize the development center in the area. This data was visualised on the map as shown in Figure 4-4. There are 12 city cooperations in Bangladesh, which are North Dhaka, South Dhaka, Chattogram, Sylhet, Barisal, Khulna, Rajshahi, Gazipur, Narayanganj, Rangpur, Comilla, and Mymensingh. These areas are referred to as developed with high concentration of population and assets.

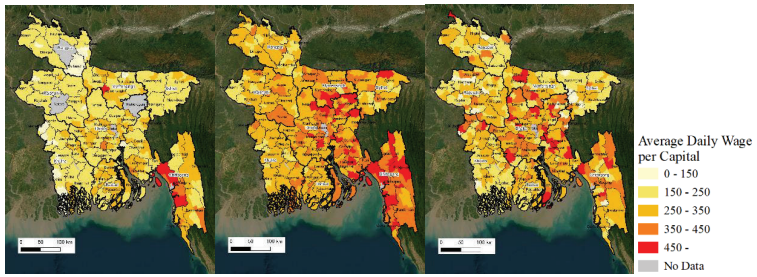


Source: LGED

Figure 4-3 Location of Upazila with City Cooperation and Paurashava in Bangladesh

4.1.3 Income Level for different industry type and land-use for agriculture

To understand the situation of the income level, data on average daily wage for different industry type for, agricultural, construction and non-agriculture was collected from the District statistics formulated from 2013 to 2015. The data was visualised on the map as shown in Figure 4-7. The average daily wage was high in Dhaka Division and Chattogram Division and relatively low in Rangpur Division and Sylhet Division. For the construction industry, the average wage is high and relatively evenly high through the nation compared to other industries. For the industry of non-agriculture, there is a trend to be high in selected Upazilas in each division. Higher income levels can be connected to higher consumer spending or higher tax revenues for the local government which can be one of the indicators for higher potential for economic growth. A more detailed survey is required to understand the situation deeply.

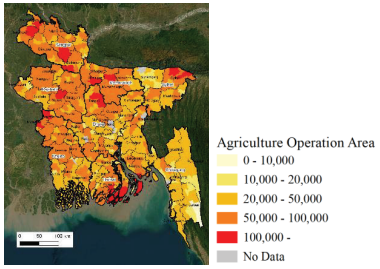


Source: District Statistics of each District (2013-2015)

(Left: Agriculture, Middle: Construction, Right: Non-Agriculture)

Figure 4-4 Average Daily Wage per Capital in Bangladesh (Tk/day)

To understand the situation of agriculture in Bangladesh, the agriculture operation area was collected from the District statistics formulated from 2013 to 2015. The area has a trend to be higher in the north-west region of the country such as division of Rangpur, Mymensingh, Rajshahi and relatively low in the Chittogram division. Although the area of each Upazila can differ based on the geographical situation, population density or other various factors can be one indicator for the food security and source of income generation in the rural area. However, it shall be noted that to better understand the vulnerability of the rural area, a more detailed analysis combining efficiency of the production of income level shall be done. And agriculture is often subject to the damage caused by disaster and requires special attention in the planning of disaster risk reduction measures in the rural area.



Source: District Statistics of each District (2013-2015)

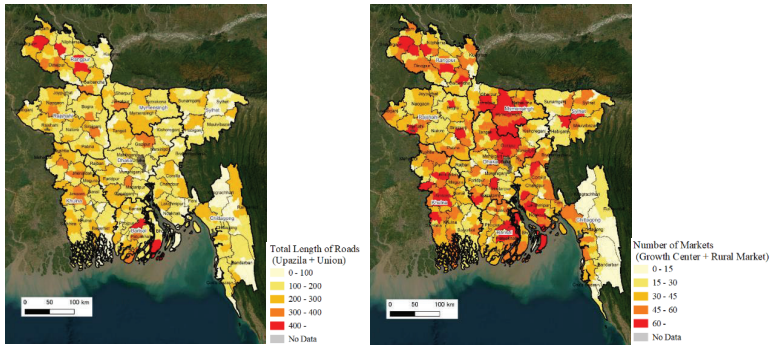
Figure 4-5 Agriculture Operation Area in each Upazila

4.1.4 Basic Infrastructures -road and market

In order to understand the overall trend in the investment to basic infrastructures at the Upazila level the situations of the road constructions and establishments of the local markets were analyzed. For roads, the total length of completed Upazila roads and union roads was collected from the LGED homepage, based on the data as of September 2022. For the markets, the total number of existing Growth Centers and Rural Markets was collected from the LGED homepage, based on the latest data which is not mentioned. A Growth Center is an area where shops selling daily food items and commodity goods are gathered and function as a commercial center in growing areas. The result is shown in Figure 4-20.

Upazila roads and union roads are relatively evenly constructed throughout the nation. Specifically, the total road length in some Upazilas of Rangpur and Barisal Division is comparatively high, which indicates more concentration on this area by LGED. Conversely, in Sylhet Division and the east area of Chattogram Division, the total road length is less and, therefore, indicates less investment in this area. While there are also some major road networks of the national roads such as the connection road between Dhaka and Chattogram, they are not included since this survey focuses on the investment situation at the Upazila level.

Regarding the markets, areas near the city cooperation tend to be highly concentrated. It is notable that the east area of Chattogram is relatively less in the number of markets. A Growth Center is a market where some basic infrastructure such as platforms to sell products or other market facilities are constructed by LGED and strategically distributed around the nation. In addition, the LGED also has a plan to change the category of expanding rural markets into Growth Centers or expanding a Growth Center into a new township (The Business Standard, 19th Nov. 2022). Therefore, it could be said that the districts with more Growth Centers and rural markets have more potential to be developed in the future.



Length of Roads　　Number of Markets

Source: LGED

Figure 4-6 Situation of Implementation of Major Infrastructure

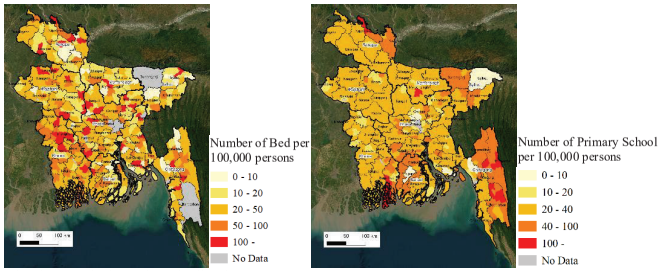
4.1.5 Social infrastructures- school and hospital

As an indicator to understand the situation of sufficiency of social infrastructures, the number of primary schools and the number of beds in governmental and non-governmental hospitals in each Upazila were collected from the district statistics formulated from 2013 and 2015. Collected data was converted into the number per 100,000 persons and visualized on the map as shown in Figure 4-5.

Regarding the number of beds per capita, there is no clear trend at the division level, while the number is high in some of the Upazilas in each division. However, in the 4 districts of Rangpur, Sylhet, Habiganj, and Barisal, the number of beds per capita in several Upazilas is less than 10 beds per capita, which indicates these Upazilas are relatively highly vulnerable against disasters.

Regarding the number of primary schools per capita, there is no clear trend at the division level, and it is rather evenly distributed across the nation. Some of the Upazilas which has a high number of primary schools per capita more than 100 are in the districts of Lalmonirhat, Mymensingh, Bagerhat, Rangamati and Bandarban. However, these Upazilas have small populations which may cause the number to be higher. In the districts of Sylhet and Jhalokati, every Upazila inside the district has a

number of primary school per capita of less than 10, which indicates that the lack of primary schools. Two Upazilas in the district of Dhaka and Gazipur has a number of primary schools per capita less than 10 in the population growing area, which indicates the population growth is higher than the establishment of new primary schools.



Source: District Statistics of each district (2013-2015)

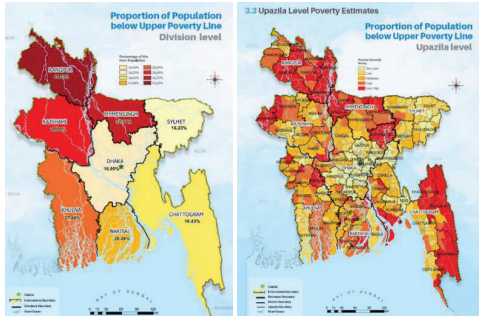
(Left: Number of Beds), Right: Number of Primary School)

Figure 4-7 Social Infrastructure per Capital in Bangladesh

4.1.6 Poverty Rate and Literacy Rate

The poverty rate was collected from the Poverty Maps of Bangladesh 2016 which was issued on 2020 by the Bangladesh Bureau of Statistics supported by WFP. The poverty rate was estimated as the portion of the population bellow upper poverty line which is the population of income level below 178.2 in Bangladesh taka (Household Income and Expenditure Survey 2016).

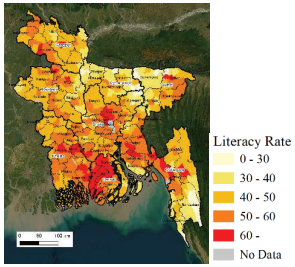
In the division level, the poverty situation could be divided into three groups. The poorest group is Rangpur with 47.23% identified as poor population, the next group can be Mymensingh, Rajshahi, Khulna, and Barisal with around 30%, and the last group can be Dhaka and Chattogram with less than 20%. However, also in Kishoreganj District in Dhaka Division and divisions of Khagrachhari, Rangamati and Bandarban has a high poverty rate.



Source: Poverty Maps of Bangladesh 2016, Bangladesh Bureau of Statistics

Figure 4-8 Map of the Proportion of Population below Upper Poverty Line

To understand the education situation, literacy rate for each Upazila was collected from the district statistics formulated from 2013 and 2015. The literacy rate has a trend to be relatively high in the Dhaka Division, Barisal Division and in the west side of the Chattogram Division in the area along the transportation network from Dhaka. Conversely, the divisions of Sylhet, Mymensingh, Rangpur, Rajshahi has a relatively low literacy rate. Especially in some of the Upazilas in the east of Chattogram, and north of Sylhet and Mymensingh has a literacy rate of less than 30%. In these areas with low literacy rates, the inclusive planning processes of UzDRRPs should be established to include the idea of the population without literacy capability.



Source: District Statistics of each District (2013-2015)

Figure 4-9 Literacy Rate in each Upazila

4.2 Geographic Vulnerability and Disaster Risks

Geographic vulnerability and disaster risks are significantly important factors to formulate local disaster risk reduction plans. This survey collected information on hazards, disaster damage and losses, as well as disaster experiences. Hazard information is to understand the natural phenomena in each area. However, if there are no residents or assets in those areas, there would be no damage or loss. Therefore, to understand the hazard which caused major impact to the residents, assets or economy, the information on disaster damage and losses was also collected. In addition, to understand how the disaster is recognized in each Upazila level and to make sure all type of disaster recognized in Upazila level is covered in this report, information on disaster experience was also collected.

The data collection was conducted in two ways. The first data source is official statistics document issued by government institutions such as Department of Disaster Management (DDM) and Bangladesh Bureau of Statistics (BBS) and documents issued by the existing project such as the Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping (MRVAM), and data platform such as Disaster and Climate Risk Information Platform (DRIP). The second is questionnaire survey to DRROs in all districts in the country, which can complement the open-data to further understand the situation at the Upazila level due to the limitation of the available Upazila-wise data online. Data can be utilized to understand which hazard is prominent in each area or the level of the hazard in each area. Further, it is important to be able to be compared among the areas in a consistent criterion and data. The details of the contents and data source of the data collected is summarized in Table 4-4.

Table 4-4: Information Items on Geographic Vulnerability and Disaster Risks

Sub-category	Item Checked	Information Source
Hazard	District-wise Hazard Level	DRIP[2] (Disaster and Climate Risk Information Platform)
	Hazard Map	Risk Atlas Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping Volume I
Disaster Damage and Loss Data	Division-wise Damage and Loss Data per Hazard Type	Bangladesh Disaster-related Statistics 2021[5]
Disaster Experience	Upazila-wise Experience and Frequency of Disaster per Hazard Type	Questionnaire to DRROs[6]

4.2.1 Hazard

To understand the hazard level in Bangladesh nationwide, several data sources were analyzed. The hazards characteristics of each division are summarized as shown below. More detailed division-wise hazard information is compiled in each divisional sheet in the section “ANNEX Division Wise Summary”.

[5] District-wise data available for affected household per hazard type
Damage and Loss data for 6 years accumulate data from 2015 to 2020
[6] Note: In some Upazilas, their answers are not complete.

Table 4-5 Hazard Characteristics of Divisions in Bangladesh

Division	Hazard Characteristics
Barishal	As a coastal region it is exposed to Cyclone, Storm Surge and Tsunami and the east part of the region along the Meghna River, is also exposed to flood and erosion.
Chattogram	As a region with a variety of geographic characteristics the area is exposed to various disasters. Along the coastal area there is Storm Surge, Cyclone and Tsunami. In the flood plain area along the Meghna River there is Flood and Erosion. In the west region with hills and several river systems such as Karnaphuli and Matamuhuri rivers it is exposed to Landslide and Flash Flood.
Dhaka	As Padma River and Jumna River flows through the region it is exposed to Flood and Erosion
Khulna	As the region has a coastal area in the south and Padma River flows at the north of the Division, the coastal area is exposed to Strom Surge, Cyclone and Tsunami.
Mymensingh	As the Jamuna River flows in the west of the region it is exposed to Flood and Erosion. The north and east of the region is a hill area which is exposed to Landslide and Flash Floods. The region also has a high hazard level for Earthquake.
Rajshahi	As the Jamuna River flows in the east and the Padma River flows in the south of the region, most of the area is exposed to Flood and Erosion.
Rangpur	As the Jamuna River flows in the east of the area and the Teesta River flows through the Division, it is exposed to Flood and Erosion. The north area is exposed to Landslide, but the level of hazards is relatively small. The east of the region also has a high hazard level for Earthquake.
Sylhet	As the area is in the haor area, it is exposed to Flood, and since the Division is surrounded by hill area it is exposed to Landslide especially in the east area and exposed to Flash Flood of the rivers flowing from the surrounding hill area.

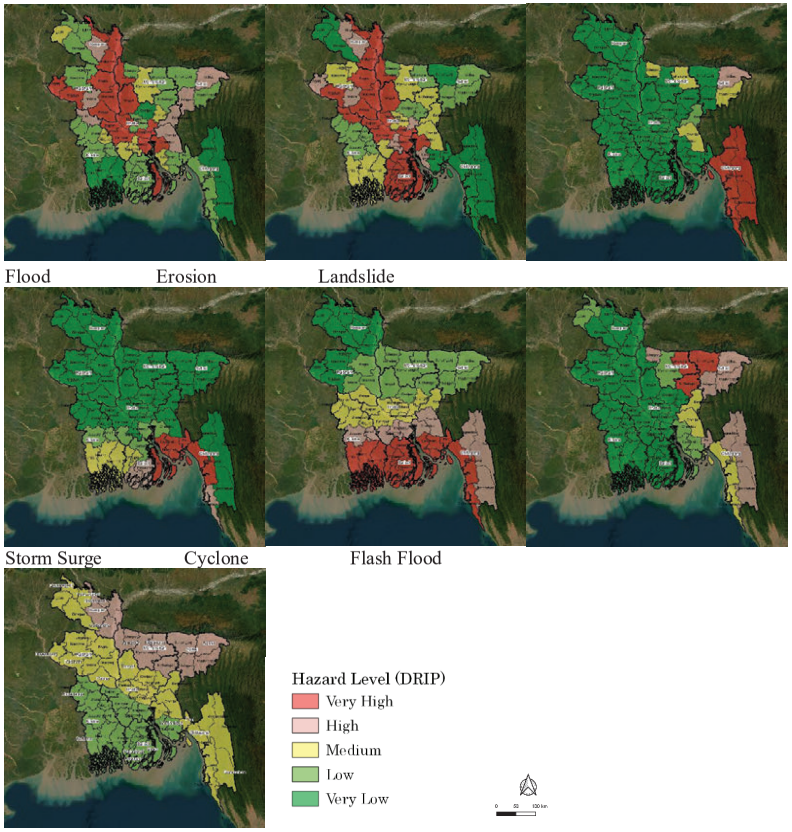
Table 4-6 Possibility of Hazards in each division

Division	Type of Hazard						
	Cyclone	Storm Surge	Flood	Flash Flood	Erosion	Landslide	Earthquake
Barisal	✓	✓	✓		✓		
Chittagong	✓	✓		✓	✓	✓	
Dhaka	✓		✓	✓	✓		✓
Khulna	✓		✓		✓		
Mymensingh			✓	✓	✓		✓
Rajshahi			✓		✓		
Rangpur			✓		✓		✓
Sylhet			✓	✓		✓	✓

Source: JICA Project Team

(1) DRIP

Hazard level date for each hazard was collected from the DRIP (Disaster and Climate Risk Information Platform) prepared in the NRP project. In this data source, “Generally hazard effected area”, “Return Period”, “Exposure”, and “Vulnerability and Risk” at the district level are available for each hazard. “Generally, hazard effected area” was checked to understand the hazard level of each district for hazard type of Flood, Erosion, Landslide, Storm Surge, Cyclone, Flash Flood, Earthquake. The distribution of the hazard level was visualized on the map as shown below.



Source: DRIP, Map Prepared by the Project Team

Figure 4-10 Image of the Exposure Data Summarized in DRIP

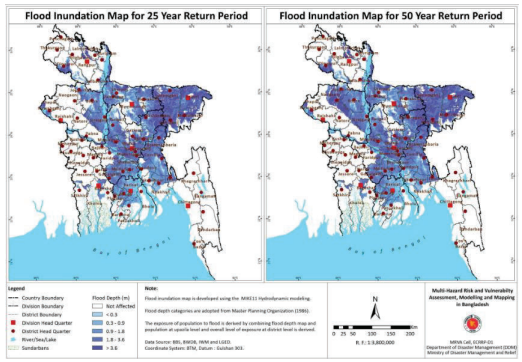
(2) Risk Atlas

Risk atlas is an outcome of the project "Multi-Hazard Risk and Vulnerability Assessment, Modelling and Mapping (MRVAM)" which was initiated by DDM as part of the sub-component under the "Emergency 2007 Cyclone Recovery and Restoration Project (ECRRP)" funded by the World Bank.

In Bangladesh, hazard analysis which is conducted on a nation-wide scale using a consistent methodology is not available except for the result of the risk atlas. Therefore, the information of risk atlas was confirmed to understand the situation of hazard which can be recognized on the nation-wide level and the outline of the methodology used to analyze each hazard type. In the risk atlas, 6 hazard types which is Flood, Storm Surge, Landslide, Drought, Earthquake and Tsunami was analyzed.

1) Floods

The flood inundation map used formulated in the "Risk Atlas" is calculated using MIKE 11 hydrological and hydrodynamic model. The Inundation depth is estimated based in the yearly maximum water level for major river systems for the return period of 25 years, 50 years, 100 years, and 150 years based on the 26 years (1986 to 2011) historical data. And using the yearly maximum water level, the inundation area was estimated by assuming the surrounding area with the elevation of bellow the water level would be inundated. However, the area of the flood inundation map is limited to areas along the major rivers (Brahmaputra-Jamuna, Ganges-Padma, Surma-Meghna) and the haor area in the northeast; the inundation in the coastal areas and rivers in the Chittagong region is not included.



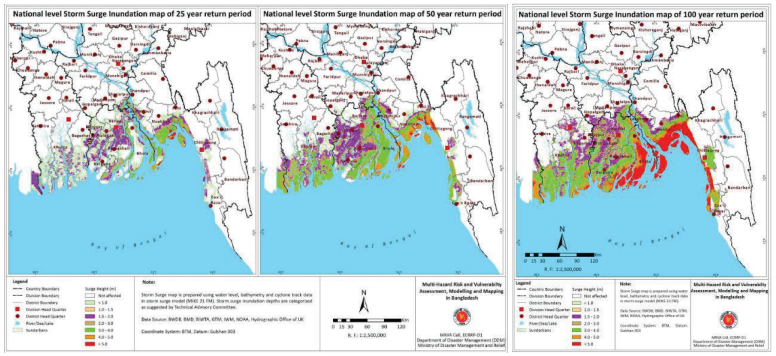
Source: Risk Atlas Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping Volume I

Figure 4-11 Flood Inundation Map in the MRVAM Project

2) Storm Surge

The storm surge inundation map formulated in the "Risk Atlas" is calculated using the MIKE 22 FM storm surge model. The Inundation depth is estimated based on the simulated maximum surge elevation and the coastal DEM data. The surge hight was calculated based on several scenario including the historical cyclone and other scenario. A frequency analysis was done to estimate the surge level for the return period of 25 years, 50 years, 100 years, and 150 years.

The map covers the coastal area of Khulna, Barisal and Chittagong, and some southern portion of Dhaka which is affected by storm surge.

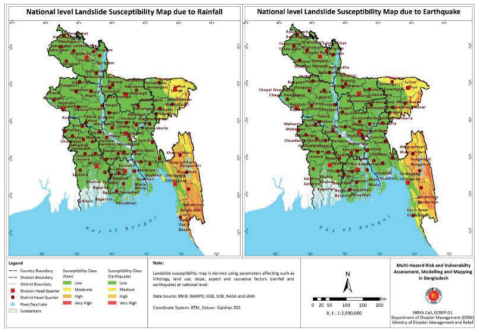


Source: Risk Atlas Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping Volume I

Figure 4-12 Storm Surge Inundation Map in the MRVAM Project

3) Landslide

The landslide susceptibility map formulated in the "Risk Atlas" is calculated by using the data of lithology, land use, land cover and slope to make a susceptibility map. In addition, by using the rainfall data and earthquake data as a triggering factor of landslides, a land use susceptibility map for rainfall induced landslide and earthquake induced landslide was formulated. In both rainfalls induced and earthquake induced landslides, the susceptibility is high in the mountain region of Chittagong and Sylhet.

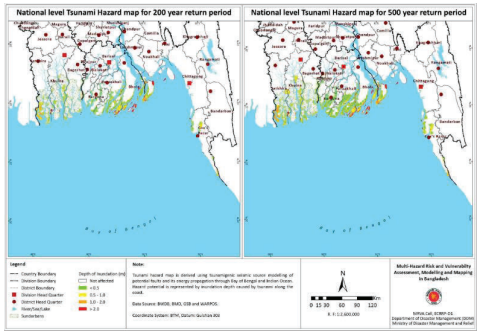


Source: Risk Atlas Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping Volume I

Figure 4-13 Landslide Susceptibility Map Formulated in the MRVAM Project

4) Tsunami

The Tsunami hazard map formulated in the "Risk Atlas" is calculated using the COMCOT (Cornell Multi-grid Coupled Tsunami Model) and validated by comparing the computed water surface levels due to the Indian Ocean Tsunami in 2004. It takes into consideration Tsunami generated by an earthquake in the Sunda Arc stretching south from Bangladesh, and the seismic scenarios of the Arakan and Andama-Northern Sumatra was utilized for simulation. The hazard map was set based on the calculated tsunami inundation depth, with below 0.5 as low, 0.5 -1m as moderate, 1 -2 m as high and above 2 m as very high. This analysis result was confirmed since the hazard analysis for Tsunami is not included in other data sources.



Source: Risk Atlas Multi-Hazards Risk and Vulnerability Assessment, Modelling and Mapping Volume I

Figure 4-14 Tsunami Hazard Map Formulated in the MRVAM Project

4.2.2 Disaster Damage and Loss

Based on the Bangladesh Disaster-related Statistics, disaster damage and loss data of disasters that the country had suffered from 2015 to 2020 were summarized. The available data set in the division-wise scale is as below[7].

1) Number of deaths
2) Damage and Loss in Taka
3) Affected households
4) Crop Loss
5) Loss of livestock
6) Loss of Poultry
7) Loss of fisheries
8) Loss of degradation of land
9) Loss of dwelling house
10) Loss on household-owned forest

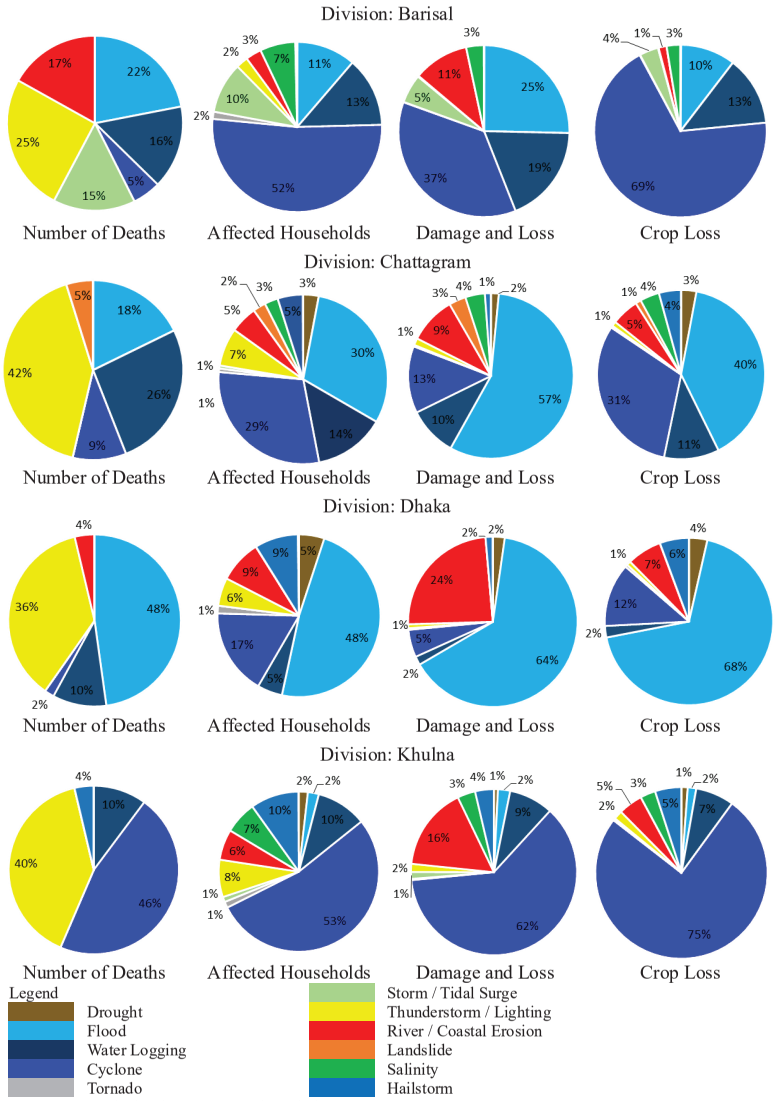
Among the data set which is in line with the Sendai Framework for Disaster Risk Reduction global targets[8] was selected. In line with global target A, data for 1) Number of deaths and 3) Affected households was checked and in line with global target C, data for 2) Damage and Loss in Taka was confirmed, in addition, since in most of the areas in Bangladesh agriculture is the main income resource, the data on 4) Crop loss was also confirmed. The data was visualized per each division by a pie chart which is shown from Figure 4-15 to Figure 4-16. The trend in the Divisions and Districts was summarized in the section "ANNEX: Division Wise Summary".

On the national level, Flood and Cyclone are the two major causes of damage in the country, followed by Storm Surge, Hailstorm, Thunder / Lightning, and Drought. In the hazard analysis result, although the effect and damage caused by Hailstorm and Thunder / Lightning is not well described, it should be taken into consideration in divisions with high number of damages.

For the distribution of the damage in divisions, in the coastal area, which is Barisal or Khulna, the most major cause of damage is Cyclone. The Chattogram Division was affected by both Cyclone and Flood, and other divisions of Dhaka, Mymensingh, Rajshahi, Rangpur and Sylhet suffered from Flood, which need to be addressed with focus. Regarding the hazards of Earthquake and Tsunami, since their return periods are long, it seems to cause less damage. However, it should be noted that these types of hazards have a characteristic that once it occurs the damage is intense.

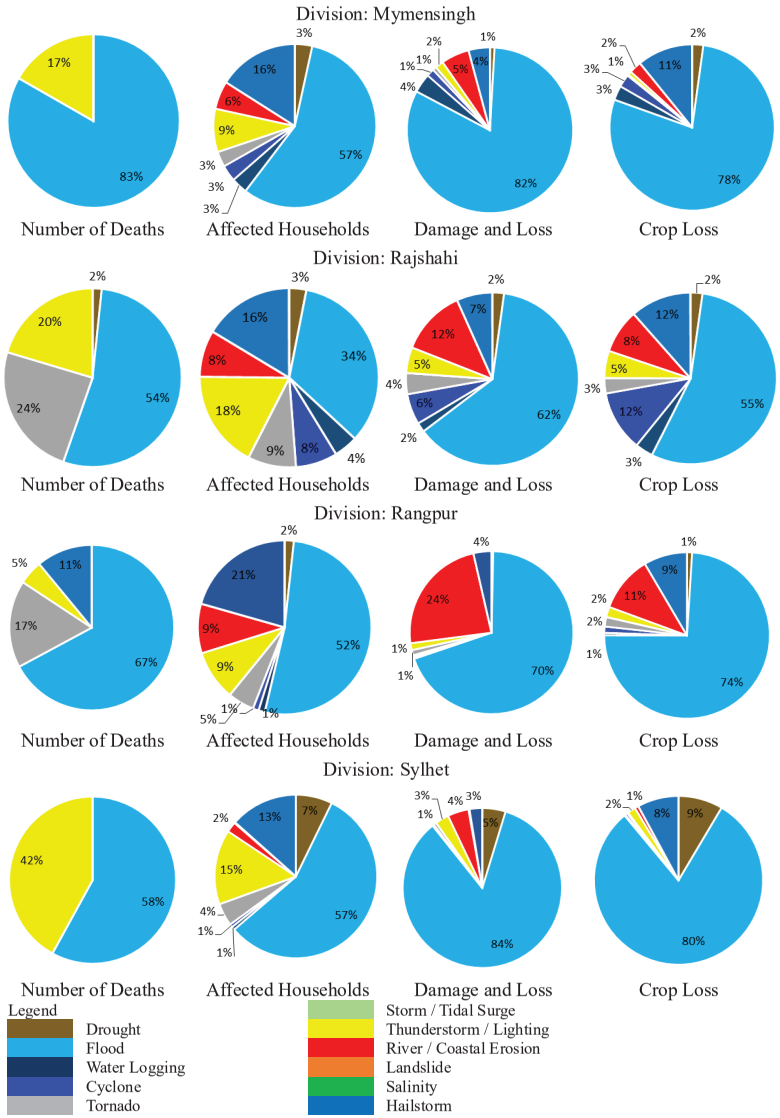
[7] data on "disaster affected household" is also available in the District level.

[8] In the Sendai Framework for Disaster Risk Reduction 7 global targets was agreed with the participant countries to support the assessment of global progress in achieving the outcome and goal of the Framework and these global targets will be measured at the global level.



Source: Bangladesh Disaster-related Statistics 2021

Figure 4-15 Disaster Damage and Loss Data per Division (1/2)



Source: Bangladesh Disaster-related Statistics 2021

Figure 4-16 Disaster Damage and Loss Data per Division (2/2)

4.2.3 Experience of Disaster

Since it is difficult to clearly understand Upazila-wise hazard risks and disaster experiences due to the limitation of such information online, a questionnaire survey to all DRROs nationwide was conducted. In the survey, the existence and the frequency of the disaster, which are flood, flash flood, riverbank erosion, storm surge, landslide, drought, earthquake, tsunami, salinity, lightning, and arsenic, each Upazila under their jurisdiction was asked. The following maps show the survey results.

Since there shall be some hazards which are not acknowledged or appropriately estimated by the DRROs, the result cannot be used to evaluate the hazard situation in the Upazila level. For instance, the effect of flood, riverbank erosion and flash flood in the north region of the Rangpur division, such as the Testa River flowing through the division, is underestimated by DRROs. In the coastal area of Chattogram division, storm surge is not mentioned in the questionnaire so it shall be noted that the DRRO is underestimating the existing risk. Although the earthquake risk is high in the north-east area of the nation, the result of the questionnaire does not reflect this demographic distribution in some districts of the Rangpur Division, Mymensingh Division and Sylhet Division. However, answers from DRRO brought new insights to understand the vulnerability of each area. For instance, regarding lightning, although it is not evaluated in the DRIP, it was mentioned that it is a major hazard for some of the Upazilas in Rangpur Division, Sylhet Division, Barisal Division and in some of the areas of Chattogram. Salinity and arsenic are a localized hazard it shall be noted in Upazilas where the hazard is mentioned and at the same time shall be considered if there is not similar hazard existing in the neighbouring Upazilas.

Source: Questionnaire to DRROs

Figure 4-17 Experience of Disaster in Upazila

4.3 Governance and administrative capacity

Governance and administration capacity is a vital factor to plan and implement disaster risk reduction policies and projects. This survey utilized 2 methods to reveal the governance and administrative capacity of each district and Upazila, which are desk-top survey and questionnaire survey.

The information items and sources are shown below.

Table 4-7 Information items on governance and administrative capacity

Category		Sub-category	Information Source
Governance and Administrative Capacity	20	Overall administrative capacity - Institutional capacity - Financial management capacity - Planning and budgeting capacity - Transparency and accountability	5th Performance Assessment: 2020-2021, UGDP
	21	Budget preparation and expense	
	22	Planning and budgeting capacity	
	23	The number of members of UzDMC and DDMC	Questionnaire to DRROs
	24	Frequency of the DDMC meetings	
	25	Development of DDMPs/UzDMPs	
	26	Coordination with other departments/organizations	
	27	Level of understanding of DRRM among the DDMCs	
	28	Challenges of the DDMCs	

For the information items of 24 to 32, the result of the Performance Assessment produced by the Upazila Governance and Development Project (UGDP)[9] was utilized, while the questionnaire survey targeting all the DRROs in the country was implemented as the supplementary information that are inaccessible by desk-top survey.

4.3.1 Desk-top Survey

(1) Information source

In order to clarify the basic administration capacity of Upazilas in the country nationwide, this survey utilizes the "Result of the 5th Performance Assessment: 2020-2021" targeting 492 Upazilas. This assessment did screen all Upazilas in the country, and then measured their administrative performances by the following indicators which are referred to as important aspects of Upazila governance[10]. In

[9] The Upazila Governance and Development Project (UGDP) is a Project that has been implemented since December 2015, with a loan supported from the Government of Japan through JICA to strengthen Upazila Parishad (UZP) which is expected to play a key role for rural development with good Local Governance. The objective of UGDP is to enhance the services to citizens by providing training programs and fund transfer for development activities to UZP, thereby contributing to reinforcing Local Government structure of Bangladesh.

[10] In the Project, the fund will be allocated to the target Upazilas that are selected from all 492 Upazilas through two steps: 1) qualification by preconditions, and 2) performance assessment

accordance with the indicators, each Upazila was assessed on a rating of 100 points.

Table 4-8 Performance indicators[11]

1. Institutional Capacity
- 1.1. Upazila Committee (UC) meetings are properly held and recorded
- 1.2. NBD Officers attend respective UC meeting
- 1.3. Project Selection Committee (PSC) is established and functioning
- 1.4. Development proposals are submitted from Union Parishad, UDCC, UCs and NBDs

2. Financial Management Capacity
- 2.1. Annual Budget is prepared and approved as stated in UZP Act.
- 2.2. Asset register is properly maintained and updated
- 2.3. Annual Financial Statement is prepared
- 2.4. Gap between the initial budget and the actual expenditure is minimized

3. Planning and Budgeting Capacity
- 3.1. Five-Year Development Plan with priority project list is prepared
- 3.2. Development fund used as per UZP Development Fund Using Guidelines 2014
- 3.3. Development Project sites are inspected by Upazila Officers
- 3.4. Upazila Project Proposal (UPP) is prepared and discussed at UCs or UZP meeting

4. Transparency and Accountability
- 4.1. UDCCs are held in each Union Parishad
- 4.2. Annual Budget and Annual Development Plan are displayed for public scrutiny
- 4.3. Information Focal Point is assigned, and such assignment is made public
- 4.4. Citizen charter is prepared

Source: Result of the 5th Performance Assessment: 2020-2021 (2021)

2) Overall results of the assessment

Since the assessment started, the number of Upazilas which the screening test passed has been increasing nation-wide, which indicates the increase of the Upazilas that has required basic government functions, such as establishing Upazila Committees, holding UZP meetings, preparing an annual budget, and formulating development plans.

Looking at the Overall results, while the average of the district level is 70.9, there are some Upazilas which score exceeded 90. Also, the average scores on the country level has been increasing yearly.

Divisionally, Rajshahi and Khulna Division got relatively high total average scores at 81.39 and 74.97 points respectively, followed by Rajshahi Division. In contrast, the average scores for Sylhet was relatively low at 63.50.

In the district level, Joypurhat in Rajshahi has the highest score in all the districts in the survey at 87 points, followed by Chapai Nawabganj at 85.8 pints and Natore at 84.30 both in Rajshahi Division. The following table is the result of the survey. While this table illustrates that the districts in Rjshahi Division got relatively high scores, geographical distribution of the higher and lower performing districts indicates no notable patterns. The pilot districts of the Project have relatively low average scores.

(https://ugdp-lgd.org/pages.php?id=45)

[11] https://ugdp-lgd.org/admin/upload/download/5bc952efb0.pdf

Table 4-9 Average Score by District

Division	District	Average	Division	District	Average
Rajshahi	Joypurhat	87.00	Rangpur	Thakurgaon	73.40
Rajshahi	Chapai nawabganj	85.80	Dhaka	Tangail	73.30
Rajshahi	Natore	84.30	Dhaka	Rajbari	73.00
Rajshahi	Naogaon	83.40	Rangpur	Lalmonirhat	72.60
Chittagon	Noakhali	81.60	Rangpur	Dinajpur	72.40
Barisal	Jhalokati	81.50	Khulna	Satkhira	72.30
Chittagon	Chandpur	81.10	Chittagon	Rangamati	72.20
Khulna	Meherpur	80.70	Chittagon	Feni	71.50
Rangpur	Panchagarh	79.80	Chittagon	Brahmanbaria	70.60
Khulna	Narail	79.70	Khulna	Chuadanga	70.30
Rajshahi	Rajshahi	79.70	Chittagon	Cox's Bazar	70.00
Rangpur	Nilphamari	79.30	Khulna	Bagerhat	69.60
Dhaka	Shariatpur	78.70	Barisal	Barguna	68.50
Rajshahi	Pabna	78.40	Dhaka	Kishoreganj	68.00
Dhaka	Dhaka	77.40	Barisal	Barisal	67.90
Rajshahi	Sirajganj	77.20	Dhaka	Gopalganj	67.20
Khulna	Magura	76.80	Rangpur	Kurigram	66.60
Dhaka	Manikganj	76.60	Barisal	Patuakhali	66.40
Rangpur	Rangpur	76.40	Sylhet	Sylhet	63.70
Dhaka	Munshiganj	76.30	Chittagon	Khagrachhari	63.60
Khulna	Jhenaidah	76.00	Rangpur	Gaibandha	63.10
Sylhet	Moulvibazar	75.90	Sylhet	Habiganj	61.20
Khulna	Kushtia	75.80	Dhaka	Faridpur	60.40
Rajshahi	Bogura	75.30	Chittagon	Lakshmipur	60.00
Khulna	Khulna	75.00	Mymensingh	Sherpur	58.60
Chittagon	Cumilla	74.80	Chittagon	Bandarban	55.00
Dhaka	Narsingdi	74.70	Barisal	Bhola	54.40
Mymensingh	Jamalpur	74.30	Sylhet	Sunamganj	53.20
Chittagon	Chattogram	74.20	Dhaka	Madaripur	53.00
Dhaka	Narayanganj	73.60	Mymensingh	Netrokona	51.30
Khulna	Jashore	73.50	Barisal	Pirojpur	48.90
Mymensingh	Mymensingh	73.40	Dhaka	Gazipur	42.60

Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

3) Key elements toward LDRRP formulation

3-1) Budget preparation and expense

Annual budget is prepared and approved as stated in UZP Act. (2.1). In the UGDP, the "Financial Management Capacity[12]" was also evaluated. Since the capacity of the annual budget preparation and utilization (less gap between the budget and expenditure) of each Upazila are relatively related to the UzDPPRs formulation and implementation, this report looked at the data and the results were shown below.

The annual budget preparation and approval situation was evaluated by the following scoring criteria:

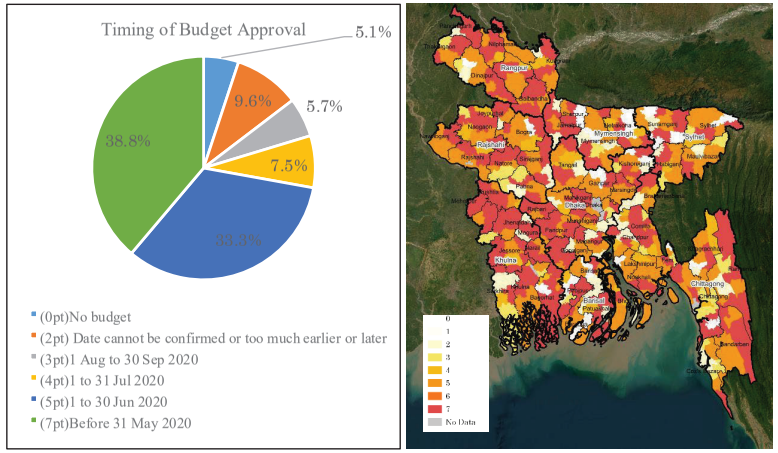
Timing of Budget Approval:

Point 7: Before 31 May 2020

[12] This assessment evaluated 4 elements; Annual budget is prepared and approved as stated in UZP Act; Asset register is properly maintained and updated; Annual financial statement is prepared; Gap between the initial budget and the actual expenditure is minimized.

Point 5: 1 to 30 June 2020
Point 4: 1 to 31 July
Point 3: 1 August to 30 September 2020
Point 2: Earlier than 30 June 2019 or later than 1 October 2020 or date cannot be confirmed
Point 0: No budget

The average score of the budget preparation and approval situation is 5.0 points and the distribution of the points was shown below. As the figure shows, more than 70% of Upazilas prepared the annual budget proposals and got approval at the latest before June 30, while approximately 20% of the Upazilas were not able to get approval on the annual budget proposals even though the new fiscal year started in July. Looking at the District average, while the average of the scores of the Upazilas in Meherpur District (Khulna Division) and Jhalokati District (Barisal Division) got 7.0 points, which means all Upazilas under their districts got approval by 31 May, in the Pirojpur District and the Barisal District, both in Barisal Division, had low average points at 3.3 points and 3.6 points respectively, therefore, were relatively late to get budget approval.



Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-18 Annual Budget Preparation and Approval Situation

Table 4-10 Average Scores of the Upazilas in "Annual budget is prepared and approved as stated in UZP Act"

Division	District	Average	Division	District	Average
Barisal	Jhalokati	7.0	Chittagon	Noakhali	5.0
Khulna	Meherpur	7.0	Dhaka	Manikganj	5.0
Dhaka	Gopalganj	6.6	Rajshahi	Natore	5.0
Dhaka	Rajbari	6.6	Rajshahi	Bogura	4.9
Khulna	Chuadanga	6.5	Chittagon	Brahmanbaria	4.9
Rangpur	Gaibandha	6.4	Chittagon	Chattogram	4.9
Khulna	Jashore	6.4	Rangpur	Dinajpur	4.8
Dhaka	Faridpur	6.3	Barisal	Barguna	4.8
Khulna	Narail	6.3	Dhaka	Madaripur	4.8
Dhaka	Dhaka	6.2	Rajshahi	Pabna	4.7
Khulna	Jhenaidah	6.0	Dhaka	Kishoreganj	4.6
Rangpur	Panchagarh	6.0	Sylhet	Sylhet	4.6
Rangpur	Rangpur	5.9	Barisal	Bhola	4.6
Chittagon	Bandarban	5.9	Sylhet	Moulvibazar	4.6
Khulna	Kushtia	5.8	Barisal	Patuakhali	4.5
Rangpur	Nilphamari	5.8	Chittagon	Chandpur	4.5
Rajshahi	Chapai nawabganj	5.8	Khulna	Magura	4.5
Rajshahi	Rajshahi	5.8	Sylhet	Habiganj	4.4
Rajshahi	Naogaon	5.7	Chittagon	Lakshmipur	4.4
Dhaka	Narsingdi	5.7	Dhaka	Gazipur	4.4
Khulna	Bagerhat	5.7	Mymensingh	Mymensingh	4.4
Chittagon	Cumilla	5.5	Chittagon	Khagrachhari	4.3
Rajshahi	Sirajganj	5.4	Dhaka	Shariatpur	4.3
Dhaka	Tangail	5.4	Chittagon	Cox's Bazar	4.3
Dhaka	Narayanganj	5.4	Chittagon	Feni	4.2
Rangpur	Lalmonirhat	5.4	Sylhet	Sunamganj	4.1
Rangpur	Thakurgaon	5.4	Mymensingh	Netrokona	3.9
Khulna	Khulna	5.3	Khulna	Satkhira	3.9
Chittagon	Rangamati	5.3	Mymensingh	Sherpur	3.8
Mymensingh	Jamalpur	5.3	Dhaka	Munshiganj	3.7
Rajshahi	Joypurhat	5.2	Barisal	Barisal	3.6
Rangpur	Kurigram	5.1	Barisal	Pirojpur	3.3

Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

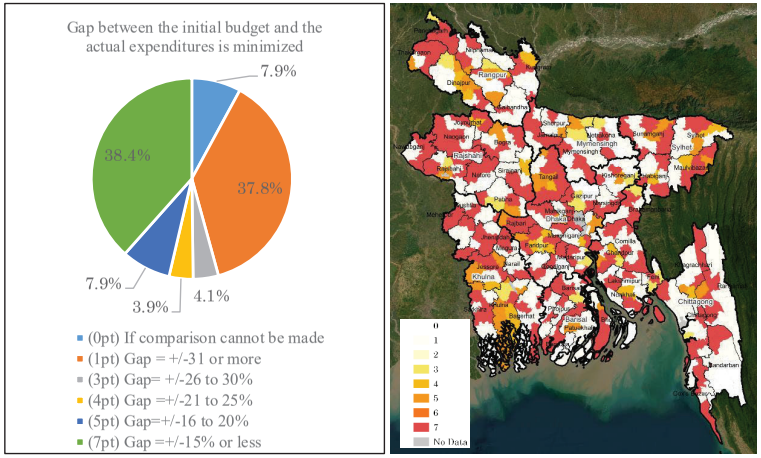
The budget utilization status (gap between the initial budget and the actual expenditures) were evaluated by the following criteria:

Calculation of Gap (%):

Point 7: Gap is =+/- 15% or less
Point 5: Gap is +/-16 to 20%
Point 4: Gap is +/-21 to 25%
Point 3: Gap is +/-26 to 30%
Point 1: Gap is +/-31 or more
Point 0: If comparison cannot be made

The average score of the budget preparation and approval situation is 3.7 points and the distribution of the points is shown below. As the figure shows, the gap of the initial budget and the actual expenditures indicates the tendency of the polarisation between the Upazilas with +/- 31 % or more gap and the Upazilas with +/- 15% or less. On the district level, Meherpur District in Khulna Division had 7.0 average points, followed by Rajbari District in Dhaka Division at 6.6 points. Since Meherpur

District got the highest points in the survey of the timing of budget approval, this district must have a high capacity of the financial governance. Apart from that, there is no strong tendency in each division. Since this survey item can suggest the development capacity of the accurate budget proposals or the implementation capacity of the planned activities in accordance with the budget plan, the results can be useful for creating a prioritization list of the Upazilas for UzDRRP formulation.



Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-19 The Budget Utilization Status

Table 4-11 Average Scores of the Upazilas in the Budget Utilization Status

Division	District	Average	Division	District	Average
Khulna	Meherpur	7.0	Dhaka	Madaripur	3.8
Dhaka	Rajbari	6.6	Rajshahi	Natore	3.7
Rangpur	Panchagarh	6.2	Rajshahi	Rajshahi	3.7
Rajshahi	Chapai nawabganj	5.8	Rangpur	Nilphamari	3.7
Rangpur	Thakurgaon	5.4	Dhaka	Gazipur	3.4
Dhaka	Tangail	5.3	Rajshahi	Sirajganj	3.3
Rajshahi	Joypurhat	5.2	Mymensingh	Mymensingh	3.3
Chittagon	Chandpur	5.1	Sylhet	Habiganj	3.2
Khulna	Jashore	5.1	Chittagon	Chattogram	3.1
Dhaka	Manikganj	5.0	Chittagon	Rangamati	3.1
Sylhet	Sunamganj	5.0	Rangpur	Dinajpur	3.1
Barisal	Barguna	4.8	Barisal	Patuakhali	3.0
Khulna	Jhenaidah	4.8	Chittagon	Khagrachhari	3.0
Rajshahi	Naogaon	4.8	Khulna	Kushtia	3.0
Barisal	Barisal	4.8	Khulna	Narail	3.0
Dhaka	Faridpur	4.7	Rajshahi	Pabna	3.0
Chittagon	Cox's Bazar	4.6	Khulna	Bagerhat	2.9
Dhaka	Dhaka	4.6	Mymensingh	Sherpur	2.8
Sylhet	Moulvibazar	4.6	Sylhet	Sylhet	2.8
Chittagon	Brahmanbaria	4.6	Dhaka	Kishoreganj	2.6

Division	District	Average	Division	District	Average
Mymensingh	Jamalpur	4.4	Barisal	Jhalokati	2.5
Dhaka	Shariatpur	4.3	Chittagon	Feni	2.5
Chittagon	Cumilla	4.2	Khulna	Chuadanga	2.5
Rajshahi	Bogura	4.2	Barisal	Pirojpur	2.4
Barisal	Bhola	4.1	Chittagon	Noakhali	2.3
Khulna	Satkhira	4.1	Chittagon	Bandarban	2.3
Dhaka	Narsingdi	4.0	Dhaka	Munshiganj	2.2
Khulna	Khulna	4.0	Dhaka	Gopalganj	2.0
Khulna	Magura	4.0	Mymensingh	Netrokona	2.0
Rangpur	Rangpur	4.0	Chittagon	Lakshmipur	1.8
Rangpur	Kurigram	3.9	Rangpur	Gaibandha	1.7
Dhaka	Narayanganj	3.8	Rangpur	Lalmonirhat	1.0

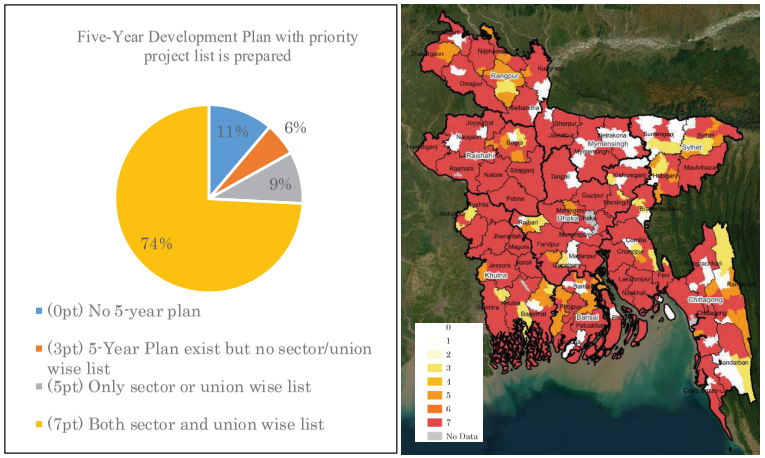
Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

3-2) Planning and budgeting capacity

This survey also looked at the results of the "Planning and Budgeting Capacity" under the UDGP assessment. The following topics were analyzed by using 1-7 points. In terms of the 5-year development plan, while over approximately 90% of Upazilas have their own plans and 70% have prepared sector and union wise priority project lists, 11% of all Upazilas nationwide do not even develop the plan. Regarding the inspection of the development project site implemented by Upazila officials, the percentage of the Upazilas where the Upazila officials inspected 90% or more development project sites was 42%. Conversely, there is 23% of Upazilas where the officials did not inspect any of their project sites. In addition, 45% of Upazilas did not prepare their Upazila project proposal and did not discuss them at UCs or UZC meetings, while 28% of Upazilas developed all Upazila project proposals of ADP projects. These results suggest which Upazilas have high capacity of governance and are more active with their ownerships to manage the projects in their areas.

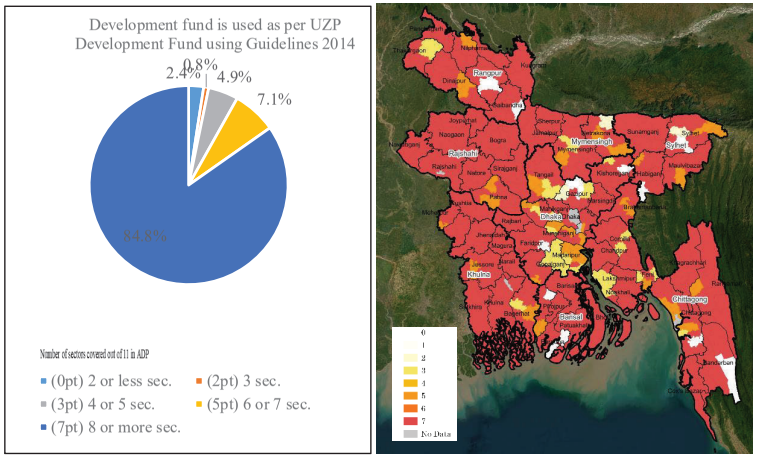
Planning and budget capacity

- Five-Year Development Plan with priority project list is prepared
- Development fund is used as per UZP Development Fund using Guidelines 2014
- Development project sites are inspected by Upazila officers
- Upazila Project Proposal (UPP) is prepared and discussed at UCs or UZP meeting



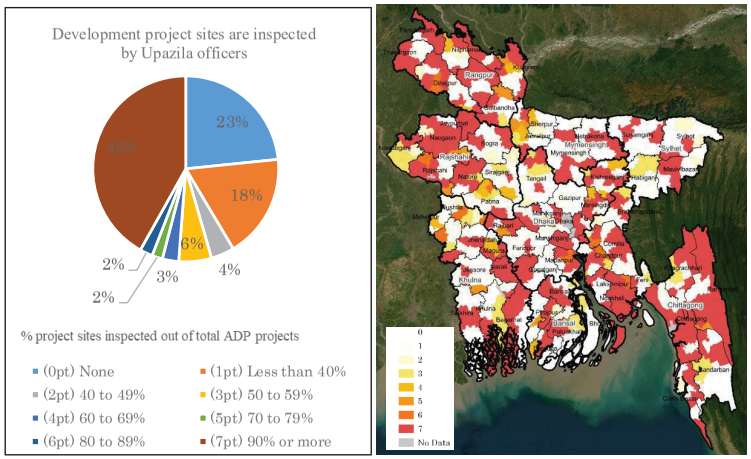
Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-20 Five-Year Development Plan with Priority Project List is Prepared



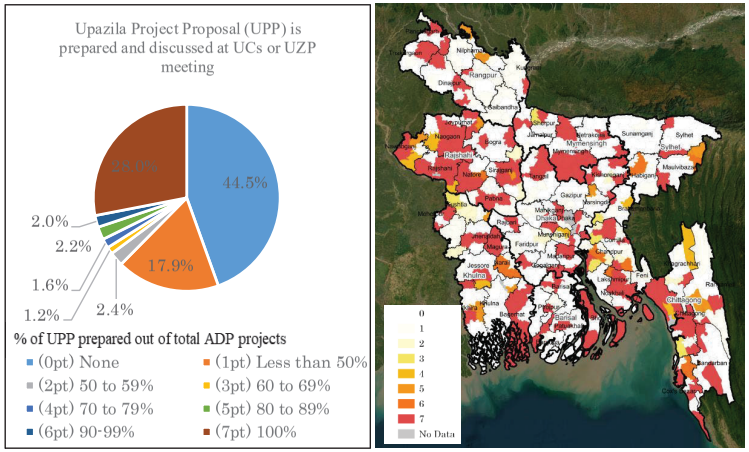
Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-21 Development Fund is Used as per UZP Development Fund Using Guidelines 2014



Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-22 Development Project Sites are Inspected by Upazila Officers



Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

Figure 4-23 Upazila Project Proposal (UPP) is Prepared and Discussed at UCs or UZP Meeting

The average of total scores of the Upazilas per each District are shown below. Many districts in Chittagon Division and Raishahi Division were ranked in the top 10 districts.

Table 4-12 Table Average Score of Planning and Budgeting Capacity per District[13]

Division	District	Average	Division	District	Average
Chittagon	Noakhali	26.3	Rangpur	Rangpur	18.8
Rajshahi	Joypurhat	26.2	Dhaka	Kishoreganj	18.2
Khulna	Narail	25.3	Rangpur	Kurigram	17.9
Rajshahi	Rajshahi	24.6	Mymensingh	Jamalpur	17.9
Khulna	Magura	23.8	Barisal	Patuakhali	17.8
Rajshahi	Natore	23.6	Khulna	Chuadanga	17.8
Rajshahi	Naogaon	23.3	Rangpur	Nilphamari	17.7
Rajshahi	Chapai nawabganj	23.2	Dhaka	Dhaka	17.6
Chittagon	Chandpur	22.6	Barisal	Bhola	17.6
Chittagon	Chattogram	22.4	Dhaka	Manikganj	17.6
Barisal	Jhalokati	22.0	Mymensingh	Sherpur	17.4
Dhaka	Munshiganj	21.3	Chittagon	Khagrachhari	17.3
Dhaka	Narayanganj	21.2	Khulna	Meherpur	17.3
Rangpur	Lalmonirhat	21.2	Barisal	Barisal	17.3
Rangpur	Panchagarh	21.2	Dhaka	Rajbari	17.2
Khulna	Bagerhat	20.6	Dhaka	Tangail	17.2
Rajshahi	Sirajganj	20.4	Khulna	Jashore	17.1
Rangpur	Thakurgaon	20.2	Khulna	Khulna	16.8
Dhaka	Narsingdi	19.8	Chittagon	Brahmanbaria	16.7
Dhaka	Shariatpur	19.8	Rajshahi	Bogura	16.6
Mymensingh	Mymensingh	19.8	Chittagon	Lakshmipur	16.0
Barisal	Barguna	19.7	Rangpur	Gaibandha	15.9
Khulna	Kushtia	19.7	Dhaka	Faridpur	15.3
Chittagon	Cox's Bazar	19.6	Chittagon	Bandarban	14.9
Chittagon	Cumilla	19.6	Chittagon	Feni	14.5
Sylhet	Moulvibazar	19.6	Sylhet	Sylhet	13.9
Khulna	Jhenaidah	19.5	Mymensingh	Netrokona	13.0
Rajshahi	Pabna	19.4	Sylhet	Habiganj	12.0
Khulna	Satkhira	19.4	Barisal	Pirojpur	11.7
Rangpur	Dinajpur	19.3	Sylhet	Sunamganj	11.5
Chittagon	Rangamati	19.2	Dhaka	Gazipur	11.4
Dhaka	Gopalganj	18.8	Dhaka	Madaripur	7.5

Source: Result of the 5th Performance Assessment: 2020-2021, UGDP

[13] Maximum point is 28.

(2) Questionnaire survey

In order to investigate the current status of the DRR governance and administrative capacity, the questionnaire survey to all DRROs was implemented. This section explained the results of the survey.

1) Establishment of the DMC and the numbers of the DMCs

According to the responses from all DRROs, DDMCs are established in all districts apart from 3 districts that gave no response to this question, since the Standing Orders on Disaster (SOD) stipulates the formation of the DDMCs. Although there are 3 districts that gave no response to the question regarding the establishment and the numbers of DDMCs, they definitely have their DDMCs, based on the SOD.

Regarding the number of DDMC members, while it depends on the numbers of Upazilas under the district, the average of all the DDMC is 69 members. The members of the DDMC are defined in SODs, and all districts follow it. They consist of the Deputy Commissioner of the District as a chairperson, district offers of all line-ministries, departments of the district offices, all Upazila Parishad Chairman and municipal mayors, district chamber of commerce industries, local elite, local press club and so on.

Table 4-13 The Number of Members of DDMCs

Minimum	Maximum	Average
41 members Gazipur District, Dhaka Division	97 members Cumilla District, Chattogram Division	69 members

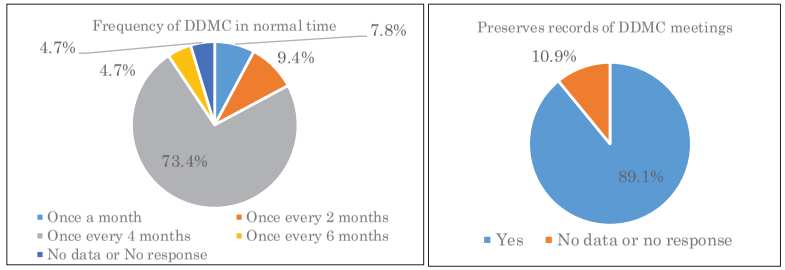
Source: Questionnaire to DRROs

2) Frequency of the DDMC meetings

While 73.4% of the district responded that they hold DDMC meetings quarterly that may reflect to the stipulation of SOD[14], there are some districts where their meetings are held half yearly which are Chuadanga, Pirozpur, and Narsingdi. In contrast, the districts where the DDMC meetings are held monthly are Noakhali, Kurigram, Rangpur, Moulavibazar, and Sylhet. Some of these districts have high disaster risk areas, thus, the frequency is likely to be high.

During disasters, even though the SOD stipulates that the DDMC should have meetings before, during, and post disaster period as required, only four (4) districts specifically responded that they hold their DMC meetings during disasters as per needed in addition to their regular meetings, which are Borguna, Luxmipur, Moulavibazar, and Sylhet. In terms of the meeting records, 89.1% of districts that is all the district responding to this question keep records of the meetings that they hold.

[14] SOD (2019, English ver.) P76: Considering the situation, the District Committee will call for meetings as follows: (a) During the normal period, once in three months; (b) Before disaster, during disaster and post-disaster period, as required.



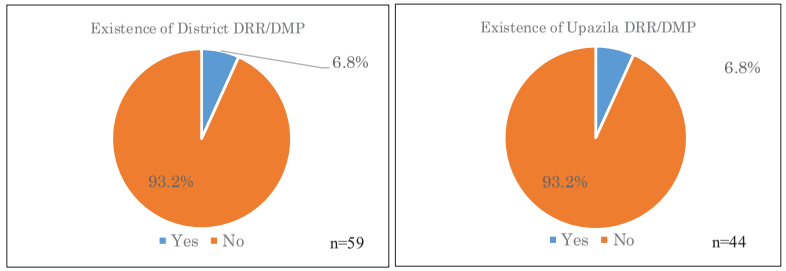
Source: Questionnaire to DRROs

Figure 4-24 Frequency of DDMC in Normal Time

3) Development of the Disaster Management Plans (DMPs)

According to the questionnaire results, it is confirmed that most of the districts do not have a plan for disaster risk reduction. The DDMCs having a district level DRR plan were Gazipur, Sherpur, Cox's Bazar, and Bandarban which were probably assisted by the UNDP under the project of CDMP. Similarly, at the Upazila level, among districts responded to the questions, while over 93.2 % of DRROs reported that there is no Upazilas that have their DRR/DMPs, only 3 districts mentioned some Upazilas in their districts have UzDMPs. These 3 districts are Bandarban (all Upazilas), Bagerhat (Morrelganj, Rampal, Mongla, Sharankhola and Fokirhat), and Sherpur (Bagerhat District, Sherpur Sadar and Nakla Upazilas).

On the other hand, the project team expected other Upazilas that had developed UzDMPs under the CDMP, and found additional districts where Upazilas in the district have their UzDMCs. Those districts are Patuakhali, Chattogram, Cox's Bazar, Feni, Jamalpur,Naogaon, Rajaship, Sirajganj, Gaibandha, and Sunamganj and developed their plans in 2014. In total, 20.3% of districts have Upazilas where the UzDMC has their DDMPs. Besides, since approximately 30% of DRROs said there are no data or did not respond to the questions, they probably do not clearly understand the current existence status of the UzDMPs.

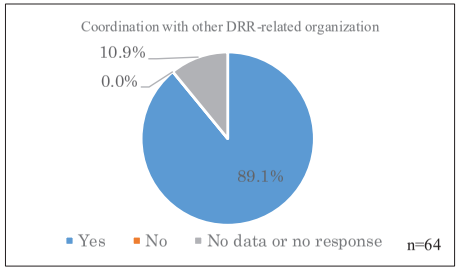


Source: Questionnaire to DRROs

Figure 4-25 Existence of DRRs/DMPs

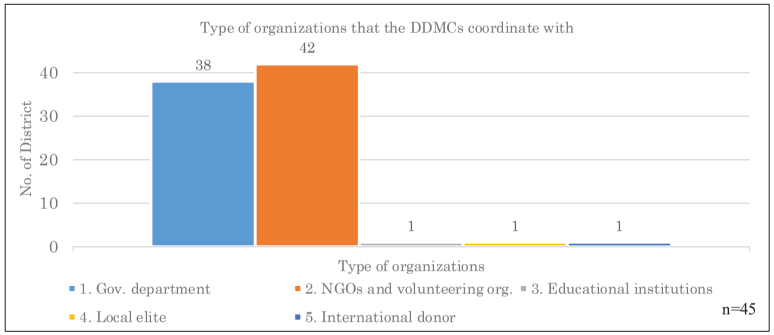
4) Coordination with other departments and organizations

All DRROs who answered to this question mentioned that their DDMCs coordinate with other DRR-relevant departments of the government and organizations. The organizations that the DDMCs coordinate with are various governmental organizations such as FSCD and DPHE, NGOs including Red Crescent Society and BRAD, and international donors such as UNDP. Specifically, the most coordinated type of organisation is NGOs and volunteering organization, followed by government agencies, which is the country's specific trend. Of all 36 DRROs who answered specific name of agencies, 26 (72.2%) said they coordinate with FSCD and 25 (69.4%) said they coordinate with Red Crescent Society. The activities of these agencies are mainly for disaster response and preparedness including capacity building and training in normal time and emergency, and not for disaster risk reduction. Conversely, the number of DDMCs that coordinate with BWDB and LGED which are the key agencies to promote disaster risk reduction is only 6 and 2 respectively. The main areas of coordination are training and meetings. They also share resources with various actors and conduct surveys with them.



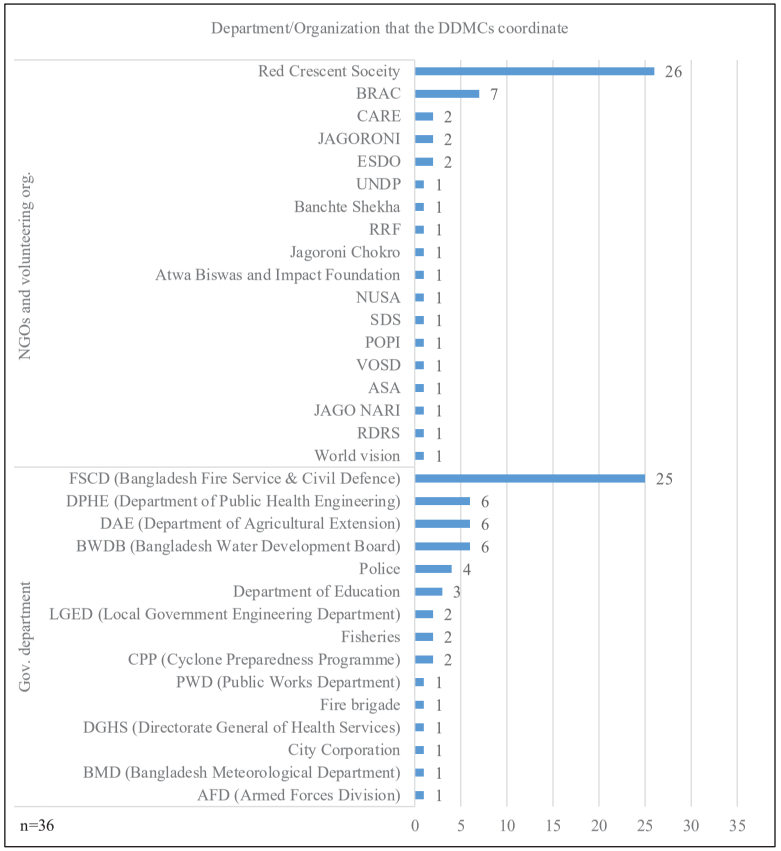
Source: Questionnaire to DRROs

Figure 4-26 Coordination with other DRR-related Organizations



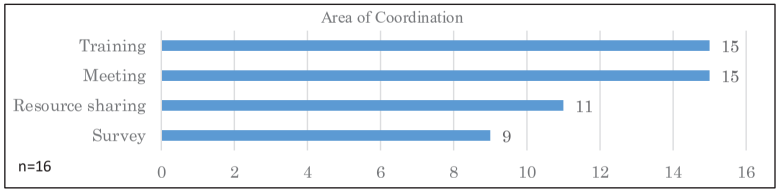
Source: Questionnaire to DRROs

Figure 4-27 Types of Organizations that the DDMCs Coordinate with



Source: Questionnaire to DRROs

Figure 4-28 Department/Organization that the DDMCs Coordinate



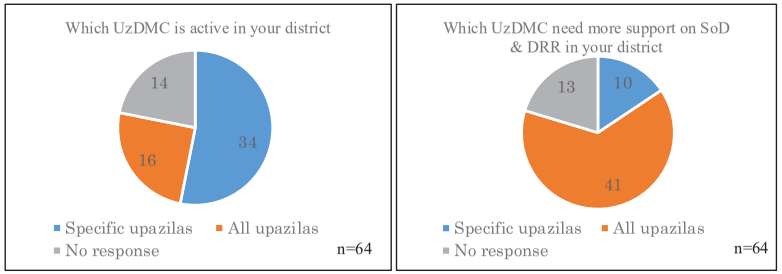
Source: Questionnaire to DRROs

Figure 4-29 Area of Coordination

5) Situation of UzDMCs

The questionnaire also asked DRROs which UzDMC is active in the district, and 34 of the respondents provided specific Upazilas in their district. As well as these Upazilas which are active in DRM activities, the DRROs understand Upazila DMCs activities and the differences between them in their areas.

Regarding Upazilas that need more support on SoD and DRR in their district, more than 60% of them think all of the Upazilas in their district need support on understanding the SoD and about DRR related issues, while 15.6% listed specific Upazilas. This shows that they relatively do not take into consideration of which Upazila is particularly vulnerable, or they would like to have as much support they can get if there is the possibility of it.



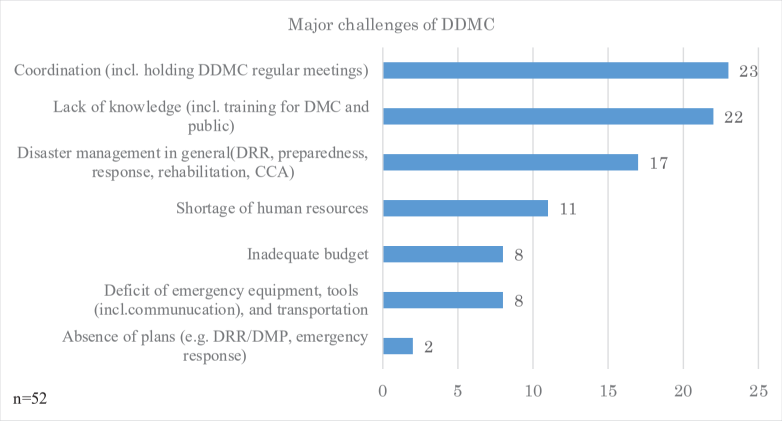
Source: Questionnaire to DRROs

Figure 4-30 Situation of UzDMCs Based on the Recognition of DRRO

6) Challenges of DDMCs

Coordination is the main difficulty that the DRROs felt. For some specifically, the position of DRRO not being regarded as important is the reason for the difficulty, as it makes it more difficult to gather relevant personnel/organizations to the DDMC meetings.

Lack of knowledge, including the opportunities of training, are also hindering the DMC activities. This could be the cause of challenges related to planning prior to disasters. Training prior to the nationwide dissemination is critical for the UzDRRP planning so that the relevant personnel are confident that they have received the necessary training.



Notes: Open-ended questions. All answers were categorized into the listed answers by the JET.

Source: Questionnaire to DRROs

Figure 4-31 Major challenges of DDMC for DRROs

4.4 Structural and Non-Structural Countermeasures

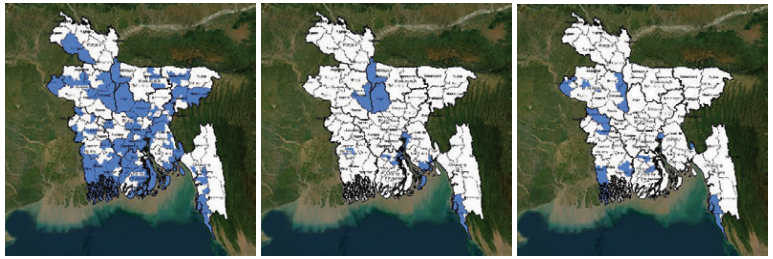
Since DRR countermeasures are done by various institutions and donors, it is difficult to collect the overall implementation status of structural and non-structural countermeasures in each Upazila nationwide. Therefore, this survey attempted to ask all DRROs about the implementation situation, such as what kind of DRR countermeasure interventions have been implemented in each Upazila.

Table 4-14:Information Items on Structural and Non-Structural Countermeasures

Category		Sub-category	Information Source
Structural and Non-Structural countermeasures	21	Structure measures implementation situation	Questionnaire to DRROs[15]
	22	Non-structural countermeasures implementation situation	

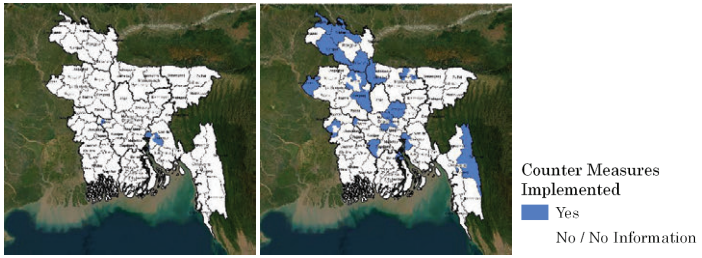
4.4.1 Implementation situation of DRR counter measures

According to the survey result, as the structural countermeasures, cyclone or flood shelter and lightning prevention rods are broadly seen throughout the country. In detail, cyclone or flood shelters are made in Upazilas along the major rivers and in the coastal region broadly, lightning prevention rods are seen more in the north area such as the Rungpur Division and in the hill side area of Chattogram Division. Also, Mujib Killa which is a small hill made to prevent housing from inundation is seen in the areas along Jamuna River and in the downstream areas of Meghna River and in Cox's Bazar District. Structure measures to prevent flooding such as embankment construction are seen along the major river systems of Jamuna, Padma and Meghna and the rivers in the Cox's Bazar District. On the other hand, structure measures to prevent river erosion such as the placement of blocks and sandbags are limited in several Upazilas along Padma and Meghna rivers. Districts where DRROs answered that they have countermeasure activities were colored in blue on the country maps as follows.



Shelter Mujib Killa Embankment

[15] The implementation status of structural and non-structural measures was asked to the DRROs in each district about the situation of the Upazilas in their district. The structural measures they acknowledge, as well as the non-structural measures including the situation of the implementation status of evacuation drill or evacuation simulation, was asked.



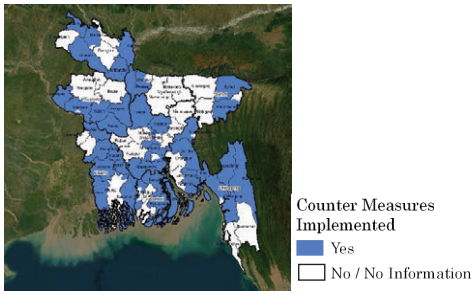
Block / Sandbag Lightning Prevention Rod

Source: Questionnaire to DRROs

Figure 4-32 Situation of Structural Measures against Disaster in Upazilas

Regarding the non-structural measures, the situation of the implementation of evacuation drill or evacuation simulation was asked. DRROs answered if they acknowledge any activities related to evacuation drills or DRR-relative drill activities in Upazilas within their jurisdiction, which districts were colored in blue on the country map in the following map.

According to the result, evacuation drill was conducted in the Upazilas along the Meghna, Padma, and Jamuna river system and some areas in Rangpur and Khulna, the east area of Sylhet and Chittagong Division. On the other hand, also in some districts with high hazard to flood or storm surge which could be considered as a district that requires implementation of evacuation drill regularly.



Source: Questionnaire to DRROs

Figure 4-33 Situation of Evacuation Simulation / Drill Implementation in Upazilas

It shall be noted that, due to the nature of y the questionnaire to DRROs the results of this survey do not show the whole picture of the intervention of structural and non-structural measures at the Upazila level.

4.5 Other Remarks

4.5.1 Challenges in Hazard Analysis

(1) Lack in comprehensive hazard analysis

Through this survey, it is revealed that nationwide Upazila-level hazard information in Bangladesh is limited, with existing research focusing on specific river basins or regions in the country. Although the Risk Atlas, created as part of the MRVAM project, is available for policymaking, it has limitations in resolution and coverage, making it unsuitable for Upazila-level policy and decision-making. For instance, the flood and storm surge analyses in the Risk Atlas have limitations, such as the lack of inundation analysis for accurate hazard mapping and the exclusion of flash flood effects in the Chittagong Division, which indicates insufficient coverage. Therefore, it is recommended to update the hazard analysis with higher accuracy, resolution, and consistent methodology nationwide.

(2) Coordination with international donors for consistent strategy and platform for policy making

According to the interview to the DDM official in charge of the National Resilience Project (NRP), which is a multi-donor platform to support the DRR activities in Bangladesh, the NRP have developed a tool to visualize the hazard, exposure, vulnerability, and risk situation for hazard type in a district scale. Additionally, the NRP intends to expand this tool in the Upazila scale through its second phase. Therefore, although it is uncertain if the Upazila scale data will be prepared, by ensuring a good coordination between the JICA project and the NRP project, there might be a chance to have collaboration in the hazard analysis with this Project. It can promote the information sharing at Upazila level.

(3) Limited understanding on hazards and disaster risks at the district Level

By comparing the result of the questionnaire to DRROs and the result of the district-wise hazard level evaluation, the gap between the results of questionnaire survey to DRROs and the scientific analysis on hazard was revealed. For example, some DRROs answered the existence of hazard of Storm Surge although their areas are not located in the coastal area. Therefore, it is assumed that some DRROs do not recognize hazards and disaster risks within their areas. Thus, it is necessary to enhance the understanding on hazards through the process of UzDRRP formulation.

ANNEX1 : Division Wise Summary

The Geographical Vulnerability Status was summarized per Division to summarize to quickly understand the situation. The information included in the summary is as below.

Elevation Map:
- ESRI Satellite image as base map
- Elevation Color overlay

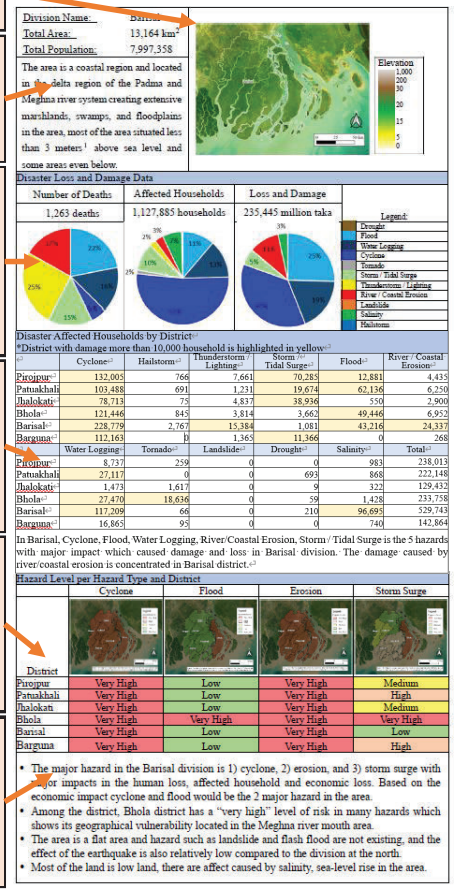
Basic Geographical Information:
- Total area and population
- Location of major rivers, hill area and other landscape
- Geological characteristic

Disaster Loss and Damage Data
- Number of deaths, affected households and loss and damage data in each Division
- Data from 6-year period (2015 – 2020)
- Data from Bangladesh disaster-related statistics 2021

Disaster Affected Household by District
- Number of affected households in District level of the 9-year period (2015 – 2020)
- Data from Bangladesh disaster-related statistics 2021

Hazard Level
- Hazard level for major hazard in the Division is summarized
- Hazard level for each District is mentioned with map and color.
- Data from DRIP (Disaster and Climate Risk Information Platform)

Summary of the Hazard Situation
- The major hazard in the Division based on the loss and damage data
- Area specific character of the hazard District wise
- Other caution regarding hazard



Division Name: Barisal
Total Area: 13,164 km²
Total Population: 7,997,358

The area is a coastal region and located in the delta region of the Padma and Meghna river system creating extensive marshlands, swamps, and floodplains in the area, most of the area situated less than 3 meters[1] above sea level and some areas even below.

Elevation: 1,000, 200, 30, 20, 15, 5, 0

Disaster Loss and Damage Data

Number of Deaths	Affected Households	Loss and Damage
1,263 deaths	1,127,885 households	235,445 million taka

Legend: Drought, Flood, Water Logging, Cyclone, Tornado, Storm / Tidal Surge, Thunderstorm / Lighting, River / Coastal Erosion, Landslide, Salinity, Hailstorm

Disaster Affected Households by District
*District with damage more than 10,000 household is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Pirojpur	132,005	766	7,661	70,285	12,881	4,435
Patuakhali	103,488	691	1,231	19,674	62,136	6,250
Jhalokati	78,713	75	4,837	38,936	550	2,900
Bhola	121,446	845	3,814	3,662	49,446	6,952
Barisal	228,779	2,767	15,384	1,081	43,216	24,337
Barguna	112,163	0	1,365	11,366	0	268

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Pirojpur	8,737	259	0	0	983	238,013
Patuakhali	27,117	0	0	693	868	222,148
Jhalokati	1,473	1,617	0	9	322	129,432
Bhola	27,470	18,636	0	59	1,428	233,758
Barisal	117,209	66	0	210	96,695	529,743
Barguna	16,865	95	0	0	740	142,864

In Barisal, Cyclone, Flood, Water Logging, River/Coastal Erosion, Storm / Tidal Surge is the 5 hazards with major impact which caused damage and loss in Barisal division. The damage caused by river/coastal erosion is concentrated in Barisal district.

Hazard Level per Hazard Type and District

District	Cyclone	Flood	Erosion	Storm Surge
Pirojpur	Very High	Low	Very High	Medium
Patuakhali	Very High	Low	Very High	High
Jhalokati	Very High	Low	Very High	Medium
Bhola	Very High	Very High	Very High	Very High
Barisal	Very High	Low	Very High	Low
Barguna	Very High	Low	Very High	High

- The major hazard in the Barisal division is 1) cyclone, 2) erosion, and 3) storm surge with major impacts in the human loss, affected household and economic loss. Based on the economic impact cyclone and flood would be the 2 major hazard in the area.
- Among the district, Bhola district has a "very high" level of risk in many hazards which shows its geographical vulnerability located in the Meghna river mouth area.
- The area is a flat area and hazard such as landslide and flash flood are not existing, and the effect of the earthquake is also relatively low compared to the division at the north.
- Most of the land is low land, there are affect caused by salinity, sea-level rise in the area.

Figure Contents of the Division Wise Summary

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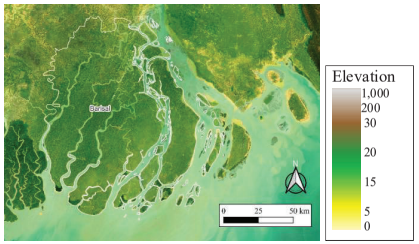
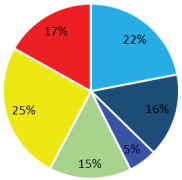
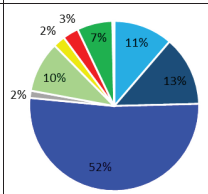
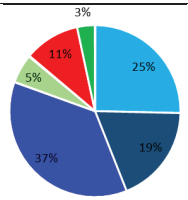


Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Loss and Damage
1,263 deaths	1,127,885 households	235,445 million taka







Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District
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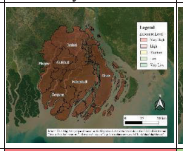
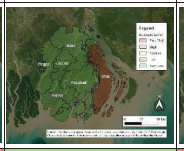
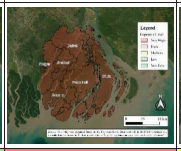
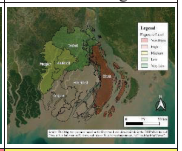
[16] Shuttle Radar Topography Mission (SRTM) digital elevation model, 2000

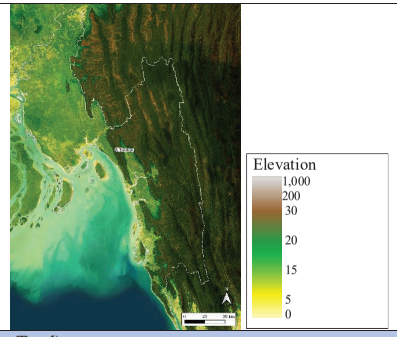
Hazard Level per Hazard Type and District

District	Cyclone	Flood	Erosion	Storm Surge
				
Pirojpur	Very High	Low	Very High	Medium
Patuakhali	Very High	Low	Very High	High
Jhalokati	Very High	Low	Very High	Medium
Bhola	Very High	Very High	Very High	Very High
Barisal	Very High	Low	Very High	Low
Barguna	Very High	Low	Very High	High

- The major hazards in the Barisal Division are 1) cyclone, 2) erosion, and 3) storm surge with major impacts in the human loss, affected household and economic loss. Based on the economic impact cyclone and flood would be the 2 major hazards in the area.
- Among the districts, Bhola District has a “very high” level of risk in many hazards which shows its geographical vulnerability located in the Meghna River mouth area.
- The area is a flat area and hazards such as landslide and flash flood do not exist, and the effect of earthquakes is also relatively low compared to the divisions in the north.
- Most of the land is low land, there are effects caused by salinity, sea-level rise in the area.

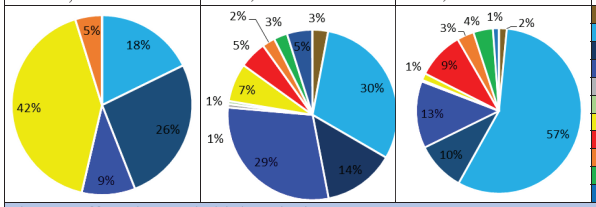
Division Name:	Chattogram
Total Area:	33,598 km^2
Total Population:	28,289,435

The area is in an area which is characterized by hills, valleys, and plains, including the Chittagong Hill, valley, and the plain area in the northern part of the region along the Meghna River and coastal plain area where several major river systems such as Karnaphuli River.



Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
1,337 deaths	610,976 households	172,449 million taka



Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

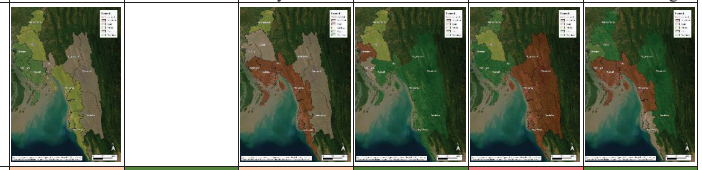
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Rangamati	3,669	3,979	4,279	0	8,242	2,866
Noakhali	57,918	7,764	13,186	426	9,390	4,800
Lakshmipur	52,776	2,173	8,995	2,924	24,542	6,449
Khagrachhari	9,478	6,514	9,285	0	8,587	1,722
Feni	50,058	281	9,876	132	56,621	4,541
Cumilla	8,672	6,695	4,746	0	18,617	8,645
Cox's Bazar	73,976	518	295	449	49,103	944
Chattogram	25,796	5,312	6,229	2,124	120,432	4,271
Chandpur	40,923	4,189	5,601	465	24,133	5,013
Brahmanbaria	542	18,303	20,722	0	21,011	16,292
Bandarban	14,988	0	648	0	9,474	4,178

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Rangamati	5,059	3,182	7,396	3,897	0	42,569
Noakhali	30,662	789	0	2,294	2,197	129,424
Lakshmipur	15,935	0	0	2,247	1,770	117,860
Khagrachhari	664	3,486	7,116	973	0	47,825
Feni	4,074	0	0	407	942	126,930
Cumilla	18,524	78	0	1,941	0	68,005
Cox's Bazar	6,957	0	1,503	115	11,141	145,000
Chattogram	25,618	0	351	699	10,752	201,585
Chandpur	40,200	0	0	1,742	2,826	125,092
Brahmanbaria	9,245	312	0	19,237	0	106,070
Bandarban	28	0	11,965	586	0	41,867

Flood, Water Logging, Cyclone, River/Coastal Erosion and Salinity are the hazards with major impact which caused damage and loss in Chattogram Division.
The damage caused by river/coastal erosion is concentrated in Brahmanbaria District. And Salinity in Cox's Bazar and Chatttogram District. Although there is damage caused by Landslide in the Division the damage is not dominant.

Hazard Level per Hazard Type and District

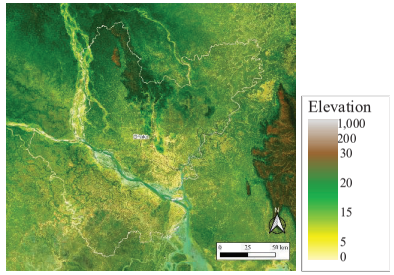


District	Flash Flood	Flood	Cyclone	Erosion	Landslide	Storm Surge
Rangamati	High	Very Low	High	Very Low	Very High	Very Low
Noakhali	Low	Low	Very High	Very Low	Very Low	Very High
Lakshmipur	Low	Medium	Very High	High	Very Low	Very High
Khagrachhari	High	Very Low	High	Very Low	Very High	Very Low
Feni	High	Low	Very High	Very Low	Very Low	Very High
Cumilla	Medium	High	High	Medium	Medium	Very Low
Cox's Bazar	Medium	Low	Very High	Very Low	Very High	High
Chattogram	Medium	Low	Very High	Very Low	Very High	Very High
Chandpur	Low	Very High	High	Very High	Very Low	Low
Brahmanbaria	Medium	High	Medium	Medium	Low	Very Low
Bandarban	High	Very Low	High	Very Low	Very High	Very Low

- Chittagong Division is exposed to various hazard due to the variety of geographic situation. The major disasters arer 1) flood and 2) cyclone with major impacts in the human loss, affected households and economic loss.
- The distribution of the hazard is clear with high hazard level of landslide and flash flood in the hill area on the east and high hazard level of storm surge and cyclone in the coastal region.
- In addition, there also exist the hazard of flood in the area at the north along the Meghna River.
- The Brahmanbaria District and Cumilla District, and other Districts, have a "very high" level of risk in some of the hazards and Chattogram has the highest hazard level effected by cyclone, storm surge and landslide.

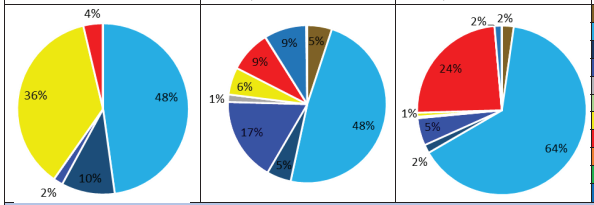
Division Name:	Dhaka
Total Area:	20,153 km^2
Total Population:	27,671,590

The area is in the floodplains of the Jamuna, Meghna, and Padma rivers, which are generally low-lying areas and there are small hills in some areas around the area north of Dhaka city.



Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
891 deaths	758,035 households	380,345 million taka



Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

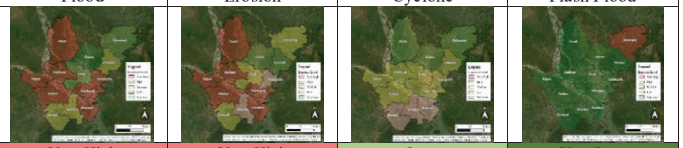
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Tangail	26,897	41,071	19,427	0	266,108	54,850
Shariatpur	19,993	2,910	565	0	48,349	7,992
Rajbari	31,730	10,825	6,534	0	20,163	13,952
Narsingdi	2,311	20,888	3,435	0	2,120	4,047
Narayanganj	1,966	2,972	6,027	0	4,105	5,610
Munshiganj	6,157	1,227	2,639	0	20,126	4,082
Manikganj	9,783	4,141	18,850	0	113,120	24,849
Madaripur	56,548	2,203	622	0	70,131	3,650
Kishoreganj	6,201	24,659	23,384	0	96,820	13,948
Gopalganj	131,294	16,919	6,041	0	112,186	1,362
Gazipur	504	2,959	9,089	0	10,396	575
Faridpur	16,818	18,313	3,161	0	42,231	16,968
Dhaka	672	8,425	1,913	0	74,335	3,701

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Rangamati	26,727	386	0	38,699	0	474,987
Noakhali	826	486	0	802	0	81,922
Lakshmipur	26,830	60	0	10,749	0	121,496
Khagrachhari	1,802	168	0	286	0	35,267
Feni	16,035	1,465	0	1,232	0	39,433
Cumilla	161	348	0	66	0	34,837
Cox's Bazar	1,368	0	0	15,020	0	188,427
Chattogram	4,661	7,493	0	1,853	0	147,162
Chandpur	4,198	0	0	3,598	0	172,809
Brahmanbaria	1,027	64	0	3,718	393	273,005
Bandarban	1,041	5,104	0	237	0	29,904
Faridpur	1,197	11,992	0	14,594	0	126,084
Dhaka	4,723	574	0	789	0	95,132

Flood, River/Coastal Erosion, Cyclone and Hailstorm is the hazards with major impact which caused damage and loss in Dhaka Division. The number of damages is relatively high in all hazard types reflecting the situation in Dhaka Division with a high number of households in the area.

Hazard Level per Hazard Type and District

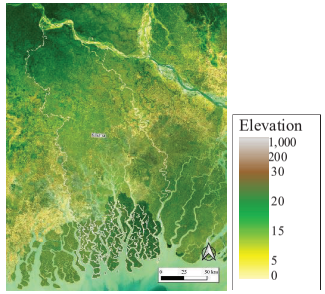


District	Flood	Erosion	Cyclone	Flash Flood
Tangail	Very High	Very High	Low	Very Low
Shariatpur	Very High	Very High	High	Very Low
Rajbari	Very High	Very High	Medium	Very Low
Narsingdi	Medium	Low	Medium	Very Low
Narayanganj	Very High	High	Medium	Very Low
Munshiganj	Very High	Very High	Medium	Very Low
Manikganj	Very High	Very High	Medium	Very Low
Madaripur	Medium	High	High	Very Low
Kishoreganj	Low	Medium	low	Very High
Gopalganj	Medium	Medium	High	Very Low
Gazipur	Very Low	Low	Low	Very Low
Faridpur	Very High	Very High	Medium	Very Low
Dhaka	Low	Medium	Medium	Very Low

- The major hazards in the Dhaka Division are 1) flood, 2) cyclone and 3) erosion with major impacts in human loss, affected households and economic loss. Based on the economic impact, river erosion has a major impact also causing the second largest loss.
- Regarding the hazard level in the District among the Jamuna River and Padma River has a "very high" hazard level for flood and erosion which seems to be the focus to be mentioned in the Division. In Kishoreganj District the hazard level for flash flood is high which is unique among the districts, and the south area tends to be more affected by cyclones.

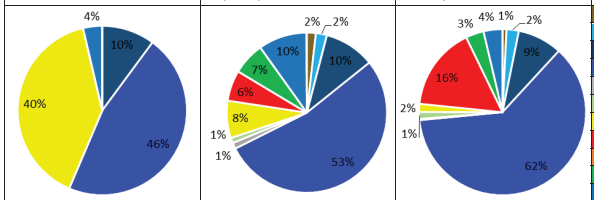
Division Name:	Khulna
Total Area:	22,184 km^2
Total Population:	15,008,506

The area is in a coastal low-lying area that were formed by the confluence of several rivers, including the Padma and Meghna rivers and the elevation of the delta region is low.



Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
711 deaths	1,508,449 households	181,153 million taka



Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

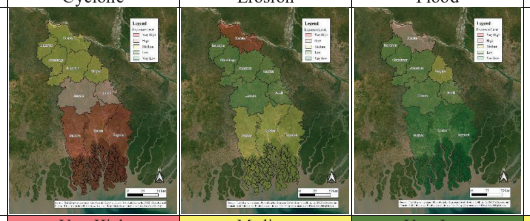
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Satkhira	212,024	6,239	3,896	2,181	5,650	11,231
Narail	23,376	15,458	3,782	0	813	4,503
Meherpur	13,215	8,707	7,806	0	2,510	3,892
Magura	70,579	41,325	24,330	0	43	15,079
Kushtia	17,011	3,831	945	0	7,740	3,277
Khulna	174,206	1,375	19,392	3,814	9,764	7,990
Jhenaidah	126,087	64,102	63,960	0	104	50,159
Jashore	89,018	10,046	1,296	0	45	501
Chuadanga	59,445	19,622	1,874	0	249	9,034
Bagerhat	153,347	1,839	5,485	12,239	12,157	3,279

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Satkhira	35,442	425	0	240	41,002	318,330
Narail	3,444	96	0	664	40	52,234
Meherpur	3,759	0	0	42	0	39,932
Magura	19,402	77	0	5,411	0	176,897
Kushtia	3,567	0	0	105	0	36,475
Khulna	15,580	58	0	4,073	51,192	287,680
Jhenaidah	22,115	4,377	0	13,067	0	343,972
Jashore	32,185	0	0	56	88	133,235
Chuadanga	4,396	8,444	0	7,418	0	110,606
Bagerhat	39,941	8,315	0	711	22,467	259,779

Cyclone, River/Coastal Erosion, Water Logging, Hailstorm and Salinity are the hazards with major impact which caused damage and loss in Khulna Division. Salinity is limited to the coastal Districts and Khulna District is also affected by floods.

Hazard Level per Hazard Type and District

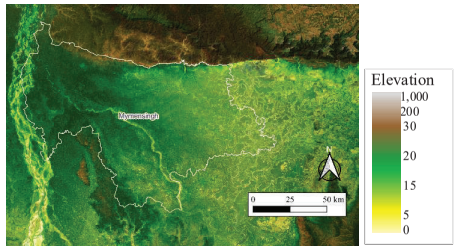


District	Cyclone	Erosion	Flood	Storm Surge
Satkhira	Very High	Medium	Very Low	Medium
Narail	High	Low	Low	Low
Meherpur	Medium	Low	Low	Very Low
Magura	Medium	Low	Medium	Very Low
Kushtia	Medium	Very High	High	Very Low
Khulna	Very High	Medium	Very Low	Medium
Jhenaidah	Medium	Low	Low	Very Low
Jashore	High	Low	Low	Low
Chuadanga	Medium	Low	Low	Very Low
Bagerhat	Very High	Medium	Very Low	Medium

- The major hazard in the Khulna Division is 1) cyclone and 2) erosion with major impacts in human loss, affected households and economic loss.
- Among the districts, the coastal district of Satkhira, Khulna, and Bagerhat is affected by the cyclone and at the north along the Padma River the Kushtia District the hazard level for river erosion and flood.
- The district with a relatively high hazard level is the coastal area with some note to be taken for the impact of flood and river erosion the northern Kushiia District.

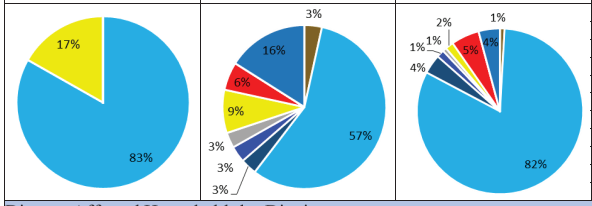
Division Name:	Mymensingh
Total Area:	10,669 km^2
Total Population:	10,669,641

The area is in a plain area with Brahmaputra River to the east, the Jamuna River to the west and the old-Brahmaputra River flow in the central area. There are several small hills around the west of the region.



Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
638 deaths	373,101 households	182,761 million taka



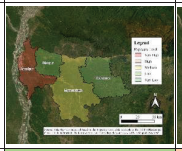
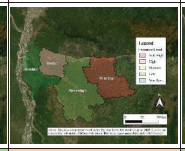
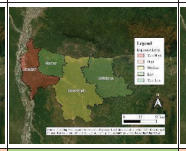
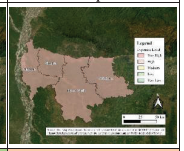
Disaster Affected Households by District
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Sherpur	150	20,858	13,487	0	59,824	4,548
Netrokona	17,474	83,719	42,078	0	224,152	12,799
Mymensingh	8,450	21,709	13,199	0	83,712	11,047
Jamalpur	6,824	37,960	18,793	0	216,021	28,556

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Sherpur	4,383	1,943	0	7,605	0	112,799
Netrokona	17,592	2,032	0	17,326	0	417,174
Mymensingh	8,946	6,519	0	1,213	0	154,870
Jamalpur	1,945	20,880	0	9,192	0	340,171

Flood, River/Coastal Erosion, Water Logging and Hailstorm are the hazards with major impact which caused damage and loss in Mymensingh Division. Besides the major hazards, Netrokona District is also affected by Water Logging and Jamalpur is affected by Tornado.

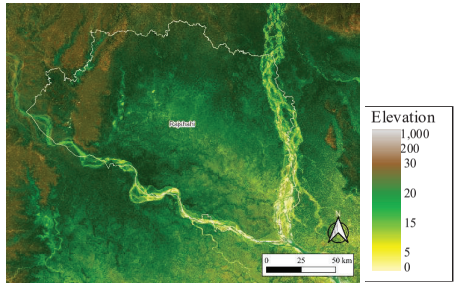
Hazard Level per Hazard Type and District

District	Flood	Flash Flood	Erosion	Earthquake
				
Sherpur	Low	High	Low	High
Netrokona	Low	Very High	Low	High
Mymensingh	Medium	Low	Medium	High
Jamalpur	Very High	Very Low	Very High	High

- The major hazards in the Mymensingh Division is 1) Flood and 2) Erosion with major impacts in human loss, affected household and economic loss.
- Among the districts, it is clear that the difference of Jamalpur District, which is exposed to flood and river erosion, and Netrokona District, which is exposed to flash flood. One of the characters of this division is the high hazard level of earthquake.
- Among the east and west of the Division the exposed hazard is different which needs different consideration in terms of countermeasures.

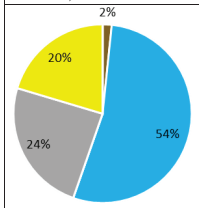
Division Name:	Rajshahi
Total Area:	34,325 km^2
Total Population:	32,856,192

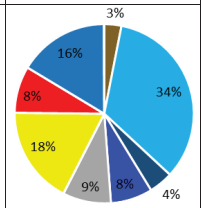
The area is low-lying in the east with Jamuna and Padma rivers flowing in the boarding area with the neighbour Division. In addition, the hill area is in the west of the Division.

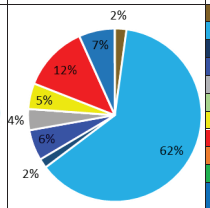


Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
1,335 deaths	1,036,452 households	197,684 million taka







Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

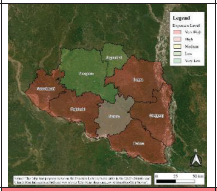
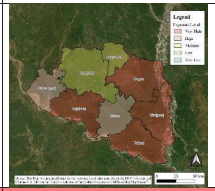
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Sirajganj	3,212	40,051	55,038	0	107,518	28,016
Rajshahi	38,970	12,104	16,454	0	82,597	11,131
Pabna	32,152	26,212	6,615	0	71,707	6,109
Natore	8,545	4,755	3,646	0	29,363	4,873
Naogaon	31,688	59,741	132,111	0	185,579	30,978
Joypurhat	481	17,110	14,703	0	19,706	17,680
Chapai nawabganj	411	14,111	22,932	0	11,644	10,719
Bogura	17,581	113,991	59,624	0	88,448	39,429

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Sirajganj	15,005	281	0	7,758	0	257,015
Rajshahi	8,910	5,813	0	2,014	0	178,191
Pabna	10,951	3,022	0	17,854	0	174,829
Natore	4,270	2,132	0	2,141	0	59,724
Naogaon	22,172	2,817	0	12,102	0	477,599
Joypurhat	5,491	26,863	0	5,726	0	107,760
Chapai nawabganj	32	11	0	3,426	0	63,287
Bogura	10,004	113,330	0	3,494	0	445,962

Flood, River/Coastal Erosion, Hailstorm, Cyclone, Thunderstorm and Water logging is the hazards with major impact which caused damage and loss in Rajshahi Division. Besides the major hazard, Joypurhat and Bogura District is also affected by Tornado.

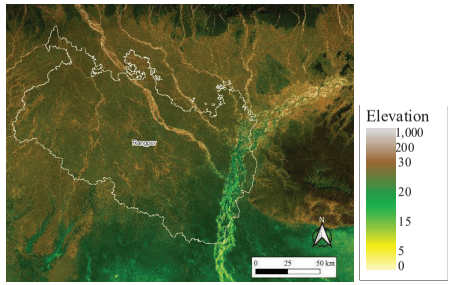
Hazard Level per Hazard Type and District

District	Flood	Erosion	Cyclone
			
Sirajganj	Very High	Very High	Low
Rajshahi	Very High	Very High	Very Low
Pabna	Very High	Very High	Medium
Natore	High	High	Low
Naogaon	Low	Medium	Very Low
Joypurhat	Low	Medium	Very Low
Chapai nawabganj	Very High	High	Very Low
Bogura	Very High	Very High	Low

- The major hazards in the Rajshahi Division are 1) flood and 2) river erosion with major impacts in human loss, affected household and economic loss.
- The Division could be characterized with the high hazard level for flood and river erosion along the Districts along Jamuna River and Padma River, where the east side along the Jamuna River has a higher hazard level for river erosion. The area which is not along the river system such as Naogaon District and Joypurhat District the hazard level is relatively not high.
- The focus in this Division could be focused on the hazard related to the two major river systems of Jamuna and Padma.

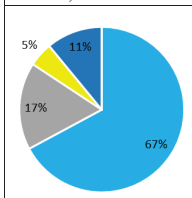
Division Name:	Rangpur
Total Area:	34,325 km^2
Total Population:	32,856,192

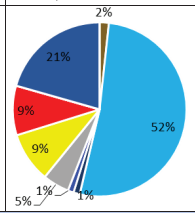
The area is in the riverbank of the Jamuna River in the east of the area with river systems such as Teesta River as a tributary exists; the hill area in the west has an elevation of several ten meters.

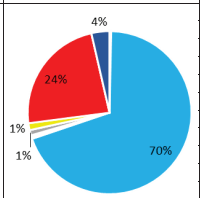


Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
1,264 deaths	776,723 households	280,593 million taka







Legend:

- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

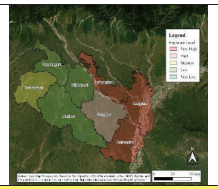
*District with damage more than 10,000 households is highlighted in yellow

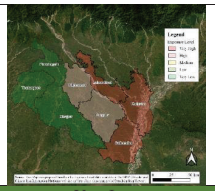
	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Thakurgaon	457	1,793	8,721	0	66,081	15,057
Rangpur	8,491	50,824	31,483	0	137,135	6,141
Panchagarh	1,984	34,359	16,322	0	38,367	7,522
Nilphamari	42	40,644	33,869	0	56,899	17,060
Lalmonirhat	5,628	44,650	17,306	0	51,117	9,210
Kurigram	1,300	56,301	24,598	0	197,316	21,219
Gaibandha	206	90,248	18,501	0	177,390	17,003
Dinajpur	193	35,327	9,855	0	170,195	64,854

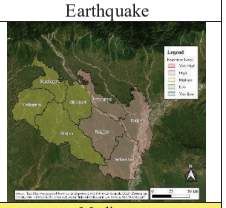
	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Thakurgaon	153	4,963	0	527	0	97,753
Rangpur	2,453	3,608	0	10,713	0	250,848
Panchagarh	4,515	25,148	0	0	0	128,216
Nilphamari	3,252	2,846	0	999	0	156,084
Lalmonirhat	5,245	14,047	0	3,128	0	150,330
Kurigram	147	0	0	7,323	0	308,204
Gaibandha	416	12	0	630	0	304,450
Dinajpur	4,318	34,414	0	6,209	0	325,366

Flood, River/Coastal Erosion, Hailstorm and Thunderstorm are the hazards with major impact which caused damage and loss in Rangpur Division. Besides the major hazards, Panchagarh, Lalmonirhat and Dinajpur Districts are affected by Tornado.

Hazard Level per Hazard Type and District





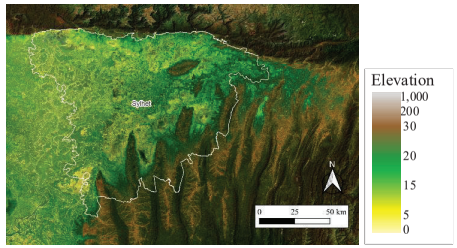


District	Flood	Erosion	Earthquake
Thakurgaon	Medium	Very Low	Medium
Rangpur	High	High	High
Panchagarh	Low	Very Low	Medium
Nilphamari	Low	High	Medium
Lalmonirhat	Very High	Very High	High
Kurigram	Very High	Very High	High
Gaibandha	Very High	Very High	High
Dinajpur	Low	Very Low	Medium

- The major hazards in the Rangpur Division are 1) flood and 2) erosion with major impacts in human loss, affected households and economic loss.
- Districts along the Jamuna River and the Teesta River such as Lalmonirhat, Kurigram and Gaibandha are exposed to flood and river erosion and districts in the south-west of the Division are in a relatively low hazard level area. The east area of the Division has a risk of earthquake which needs some attention.
- The focus in this division could be the focus on the river area along the Jamuna River with high hazard level for flood and river erosion.

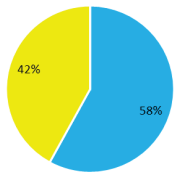
Division Name:	Sylhet
Total Area:	12,570 km^2
Total Population:	9,445,343

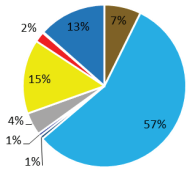
The area is in a low-lying area called haor in the west of the area, and the south area is a hill side area with the elevation of several ten meters to hundred meters. There are several river systems flowing from the hill area to the low-lying area.

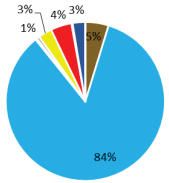


Disaster Loss and Damage Data (Division Total)

Number of Deaths	Affected Households	Damage and Loss
669 deaths	376,705 households	161,558 million taka







Legend:
- Drought
- Flood
- Water Logging
- Cyclone
- Tornado
- Storm / Tidal Surge
- Thunderstorm / Lighting
- River / Coastal Erosion
- Landslide
- Salinity
- Hailstorm

Disaster Affected Households by District

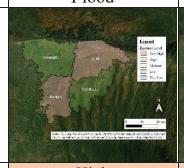
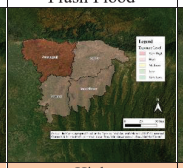
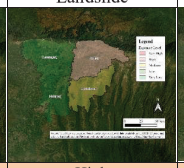
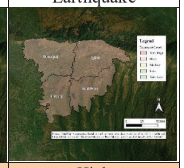
*District with damage more than 10,000 households is highlighted in yellow

	Cyclone	Hailstorm	Thunderstorm / Lighting	Storm / Tidal Surge	Flood	River / Coastal Erosion
Sylhet	4,861	31,432	47,436	0	151,903	4,477
Sunamganj	1,053	64,016	62,502	0	288,045	8,601
Moulvibazar	281	10,348	27,162	0	80,036	4,978
Habiganj	130	36,708	19,618	0	78,132	3,575

	Water Logging	Tornado	Landslide	Drought	Salinity	Total
Sylhet	840	44	1,320	16,792	0	259,106
Sunamganj	269	47,212	0	51,339	0	523,038
Moulvibazar	3,215	224	727	8,618	0	135,589
Habiganj	2,887	0	0	73	0	141,122

Flood, Hailstorm, and Thunderstorm are the hazards with major impact which caused damage and loss in Sylhet Division. Besides the major hazard, Sunamganj District is also affected by Tornado and all District is affected by River / Coastal Erosion, but the number is not dominant.

Hazard Level per Hazard Type and District

District	Flood	Flash Flood	Landslide	Earthquake
				
Sylhet	High	High	High	High
Sunamganj	Low	Very High	Very Low	High
Moulvibazar	Low	High	Medium	High
Habiganj	High	High	Very Low	High

- The major hazards in the Sylhet Division are 1) flood and 2) storms (hailstorm which may be related to cyclone or other weather condition) with major impacts in human loss, affected household and economic loss.
- Among the District, all the Districts have a high hazard level for flash flood including the Sunamganj with "very high" hazard level. Each District has different level of hazard per each hazard type and Sylhet Division has a "high" level in each District, in addition to the hazard of landslide along the hill side at the north.

- End –

Endline Survey Report- 1. Individual Assessment

June 2025

1 Objective

The objective of this survey is to assess the current capacity on disaster risk reduction of DDM officials in the final phase of the Project and to compare to the results of the baseline survey, which can indicate the effects of the technical transfer related to the disaster risk reduction and local DRR planning under the Project. The results of the survey also will be utilized to understand the knowledge and skills that should be further improved after the Project.

2 Method and respondents

2.1 Survey Method

This survey utilized the questionnaire method to investigate the capabilities of DDM officials. The basic information of the respondents and their backgrounds, their understanding of the Sendai Framework for DRR, roles and responsibilities of DDM, disaster-wise risks, purpose of each plan related to DRR, and structural and non-structural measures for DRR were asked, as basically the same as the Baseline survey. The questionnaire format was created in English, then translated into Bengali before being distributed. For those who had difficulty in filling in the questionnaires, the national staff of the project interviewed the respondents directly.

2.2 Respondents

The respondents of the questionnaire were DDM officials at the central level as well as at the local level of pilot district and upazilas, namely Cox's Bazar (Cox's Bazar Sada, Chakaria), Sunamganj (Chhatak, Jagannathpur), and Kurigram (Chilmari, Ulipur), who were mainly involved in the project activities as a project director, a project manager, working group members and responsible staffs for the pilot activities. The questionnaires were distributed to 20 personnel and collected from the 17. The majority of respondents differed between the baseline and endline surveys due to significant staff turnover, therefore, in order to more appropriately evaluate the effectiveness of the project, this survey selected the officials who held the same responsibilities as the original respondents and who participated in the project activities in the designated roles at the HQ or at each pilot site since its inception. The list of respondents and their backgrounds is shown on the next page.

Table 2-1 List of Respondents and their Background

Name	Position Held	Years of Working Experience in DDM	Academic Background
Md. Abdullah Al-Mamun*2	Director (Planning and Development)	4 Years	MS in Finance and Banking
Netai Dey Sarkar	Director (MIM)	27 Years	MS in Geography, Disaster mitigation
Md. Abdus Sobhan	Deputy Director (Planning)	23 Years	BSc. in Civil Engineering, MS in Disaster Management
Kazi Md. Bodrozzaman	Deputy Director (Research)	2 Years +	BSc in Civil Engineering, MS in Disaster Management
Dewan Nurul Huda*1*2	Asst. Engineer	20-30 Years	BSc. in Civil Engineering, MS in Disaster Management
Md. Hafizur Rahman*1*2	Asst. Director (GIS)	10-20 Years	Master's degree/ Postgraduate
Md. Rabiul Islam*2	Asst. Engineer (Evaluation & Monitoring)	10-20 Years	BSc in Civil Engineering
Syed Ashraful Islam *2	Communication Media Specialist	27 Years	MS in Disaster Risk Management
Dilip Kumar Sen	PIO, Attached with Planning Wing	20 years	BSc in Civil Engineering, MS in Disaster Management
Md. Jahangir Alam*1 *2	DRRO, Cox's Bazar	20-30 Years	BSc in Civil Engineering
Md. Abdul Hye Sarkar*1 *2	DRRO, Rajshahi *Former DRRO of Kurigram	20 Years +	Diploma in Civil Engineering & BSS
Raj Kumar Shil *2	PIO, Cox's Bazar Sadar, Cox's Bazar	15 Years	BSc in Civil Engineering
Abu Hasnat Sarkar *2	PIO, Sunamganj Sadar, Sunamganj *Former PIO of Chakaria, Cox's Bazar	10-20 Years	BSc in Civil Engineering
Md. Shahadat Hossain Bhuiyan	PIO, Feni, Feni *Former PIO of Jagannathpur, Sunamganj	10-20 Years	Diploma and BSc in Civil Engineering
K.M. Mahbub Rahman*1	PIO, Daulatkhan, Bhola *Former PIO of Chhatak, Sunamganj	5-10 Years	Diploma in Civil Engineering
Md. Shiraz Ud Dowlla *2	PIO, Fulbari, Kurigram. *Former PIO of Ulipur, Kurigram	10-20 Years	Diploma in Civil Engineering
Md. Mosharraf Hossain *2	PIO, Zakiganj, Sylhet. * Former PIO of Chilmari, Kurigram	2 Years	Diploma in Civil Engineering, BSc. in Civil Engineering

Notes:
DRRO: District Relief and Rehabilitation Officer
PIO: Project Implementation Officer
MIM: Monitoring and Information Management
*1: Respondent to the baseline survey, *2: Participant in the JICA's Knowledge Co-creation Program in Japan

3 Main findings of the Survey and Recommendations

The main findings of this survey and their indications are shown below.

a) Importance of International DRR Frameworks, Pre-Disaster Investment, and the Disaster Risk Reduction

Compared to the start of the project, the understanding level (on a 5-point scale) of DDM officials regarding the Sendai Framework for Disaster Risk Reduction (SFDRR), ASEAN initiatives, and other international frameworks related to DRR has improved from an average score of 2.6 to 3.4. The percentage of officials with a good understanding also increased by 36 percentage points. Similarly, the percentage of officials who reported a good understanding of their country's context regarding DRR increased from 45% to 59%.

- In this project, all activities were carried out with the promotion of the DRR investment as an overall goal, and activities were promoted to formulate necessary actions for DRR in the pilot upazilas as the UzDRRAPs. Through these series of project activities, including Basic Training on DRR, it can be suggested that the promotion of understanding of international trends such as pre disaster investment and DRR, including explanations of international frameworks related to DRR, contributed to this increase in awareness.

b) Hazard and Disaster Risk

Compared to the start of the project, the percentage of staff who reported having a good understanding of the country's disaster characteristics and those of each jurisdiction increased by 25 and 52 percentage points respectively, which indicates a significant improvement in their awareness regarding hazards. By hazard type, while a high level of understanding was consistently observed for cyclones and floods which are more familiar in Bangladesh, there was also an increase in the number of officials who reported understanding landslides, riverbank erosion, and storm surges. Additionally, the percentage of officials who reported a good understanding of tools and training related to hazard analysis and risk assessment rose significantly, from 21% to 51%. On the other hand, it was also revealed that some local government officials still have a lower understanding of nationwide disaster characteristics compared to central government officials.

- It is considered that the increased attention and knowledge regarding landslides, riverbank erosion, and storm surges can be attributed to the fact that these hazards were treated as major disaster types during the course of project activities. Furthermore, the improved understanding of hazard analysis and risk assessment can be inferred as a result of conducting hazard mapping and risk assessments in the pilot areas. Going forward, it is important to continuously implement the "Basic Training on DRR" and the "UzDRRAP Formulation Training" developed under this project to further promote the understanding of local officials regarding nationwide disaster risk characteristics.

c) Role of DDM and other DRR-related agencies (e.g., LGED and BWDB) in DRR

As in the baseline survey, respondents demonstrated a strong understanding of the role of the DDM, and this tendency became even more pronounced in the endline survey. Moreover, compared to the baseline survey, there was a significant increase in understanding of the roles of other DRR-related agencies, with over 60% of respondents indicating that they had a good understanding.

- Under this project, the TSC and UzSCs were established at the central level and the local level, respectively, and DDMC meetings were also convened. Through frequent discussions on necessary countermeasures and responsible implementing departments, it can be said that understanding of the roles of other organizations was enhanced. Moving forward, it is expected that DDM will continue to lead these coordination platforms at both central and local levels and further promote collaboration among relevant departments.

d) Structural and non-structural measures against hazards

Compared to the baseline survey, there was a significant improvement in understanding of structural measures against meteorological hazards and geological hazards. On the other hand, some local officials showed a tendency to have a lower understanding than central officials regarding structural measures for meteorological hazards and other hazards, as well as non-structural measures for geological hazards.

- During the process of developing the Upazila Disaster Risk Reduction Action Plan (UzDRRAP), discussions were held on hard measures and soft measures for residual risks, and detailed explanations were provided on disaster-specific countermeasure menus and their contents during DRR overview training and planning workshops in pilot regions. These efforts are believed to have contributed to the improvement in understanding of structural and non-structural measures. It is necessary to continue to improve the knowledge of local government officials through training in the future.

e) Local planning processes and securing budgets for DRR

Compared to the baseline survey, the percentage of officials who reported a good understanding of the purpose and content of the UzDMPs increased by 17 and 36 percentage points, respectively. Additionally, the proportion of officials with a good understanding of the purpose of the National Plan for Disaster Management rose by 30 percentage points. Regarding the evaluation process for setting the prioritization of countermeasures, which is one of the key

points in planning, overall understanding improved similarly to the questions on structural and non-structural measures mentioned earlier; however, some local staff showed little or no improvement in understanding. Furthermore, although the percentage of staff who reported a good understanding of budget acquisition for disaster risk reduction projects increased and those who reported little understanding decreased, several staff still self-assessed their understanding as insufficient.

- The improved understanding of the purpose and content of the Upazila DMPs (UzDRRAPs) is considered to be a result of respondents' direct involvement in the planning process through this project. As for the National Plan for Disaster Management, its objectives and contents were introduced during the "Basic Training on DRR", which is thought to have contributed to the increased level of understanding.
- In terms of the evaluation for prioritization of countermeasure projects and budget acquisition for project implementation, local officials tended to have a lower level of understanding compared to the central officials. The local DDM officials (DRROs and PIOs) are primarily responsible for infrastructure development, community-based disaster risk reduction, and emergency response within their assigned districts and upazilas, based on instructions from the central level. For nearly all local officials, participating in the project's pilot activities was their first experience in coordinating and organizing necessary DRR measures across multiple agencies for their jurisdictions. While their understanding has improved compared to before, particularly regarding prioritization and engaging with the central government for funding, many respondents still felt their understanding was insufficient. This may be due to the inherent complexity of on-the-ground coordination, such as aligning with community opinions and liaising with other agencies. It is expected that the monitoring activities of the project implementation in the pilot districts and upazilas will help to further foster this understanding.

4 Results of the Survey

4.1 Training Attended as a Participant

The table below shows the training sessions in which the respondents have taken part*.

Under the mandate of the SOD, it is clear that the respondents have received training related to DRR and their responsibilities as DDM officials. These training sessions are held by DDM, and for other topics, DDM uses either their own funds or funding from donors and NGOs for lecturers and training. In comparison with the baseline survey, the participants who received training related to the early warning system rose. Also, training related to the pre-disaster planning was increased. Most of the training was under this Project. Since the DDM developed the training system through training the trainers and arranging the training materials, such training is expected to be conducted regularly by the DDM.

Table 4-1 Types of Training Received by the Respondents

Name or type of training (free-text entry*)	Number of people who participated	
	Endline Survey (n=14)	(Reference) Baseline Survey (n=19)
DRR related (including ToT training on DRR-related)	10	17
CRA	1	5
Foundation training	5	5
Procurement/management (including Office management)	2	9
Other disaster related trainings	3	5
Early warning system	9	2
Digital Risk Information, Geo Informatics	4	2
Emergency response	3	2
Earthquake	1	2
Pre-disaster planning (including in refugee camps)	9	3
Other training sessions which are not directly related to DRR	0	7

*The number of training sessions was not limited to one, thus the total number of responses is more than the total number of respondents.

*Free text answers by respondents were categorised by the JET.

4.2 Self-Assessment

Self-assessments were made for each respondent for each question. The respondents were required to respond on a scale from 1 to 5, with 5 having a better understanding of the topic.

4.2.1 Sendai Framework for DRR, ASEAN initiatives and other international Frameworks for DRR

Q1: Sendai Framework for DRR, ASEAN initiatives and other international Frameworks for DRR

In this endline survey, 53% of the respondents answered that they have good understanding (who chose 4 or 5) of the international framework for DRR, while only 17% of the respondents well understood the contents in the baseline survey. Therefore, the understanding of the international Frameworks, such as the Sendai Framework, improved compared with the results of the baseline survey, which illustrates that the DRR officials have been more familiar with the international trends of DRR through the project activities, such as UzDRRAP formulation in the pilot areas, as well as the Basic Training on DRR that was held at the central and local levels.

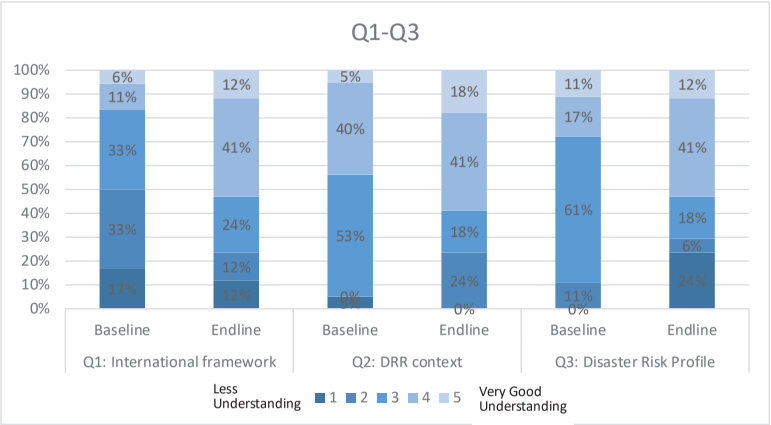
Q2: DRR context in the Bangladesh, legal framework

The percentage of respondents who have a good understanding of the DRR context in the Bangladesh framework was 59%, which illustrated a slight increase from the results of the baseline survey of 45%. On the other hand, the respondents who have less understanding (who chose 1 or 2) increased from 5 % to 24% Specifically, the understanding level of the local DDM officials is relatively low, since they are not so much familiar with the DRR context of the country and the legal frameworks, such as the Standing Order on Disaster (SoD).

Q3: Disaster Risk Profile

The percentage of respondents who have a good understanding of the disaster risk profile of the country was 53%, and that of those who have less understanding was 30%. The percentage of respondents who have a good understanding (who chose 4 or 5) significantly increased from 28% to 53% from the baseline survey results. However, as the percentage of respondents who have less understanding of the disaster risk profile (who chose 1 to 2) also rose from 11% to 30%, there was a large division between those with a high level of understanding, mainly DDM HQ officials, and those with a low level of understanding, mainly local level officials like DRRO and PIO.

Comparing the responses for Q1 to Q3, the results showed that the project generally deepened the respondents' understanding of international frameworks for DRR, DRR contexts and legal frameworks of the country, as well as the disaster risk profile in total. However, since some officials, especially local DDM officials, still have a low level of understanding, it is necessary to conduct the Basic Training on DRR for them on a regular basis to increase their understanding of DRR-related international frameworks and disaster risk profile of the country.



4.2.2 Roles and Responsibilities of DDM

Q4: Prevention and Mitigation

12% of the respondents have less understanding (who chose 1 or 2) of the roles of DDM for prevention and mitigation, which showed an increase from the baseline survey, where no one expressed their less understanding (answered 1 or 2). Besides, the respondents who understood the role of DDM for prevention and mitigation at 71% increased, from those in the baseline survey at 56%. Overall, the understanding of DDM's role in disaster mitigation has improved, with the exception of some officials, primarily DRRO and PIO.

Q5: Preparedness

The respondents who have a good understanding (who chose 4 or 5) of the DDM's role and responsibilities related to preparedness were 82%, which also illustrates a significant increase from the baseline survey by 24%.In comparison with other phase of disaster management, the understanding level on disaster preparedness among DDM officials is relatively higher and this trend had been continuing during the project period.

Q6: Response

18% of the respondents indicated their less understanding (who chose 1 or 2) of the roles of DDM for disaster response in this endline survey, while no respondents answered as it was in the baseline survey. The respondent who expressed they're well understanding of the DDM's role for disaster response (answered 4 or 5) also increased from 58% at the baseline survey to 83% at this time. Although there are several officials, DRRO and PIO in detail, who do not understand the DDM's role for disaster responses, most DDM officials understood its role and the understanding level largely rose.

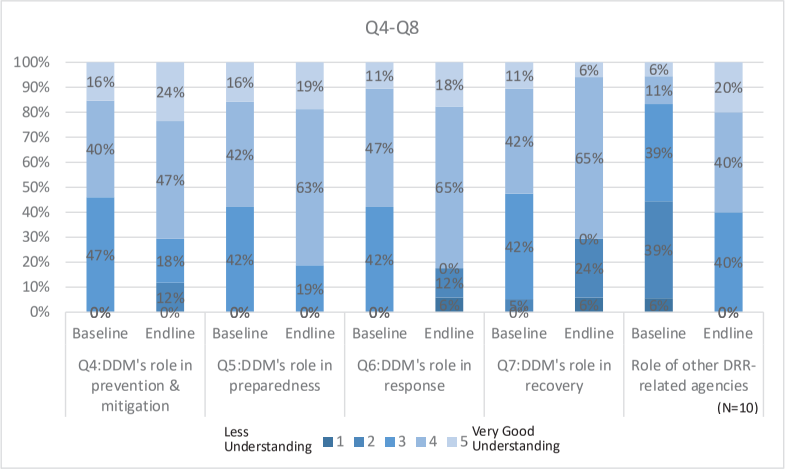
Q7: Recovery and Rehabilitation

As the same tendency as those in other phases of disaster management, the respondents who have less understanding (who chose 1 or 2) of the responsibilities of DDM for recovery and rehabilitation increased from 5% at the baseline survey to 30% at this time, while the percentages of those who understand well also increased by approximately 20%

Q8: Roles and Responsibilities of other DRR-related agencies

60% of the respondents expressed that they understand roles and responsibilities of other DRR-related agencies well this time, which indicates the significant increase of the understanding level from the baseline survey where over 40 % of the respondents showed less understanding of the roles of other DRR-related agencies.

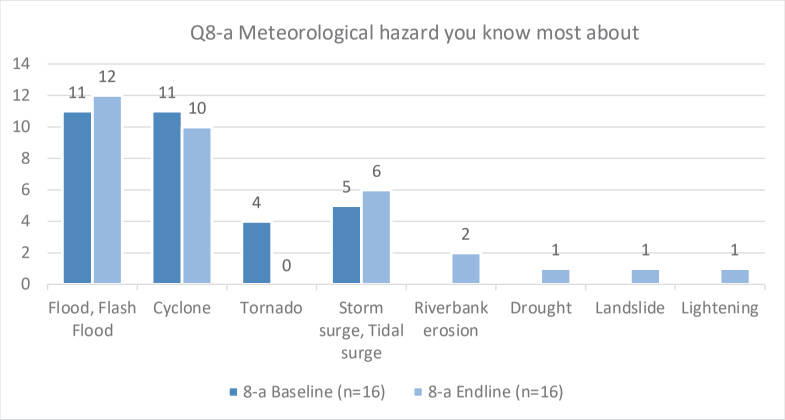
In summary, these results show the significant increase of the understanding level of DDM's role and responsibilities of each DRR phase among DDM official, including disaster mitigation. Also, the understanding of the role of other disaster management agencies was also promoted. Since the Project provided lots of opportunities to discuss with other DRR-related agencies, it may facilitate the understanding of roles of other DRR-related agencies. On the other hands, it was also revealed that the role of DDM on DRR is not fully recognized, specifically by local officials.



4.2.3 Hydro-meteorological Hazards

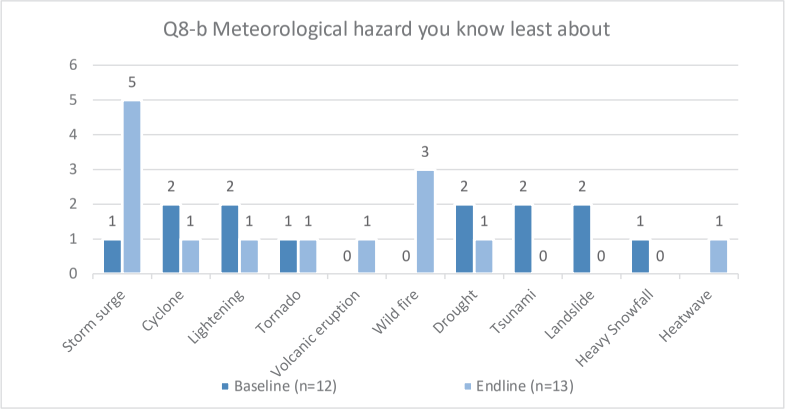
Q8-a: Which hydro-meteorological hazard do you know most about?

The results of Q8-a indicate that floods and cyclones are relatively well-known as hydro-meteorological hazards. Some respondents also know about storm surge. This shows a similar trend to the baseline survey. As indicated in the results, the cyclones and floods that occur frequently in Bangladesh are more widely recognized among DDM officials. This is likely because these disasters are more commonly experienced firsthand and, therefore, increase awareness. This time, however, other hazard types were also listed such as river erosion, drought, and so on. Since the UzDRRAPs include such hazards as the target hazards of the plans, their understanding level was may be increased.



Q8-b: Which hydro-meteorological hazard do you know least about?

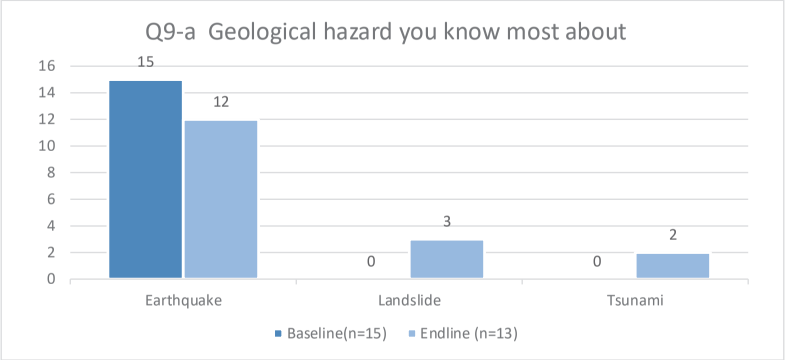
The results of Q8-b indicate that many respondents do not know much about storm surge, and some do not know about wildfire, and other hazards. While the answers varied widely in the baseline survey, many respondents selected storm surge as a unfamilier hydro-meteorological hazard. It can suggest that the interest among DDM officialsin strom surge increased, which change may be because the fact that hazard analysis and risk assessment of storm surge were conducted under the project.



4.2.4 Geological Hazards

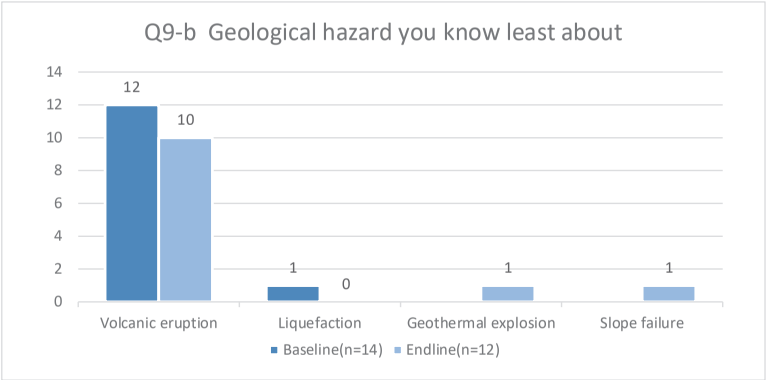
Q9-a: Which geological hazard do you know most about?

The result of Q9-a shows that most of the respondents know about the earthquake well. Some of the respondents are familiar with landslides and tsunamis as well in the endline survey. Bangladesh has been affected by earthquakes, including the Nepal earthquake in 2015; therefore, the survey result implies that the respondents have a relative interest in, and well acquainted with the name of, earthquakes. With regard to landslides, the damage caused by heavy rainfall in 2022 and 2024 may have heightened respondents' awareness of this hazard. Also, since the earthquake shaking and land slide were the target hazards of risk assessment in the project, it could accelerate their recognition.



Q9-b: Which geological hazard do you know least about?

As 10 out of 12 respondents ansered volcanic eruption to this question, the hazard of volcanoes is not well known among DDM officials since the risk is not relatively high in the country.

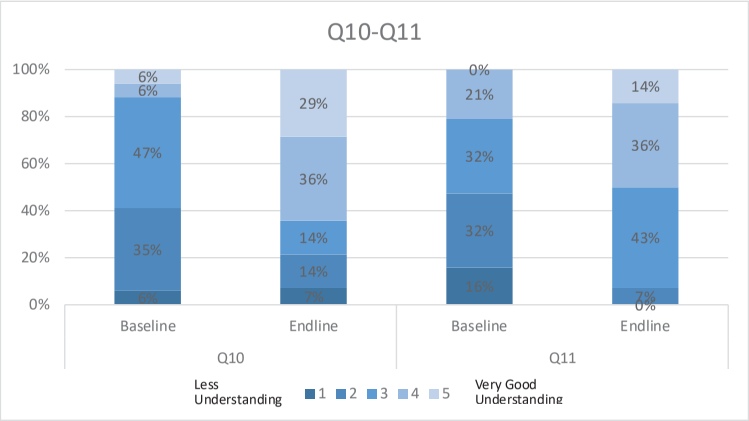


4.2.5 Risk assessment

Q10: Potential risks and hazard by natural disasters in your region

Q11: Tools and training on hazard and disaster risk assessment provided by DDM

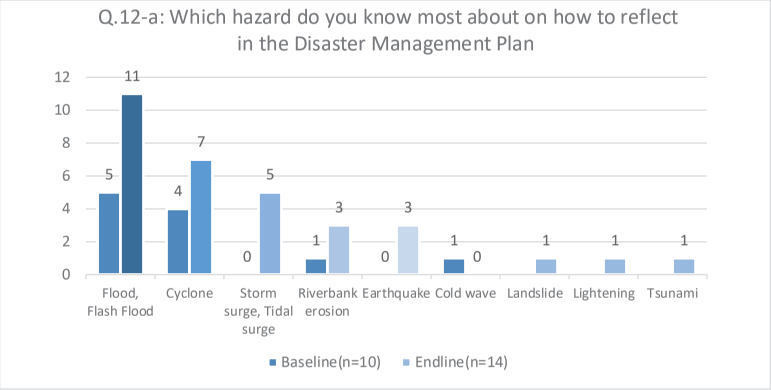
65% of the respondents understand the potential risks and hazards by nature in each of their regions very well, as answering 4 or 5 in the questionnaire, while 21% of them have less understanding. In terms of tools and training on hazard and disaster risk assessment, half of the respondents expressed their well understanding of the tools and training on hazard and disaster risk assessment provided by DDM, which indicates a significant increase from 21% in the baseline survey. Also, the participants who do not know well was significantly decreased from 48% to 7%. This change can be attributed to the activities carried out in the project, where the practical methods and systems for quantitative hazard and risk assessment were conducted. These activities might increase the respondents' awareness of the tools and training for hazard and disaster risk assessment.



4.2.6 Understanding on how to reflect hazard and disaster risk assessment into planning process

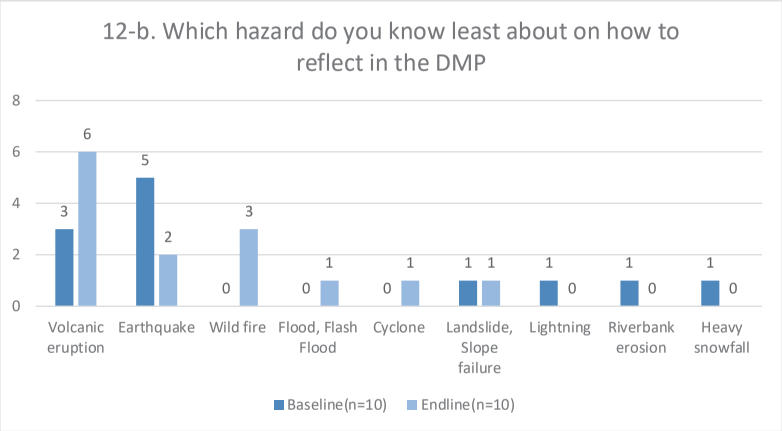
Q12-a: Which hazard do you know most about on how to reflect in the Disaster Management Plan (DMP)?

The results indicate that 11 out of 14 respondents have a better idea of how to reflect hazard and disaster risk assessment into the planning process for floods. Some of the respondents also have knowledge about cyclones, storm surge, riverbank erosion, and earthquakes as well. Both before and at the end of the project, the respondents knew how to reflect hazard and disaster risk assessment into the planning process for floods, since they have more opportunities to cope with these hazards yearly. In comparison with the baseline survey result, not only floods and cyclones, but also other hazard types were newly answered. Although the respondents were not completely the same as the baseline survey, it is possible that DDM officials learnt how to incorporate these hazards into the plan through the project activities which also targeted such hazards.



Q12-b: Which hazard do you know least about on how to reflect in the Disaster Management Plan (DMP)?

Respondents relatively knew least about how to reflect risk assessment for volcanic eruption and wildfire into the planning process in the endline survey. Compared to the baseline survey, the cyclone and wildfire were increased. According to the Global Forest Watch, the highest number of fire alerts in the past four years was issued in March 2025, which implies the growing risk of wildfires due to climate change worldwide, which might contributed to the increase in concerns about wildfires among DDM officials. Besides, unlike the baseline results, few respondents selected "earthquake," suggesting that understanding of earthquakes has increased.

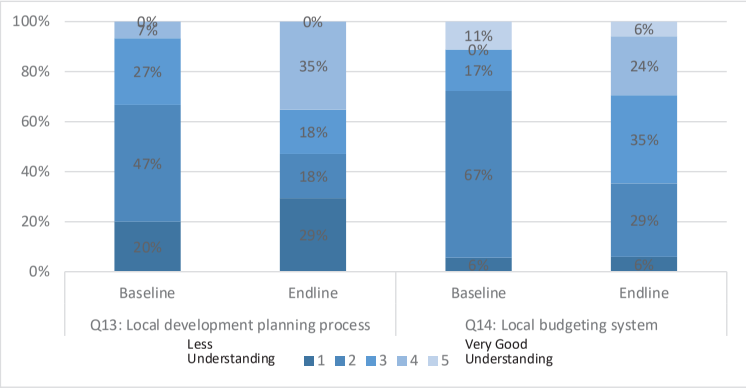


4.2.7 Local development planning process in general

Q13: Understanding of local development planning

Q14: Understanding of local budgeting system

According to the results of Q13, the percentage of respondents with a better understanding of the local development planning process remarkably increased from 7% to 35% and the percentage of those with less understanding decreased from 67% to 47%. Besides, regarding the local budgeting system, the largest percentage of respondents (67%) indicated that their understanding was somewhat limited in the baseline survey, whereas the overall level of understanding improved in the endline survey with 30% of respondents turning to a good understanding of this subject. However, there are still several officials who do not have well understanding of local development planning processes and local budgeting system, specifically DRRO and PIO.



4.2.8 Purpose and Contents of Disaster management Plan and UzDRRAPs

Q15: Purpose of National Plan for Disaster Management (NPDM)

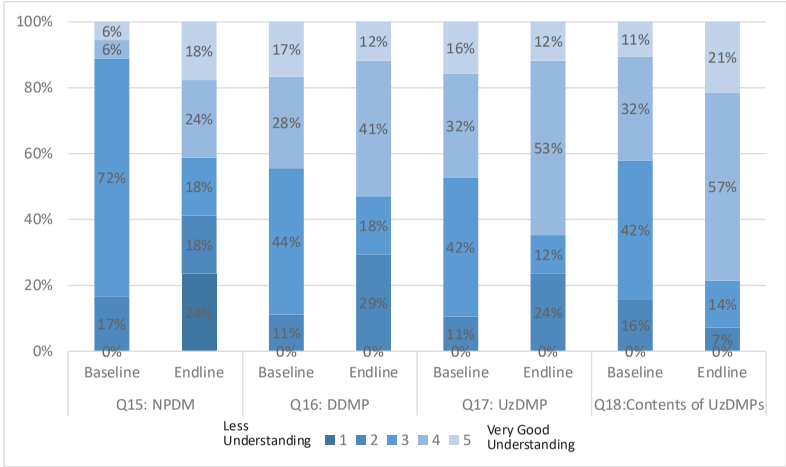
Q16: Purpose of District Disaster Management Plan (DDMP)

Q17: Purpose of the Upazila Disaster Management Plan (UzDMP)

Q18: Contents of Upazila Disaster Management Plans (UzDMPs)

The percentages of the respondents who have good understanding (those who chose 4 or 5) of the purpose of the National Plan for Disaster Management (NPDM), the District Disaster Management Plan (DDMP), and the Upazila Disaster Management Plan (UzDMP) were 42%, 53% and 65%, respectively. All percentages represent an increase compared to the results of the baseline survey, which were 12%, 45%, and 48%, each. On the other hand, the percentage of those who have less understanding (those who chose 1 or 2) was 42%, 29% and 24%, respectively. These percentages show

a moderate increase compared to the results of the baseline survey, illustrating 17%, 11% and 11%. The responses of not understanding were mainly given by PIOs and DRROs. On the other hand, the percentage of respondents who have a good understanding of the UzDMP content increased from 43% to 78% and those who have less understanding decreased from 16% to 7%, suggesting they learned about the contents of UzDMP through the project activities.



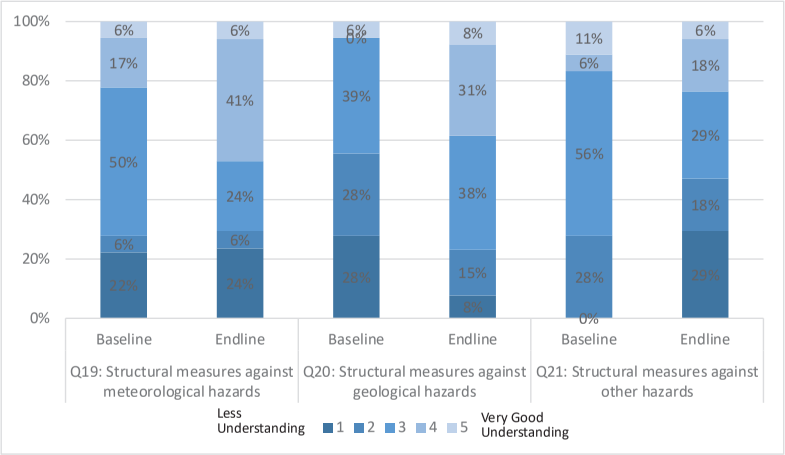
4.2.9 DRR structural measures against hazards

Q19: DRR structural measures against hydro-meteorological hazards

Q20: DRR structural measures against geological hazards

Q21: Structural measures against other hazards

Compared to the understanding of DRR structural measures against each type of hazard, the results showed that 47% of respondents had a good understanding level of hydro-meteorological hazards, and 39% of the respondentsdid the same for geological hazards. The level of understanding of structural measurement against all hazards increased from the baseline survey. Specifically, the ratio of respondents who have a good understanding of geological hazards remarkably increased by 32%. Conversely, the increase level of understanding of DRR structural measures against other disasters was not large in comparison with hydro- meteorological and geological hazards. This significant increase in the understanding of DRR structural measures against hydro- meteorological and geological hazards among DDM officials may be led by the project activities where DDM officials had lots of opportunities to discuss the DRR structural measures with different agencies.



4.2.10 DRR non-structural measures against hazards

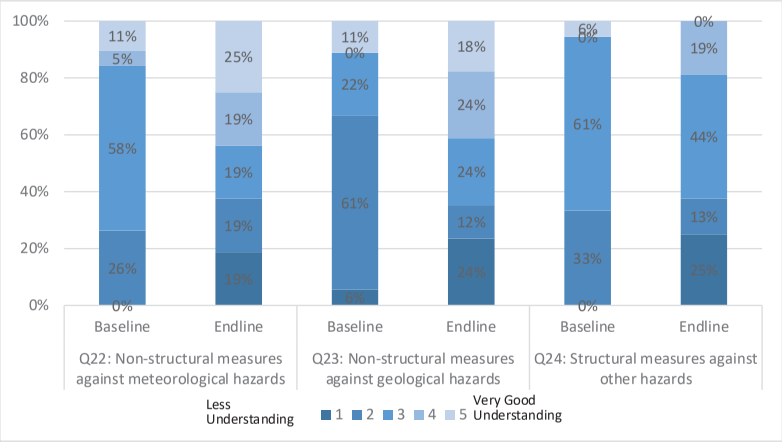
Q22: Non-structural measures against hydro-meteorological hazards

Q23: Non-structural measures against geological hazards

Q24: Non-structural measures against other hazards

The percentage of respondents who had a good understanding of DRR non-structural measures for each type of hazard ranged from 19% to 44%, while those with limited understanding ranged from 35% to 38%. Compared to the results of the baseline survey, the percentage of respondents reporting a lower level of understanding of non-structural measures for geological hazards remarkably decreased from 67% to 35%. On the contrary, that for other hazards does not show a significant change from the baseline survey. Also, it was revealed that there are still officials who do not know much about structural measures and non-structural measures against any hazards, specifically PIO and DRRO.

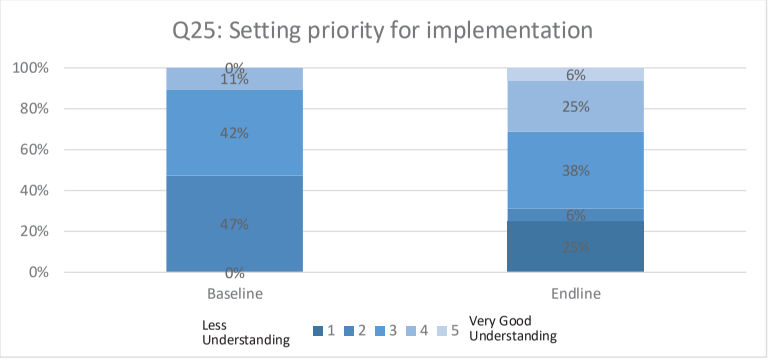
In the baseline survey, the respondents had a better understanding of non-structural measures against hazards in general compared to structural measures. However, the endline survey results indicated that the respondents had a slightly higher understanding level of structural measures against hazards compared to non-structural measures. It implied that the project activities promoted DDM officials to understand the specific structural countermeasures.



4.2.11 Evaluation process or methods to set priority for implement measures

Q25: Evaluation process or methods to set priority for implement measures

The result indicates that 31% of the respondents do not understand the evaluation process or methods to set priorities for implementing measures, which is lower than that of the beginning of the project at 47%. Therefore, most of the respondents have the basic understanding level currently. However, it was also clarified that the understanding level of some DDM officials, specifically DRRO and PIO, decreased, as the percentage of the lowest level of the understanding increased.

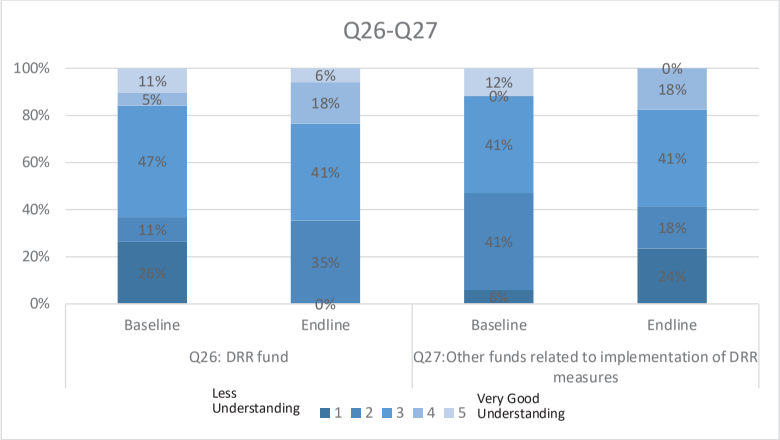


4.2.12 Funding

Q26: DRR fund (DRRF)

Q27: Other funds related to the implementation of DRR Measures

According to the result, 35% of the respondents had less understanding of DRR funds and even less of other funds related to the implementation of DRR measures. In comparison with the beginning of the project, the percentage of respondents who have a good understanding of DRR fund slightly increased from 16% to 24%. However, although a quarter of the staff indicated that they did not understand the DRR fund at all in the baseline survey, the result of the endline survey showed no one gave the lowest score of their understanding levels.

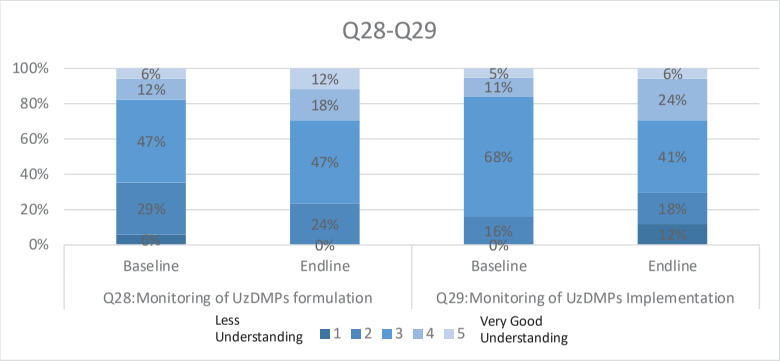


4.2.13 Monitoring and evaluation of planning and implementation

Q28: Monitoring and evaluation formulation of UzDMPs

Q29: Monitoring and evaluation system for the actual implementation of UzDMPs

Based on the results of Q28 and Q29, 29% of the respondents have a good understanding of the monitoring and evaluation formulation of UzDMPs, as well as of the monitoring for the actual implementation of UzDMPs. While the percentage of respondents who have less understanding of the UzDMPs formulation decreased by 11%, the percentage of those who have less understanding of the UzDMPs implementation rose by 13% due to the low understanding levels among PIOs and DRROs. Although the understanding levels of monitoring and evaluation for the formulation and implementation of UzDMPs has been enhanced, the support of the DDM HQ officials to the DRRO and PIO will be required.



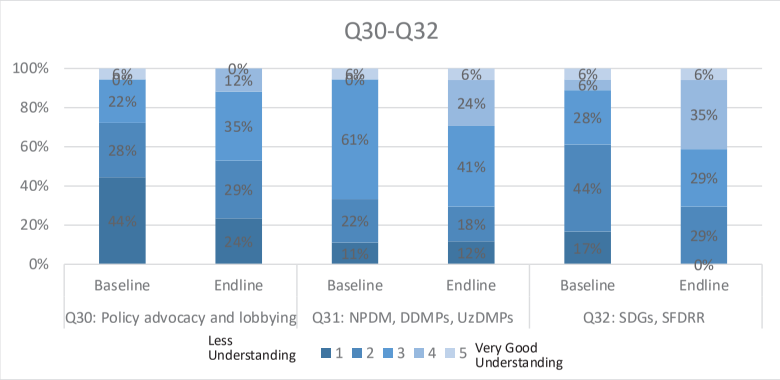
4.2.14 Review process

Q30: Policy advocacy and lobbying for implementation of DMPs and fund mobilization

Q31: NPDM, DDMPs, UzDMPs review process

Q32: Monitoring of SDGs, SFDRR global targets, etc. SDGs, SFDRR

The percentage of respondents giving the lowest rating for the review process of "policy advocacy and lobbying" was 24%, that for the review process of "NPDM, DDMP, UzDMP" was 12%, and that for the review process of "SDGs and SFDRR" was 0%. The percentages for policy advocacy and lobbying and SDGs and SFDRR decreased from the beginning of the project which were 44% and 17%, respectively, whereas the percentages for the NPDM, DDMPs, and UzDMPs were almost the same as that of baseline survey. The result basically shows an increase in the understanding of the monitoring of the international global targets, NPDM, DDMPs and UzDMPS, as well as the policy advocacy and lobbying among DDM officials.



- End -

Endline Survey Report- 2. Nationwide Survey

July 2025

1 Objective

This survey aims to grasp the current status of a nationwide dissemination of DRR-related activities in the final phase of the project period, including indirect effects of the project, as well as remarks for further nationwide expansion after the project. This result can identify further issues for promoting pre-disaster investment in Bangladesh.

2 Method and Respondents

2.1 Survey Method

This survey utilized the questionnaire survey analysis to investigate the current conditions and status of the DMC at the district and Upazila level, including coordination with relevant organizations and training experiences. The questionnaire format was created in English, then translated to Bengali before being distributed. The research items are shown below.

(1) Number of members of DDMCs
(2) Frequency of the DDMC meetings
(3) Development of Disaster Management Plans (DMPs)
(4) Coordination with other departments/organizations
(5) Situation of UzDMCs
(6) Challenges of the DDMCs

2.2 Respondents of the Questionnaire

For speedy collection of the information, the questionnaires were sent to each of the DRROs in the whole country (64 districts), who in turn collected necessary information from PIOs for the information of the Upazila level if necessary. All of 64 districts responded to the endline survey as well.

3 Main findings of the Survey

The main findings of the survey and their implications are shown below.

a) Disaster Management Plans (DMPs) formulation status

At the time of the baseline survey, four districts had District Management Plans; however, by the endline survey, this number had increased to eleven districts. Similarly, the number of districts with Upazila Disaster Management Plans, including UzDRRAPs, rose from three to eighteen. Among these, Cox's Bazar, Sunamganj, and Kurigram are the three districts where the project supported formulating the UzDRRAPs.

- **[Challenges for nationwide dissemination]** While the project formulated UzDRRAPs in six Upazilas across these three districts, many districts and upazilas still do not have DMPs/DRRAPs. Going forward, DDM needs to continue efforts to ensure formulation of the DMPs/DRRAPs in other districts and upazilas, based on the formulation and implementation frameworks established by this project.

b) Cooperation and Coordination with Other DRR-related Agencies

Compared to the baseline survey, the frequency of District DMC meetings has increased in some districts. The proportion of districts holding monthly meetings rose from 8.2% to 37.1%, and the number of districts keeping meeting records increased from 57 to 61. Almost all DRROs have been coordinating with other DRR-related organizations, including government agencies and NGOs, showing little change from the baseline survey. However, the number of DRROs coordinating with government agencies such as BWDB and LGED has decreased from 29 districts to 16.

- **[Challenges for nationwide dissemination]** Effective planning and implementation require strong collaboration among relevant departments. However, the number of DRROs coordinating with other DRR-related agencies remains relatively low. Going forward, based on the lessons learned from this project, it is essential for DDM to take a leading role in continuing the formulation and monitoring of UzDRRAP implementation in other upazilas, while promoting cooperation and coordination with implementing departments such as BWDB and LGED.

c) Need for Financial Support to DDMCs

In the baseline survey, many DRROs cited coordination with relevant agencies as the main challenge for DDMCs. However, in the endline survey, a majority of DRROs identified budget shortages as the primary issue. In particular, the lack of funding for training programs and DDMC meetings was highlighted as a serious problem. Additionally, the lack of knowledge among DMC members continues to be cited as an unresolved issue.

- **[Challenges for nationwide dissemination]** Given the limited operational funds available to DDMCs and UzDMCs, it is essential for the central government to recognize their challenges and increase the allocation of financial resources. Furthermore, the central government should continue and strengthen its support to DDMCs and UzDMCs by providing necessary training and activities, including "Basic Training on DRR" and "UzDRRAP formulation training" developed under this project.

4 Results of the Survey

Governance and administration capacity is a vital factor in assessing the indirect effect of DRR policies and projects, as well as in making recommendations for nationwide expansion. Therefore, the nationwide survey in the final phase of the project focused on the current governance and administrative capacity of each district and upazila. Indirect effects of the project were evaluated by comparing the results of the baseline survey and the challenges for further nationwide expansion after the project were identified.

(1) Number of members in the DDMCs

While it depends on the numbers of Upazilas under the district, the minimum number of the DDMC is 47 members, the maximum is 104 members, and the average of the all DDMC members is 70 members in the endline survey.

Table 3-1 The Number of Members of DDMCs

	Minimum	Maximum	Average
Baseline Survey (Reference)	41 members Gazipur District, Dhaka Division	97 members Cumilla District, Chattogram Division	69 members
Endline Survey	47 members B.Baria, Gazipur, Tangail Division	104 members Chattogram Division	70 members

(2) Frequency of the DDMC meetings

While 61.3% of the districts responded that they hold DDMC meetings quarterly, 37.1% of the districts hold the meetings monthly. The percentage of the districts that have the meetings monthly increased by 28.9% compared to the results of the baseline survey. In terms of the meeting records, 98.4% of the districts keep records of the meetings that they hold. This percentage increased by 9.3% compared with the results of the baseline survey. According to the results regarding the level of understanding of DRR management among DDMC members, 19.4% of the districts demonstrated adequate understanding, and no districts were found to have a poor level of understanding.

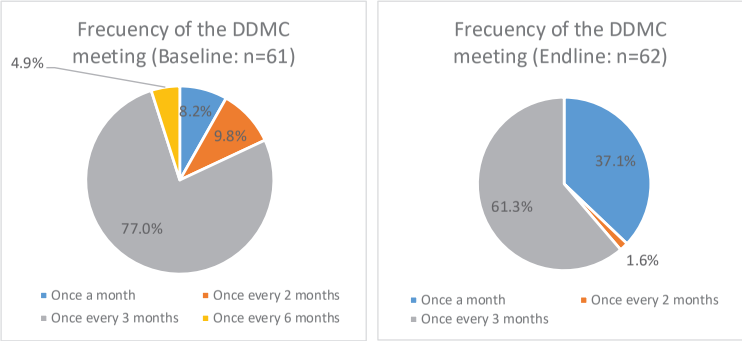


Figure 3-1 Frequency of DDMC in Normal Time

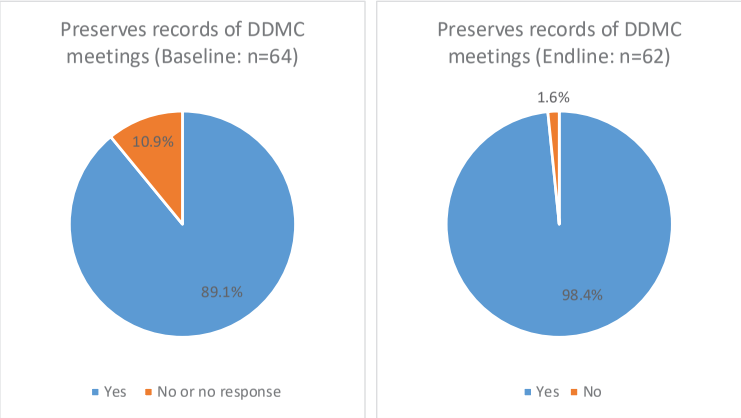


Figure 3-2 Preserves records of DDMC meetings

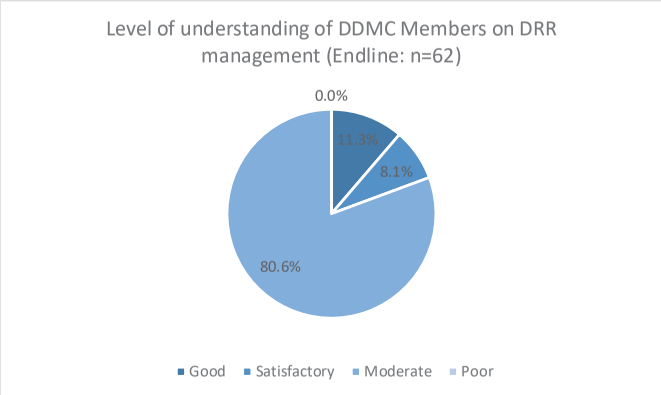


Figure 3-3 Level of understanding of DDMC Members on DRR management

(3) Development of the Disaster Management Plans (DMPs)

According to the questionnaire results, it is confirmed that 82.3% of the districts do not have district disaster management plans (DDMPs), while 11 districts, namely Faridpur, Manikganj, Barisal, Bhola, Rangpur, Jhenaidah, Bandarban, Cox's Bazar, Gazipur, Sherpur, and Netrakon, have their DDMPs. DDMPs are updated with a one-year interval in Faridpur and Manikganj. As the DDMPs were most likely developed in the Comprehensive Disaster Management Programme (CDMP. Phase 1: 2003-2009, Phase 2: 2010-2014) supported by UNDP, the slight increase in the number of districts signifies that more DRROs were engaged in this project and cooperated to respond to this endline survey and

search for existing District level disaster related plans. However, the percentage of the districts with DDMPs is still limited.

Furthermore, while 71.4% of DRROs reported that there are no Upazilas that have upazila disaster management plans (UzDMPs), 18 districts including the 3 pilot districts, which are Cox's Bazar, Kurigram, Sunamganj, Faridpur, Manikganj, Jhenaidah, Patuakhali, Bandarban, Chattogram, Feni, Bagerhat, Jamalpur, Sherpur, Naogaon, Rajshahi, Sirajganj, Gaibandha, and Netrakon, mentioned some upazilas now have UzDMPs, including Upazila Disaster Risk Reduction Action Plans (UzDRRAPs). Two upazilas in each of the three pilot districts −Cox's Bazar, Kurigram, Sunamganj− were supported by the Project to develop UzDRRAPs. Through the activities of the project, the districts with UzDMPs in the pilot areas were added. Most probably, DMPs that had been identified in the other districts were formulated in the past in projects such as the CDMP, and those districts were subsequently added to the list of districts with DMPs. The percentage of the districts with UzDMPs is also still limited.

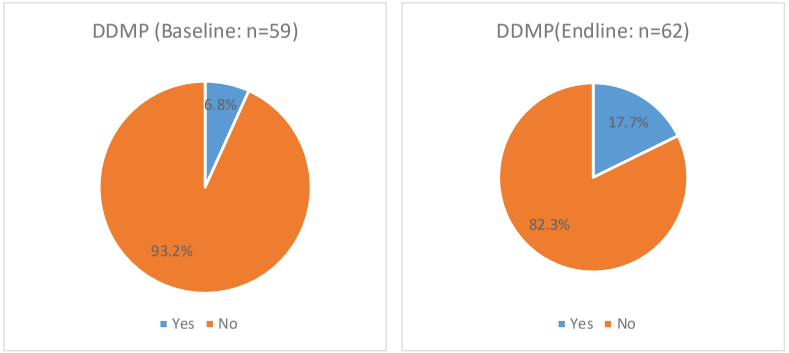


Figure 3-4 Existence of DDMP

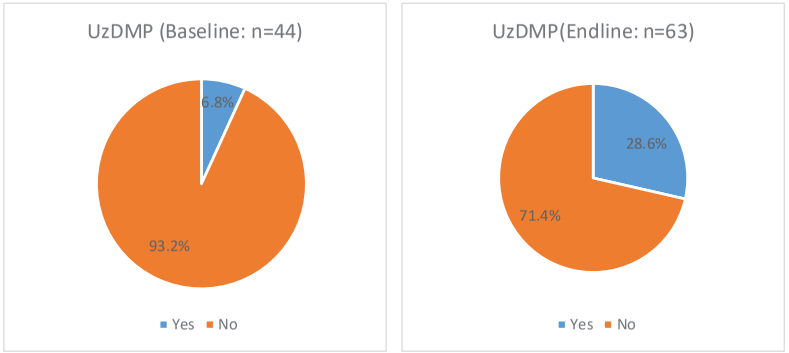


Figure 3-5 Existence of UzDMP

(4) Coordination with other departments and organizations

Most DRROs mentioned that they coordinate with other DRR-related departments and organizations. The organizations that the DRROs coordinate with are various governmental departments, such as Bangladesh Fire Service and Civil Defence (FSCD) and Bangladesh Water Development Board (BWDB), and NGOs such as the Red Crescent Society and BRAC, as well as international donors. Specifically, the type of organisation with most coordination are NGOs (100%), followed by government organizations (38.1%). DRROs most commonly coordinate with the FSCD since they are the main department for disaster operations with 11 districts positively responding to any coordination. While there is good coordination with NGOs in all districts, the percentage of the districts that coordinate with governmental organizations decreased from 80.6% in the baseline survey to 38.1% in the endline survey. In particular, the percentage of DRROs that coordinated with FSCD significantly decreased from 69.4% to 26.2%. The main areas of coordination are meeting, training and workshop, while the percentage of the districts which share resources and jointly conduct surveys have also increased. They also prepare for disasters and conduct assessment with various actors which were not mentioned in the baseline survey.

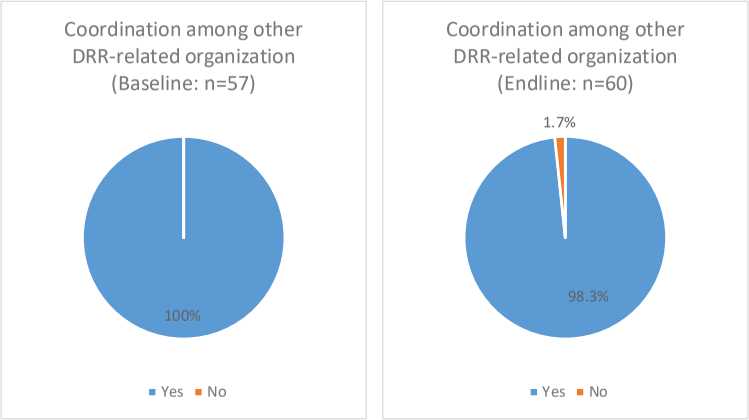


Figure 3-6 Coordination among other DRR-related Organizations

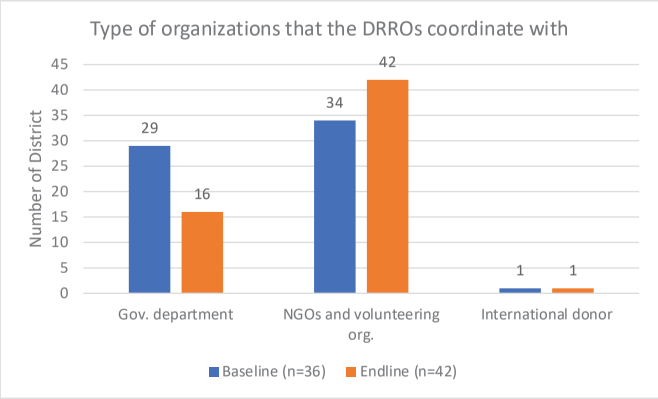


Figure 3-7 Types of Organizations that the DRROs Coordinate with

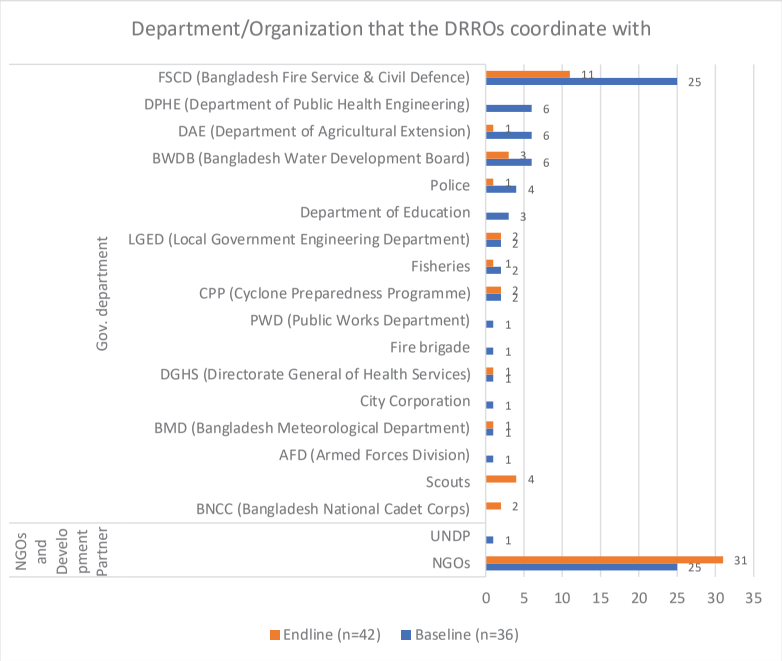


Figure 3-8 Department/Organization that the DRROs Coordinate with

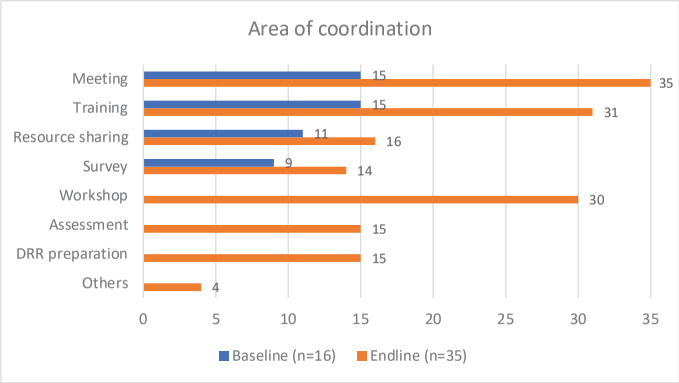


Figure 3-9 Area of Coordination

(5) Situation of UzDMCs

The questionnaire also asked DRROs which UzDMC are active in the district, and 39 out of 54 respondents provided specific Upazilas in their district (72.2%).

Regarding Upazilas that need more support to promote the understanding of the SoD and DRR in their district, 77.0% of the districts think all of the Upazilas in their district need support on understanding the SoD and about DRR related issues, while 23.0% listed specific Upazilas.

These percentages have not changed significantly from the initial phase of the project since the capacity development of all UzDMCs in the country is not the scope of the project. However, for further promotion of the pre disaster investment and DRR-related activities at local levels, it is necessary to improve understanding at the upazila level nationwide.

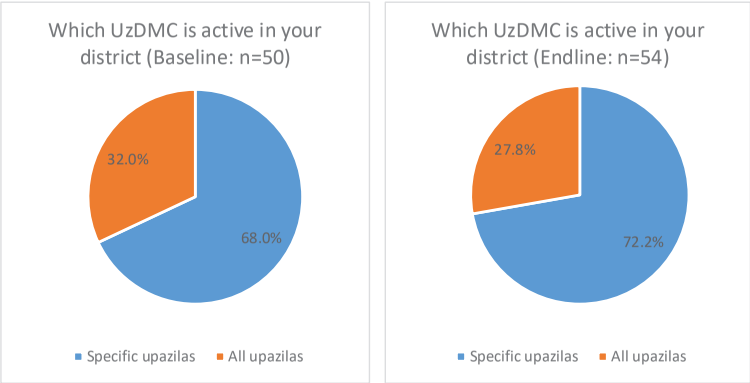


Figure 3-10 UzDMCs which are active in each district

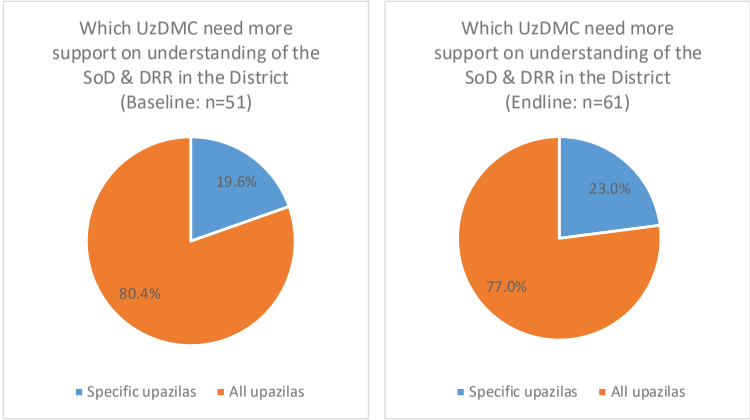
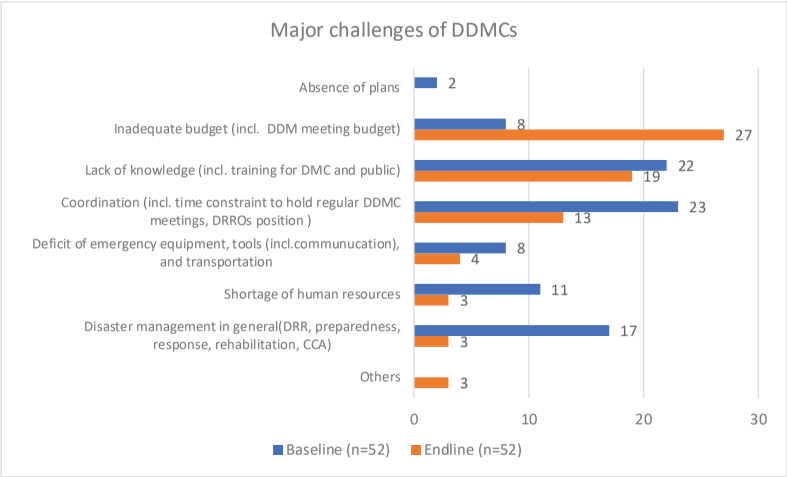


Figure 3-11 Which UzDMCs need more support to promote understanding of SoD & DRR in each District

(6) Challenges of DDMCs

Inadequate budget is the main difficulty that the DRROs felt. Coordination and lack of knowledge are also significant challenges, following the issue of inadequate budget.

While the main challenges were coordination and lack of knowledge in the baseline survey, many districts (71.2%) selected inadequate budget as a challenge of DDMCs in this endline survey. The reason behind difficulty for coordination at the beginning of the project was the position of the DRROs and the need to uplift their status to call upon other stakeholders to take part in DDMC meetings and other means of coordination. However, in the endline survey, it was found that among the districts that cited inadequate budget as their challenge, 27.8% identified the lack of a budget for DDM meetings as a challenge faced by the DDMCs which indicates that the challenge DRROs face transitioned to the budgeting required to hold meetings necessary for good coordination. 25.0% of the respondents also pointed out the lack of a training budget. In addition, the percentage of the districts that think the issue of disaster management in general, which was the third biggest issue in the baseline survey, is the challenge of DDMC decreased from 33% to 5.8%.



Notes: Open-ended questions. All answers were categorized into the listed answers by the JET.

Figure 3-12 Major challenges of DDMCs for DRROs

END