National Resilience Programme

training module

MAINSTREAMING DISASTER RISK REDUCTION

National Resilience Programme (NRP)
Programming Division
Planning Commission
Government of the People's Republic of Bangladesh

August, 2021

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UN WOMEN United Nations Entity for Gender Equality and the Empowerment of Women

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Training Module on Mainstreaming Disaster Risk Reduction

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ISBN 978-984-35-0168-4

Design & Production: Infra-Red Communications Ltd.

MESSAGE

Secretary
Planning Division and
Member, Programming Division

I am delighted to write this message for publication of training Module on Mainstreaming Disaster Risk Reduction to be used by the public sector training institutes. This is a good initiative for transformation of knowledge on new dimension of disaster management. The trend and nature of disasters events are changing globally and at the same time, people are coping themselves with new technology and new practices. A lot of institutional interventions are also in place in different countries and regions. From this reality, the GoB officials need to be updated on the latest approaches for better planning on disaster risk reduction. I am hopeful that, this manual will contribute towards better understanding on mainstreaming of disaster risk reduction, particularly the global experience and learning and the best practices.

This is really encouraging that, the faculty members of the training institutes, the academicians and the practitioners were engaged in content development of this manual. In addition, piloting of this manual is also a best practice. I am thankful to all the contributors for their sincere efforts to make the publication presentable

I am really impressed to know that, the experts from NRP and other institutions rendered volunteer services for qualitative improvement of this module. This is a living document. For addressing emerging issues, there is scope for its further improvement.

Officials of Programming Division and the NRP team deserves special thanks for such a good initiative and my request goes to the training institute for maximum use of this resource document.

Mohammad Jainul Bari

FOREWORD

The publication of this training module is a collective effort of Programming Division with national level training institutes having assistance from National Resilience Programme (NRP). Bangladesh has glorious record of integrating disaster risk reduction issues in mainstreaming development agenda in line with national and international commitment. DRR issues were well addressed in 7th Five Years Plan and a good number of new initiatives are proposed for 8th Five Years Plan.

This is important to share the information on mainstreaming initiatives to the GoB planning officials and other stakeholders so that they contribute more effectively and efficiently in their respective areas to address the resilient issues. I hope this module will contribute towards better understanding on mainstreaming disaster risk reduction issues.

I am thankful to the faculty members and academicians who contributed for developing the contents of the module and the session planning.

We are grateful to Mr. Khalilur Rahman Khan, former Chief of Programming Division and Mr. Khandker Ahsan Hossain, Chief, Programming Division for their sincere guidance and cooperate on for publishing this module.

Khandker Ahsan Hossain

Chief, Programming Division

ACKNOWLEDGEMENT

A group of experts from public and private sector contributed in developing the contents of this manual and we acknowledge their contribution and sincere engagement for this. We mentioned a list of contributors and if anyone is missed from this list, pls consider this as unwanted from us. This module is a living document. For addressing emerging issues, new contents can be added here, or the facilitators can share relevant information and documents in the sessions.

We are really encouraged for the support from the training institutes and faculties from the public universities in developing the contents and editing of the manual. We acknowledge sincere contribution of the officials in programming division and some other GoB agencies, department and other NRP projects for sharing their ideas and thoughts on the contents of this manual.

We also acknowledge the contribution of the members of Technical Advisory Group (TAG) and Project Steering Committee (PSC) for their guidance and suggestions on the module.

UNDP has technical partner of NRP extended support for this publication and we acknowledge this contribution.

Dr. Nurun Nahar

Joint Chief & Project Director
NRP-Programming Division Part Project

Acronyms

BPATC	Bangladesh Public Administration Training Center
CBDR	Community Based Disaster Reduction
CPP	Cyclone Preparedness Program
CRPD	Convention on the Rights of Persons with Disabilities
DDM	Department of Disaster Management
DRR	Disaster Risk Reduction
DMC	Disaster Management Committee
GoB	Government of Bangladesh
MoDMR	Ministry of Disaster Management and Relief
NAPD	National Academy for Planning and Development
NADA	National Academy for Development Administration
NRP	National Resilience Programme
NILG	National Institute of Local Government
SDG	Sustainable Development Goals
SoD	Standing Orders on Disaster
SFDRR	Sendai Framework for Disaster Risk Reduction
UNFCC	United Nations Framework for Climate Change
UNDRR	United Nations Office for Disaster Risk Reduction
UNDP	United Nations Development Program

An overview of the training module

Background

Although disaster has been with mankind since time immemorial, the significance of disaster management at present is paramount mostly because the impacts have grown more severe. For instance, air pollution or sea inundation were not issue of concern half a century ago. The more we are moving for development, the more we stand face to face with disasters. It is clearly understandable that any plans to reduce disaster-related loss should be logical, cost-effective, and sustainable. But the problem is these plans, if not thoroughly researched and tested, are less likely to be successful. Dearth of appropriate disaster management strategies, well-coordinated plans, and pragmatic risk-reduction strategy policies can ruin a country's years of developments. Unless disaster is contained and controlled to the optimum level, it will negatively dominate a country's growth. Disaster mitigation and management is thus a crucial tool that should be utilized in coping with the different crises. Keeping these vital issues related to disaster, this module has been developed to emphasize the GoB's commitment in pre-disaster preparations, disaster response and post-disaster assistances both at national level and international arena.

The GoB has been consistently providing relentless support to organizations and individuals with the hope of forming an informed community of researchers and activists for managing disasters. Numerous training institutes in the public sector have been providing training courses on disaster management in different places. One of the key objectives of this module is to better coordinate these training programmes with updated information, to assist instructors in developing effective course materials, to introduce latest dimensions of disaster management as well as to familiarize concerned people with more recent regulatory framework.

This module is principally based on the findings of a needs assessment conducted by the National Resilience Programme on the targeted training institutes. After several contents sharing workshops and meetings participated by faculty members, trainers, and academicians from the Departments of Disaster Management of public universities, a consultant drafted this document. These have been followed by a 5-day training programme from 09 to 13 November 2019 at Savar, where the participants shared their views for further improvement of this module.

The module then has been reviewed by local experts and faculty members of the training institutes who added valuable points. After making all the suggested changes and incorporating crucial views, finally the module got its current shape. It has the provision for newer ideas to be amended, and we believe that this is a living document that can easily welcome and accommodate new information on disaster management.

Objectives

The main objective of this module is in two folds

1. To contributes towards better understanding on Mainstreaming DRR and its implementation modalities, GoB initiatives for Mainstreaming DRR and its linkage with development planning.
2. To make partnership with training institutes. The National Resilience Programme (NRP) which is being implemented by the Programming Division of Planning Commission targeted five public sector training institutes -BPATC, NAPD, NADA, BCS Admin Academy and NILG as knowledge partners for this initiative to enhance quality of DM training. The project will support few trainings with the selected training institutes, and it expects utilization of this module by the institutes in the long run. These training institutes can add few curriculums from this module with existing contents for disaster management training or the institute can develop new courses based on the contents and teaching methods of this module.

Participants

Officials from the GoB ministries, divisions and implementing agencies as well as the officials from private sector and NGOs can participate in the courses. This module will serve as resource book for imparting training.

Methods

Following methods /approaches can be followed for imparting training on Mainstreaming Disaster Risk Reduction

- Presentations and discussions
- Documentary Screening
- Interactive lectures
- Experience sharing
- Visit to a disaster management institutes orDRR projects
- Feedback from the participants

Training Facilitators

Based on the contents of this module, the relevant resource persons from Government sector, UN agencies and NGOs can be invited to conduct the sessions. From NRP, a list of potential facilitators will be provided to the training institutes. In addition, the training institutes can also select the facilitators based on requirements or previous rosters.

Durations

This module has been developed considering duration of five workdays, but the training institutes may fix need-based duration.

Training on Mainstreaming Disaster Risk Reduction
5 days course for public sector training institutes

Draft Schedule

Day 01 : Module 1 : Disaster and Development Nexus

Time	Topic/Agenda	Responsible Person
09.00 - 09. 30	Opening Session	
09.30—09.45	Pre-Course Evaluation	
09.45- 10.00	Welcome Tea	
Working Session		
10.00 - 10.45	Disaster -Development Nexus	
10.45 - 12.00	Understanding Disaster Risk and Risk Informed Development	
12.00 - 12.15	Health Break	
12.15 - 01.00	Risk Informed Development Initiatives in Bangladesh	
01.00 - 02.00 : Lunch Break		
02.00 - 03.00	Understanding Resilience as Development Agenda	
03.00 - 04.15	Principles of an approach to DRR and Climate Change Adaptation	
04.15 - 04.25	Closing Note for Day 01	
04.25 - 04.30	Closing Tea	

Day 2 : Module 2 Mainstreaming DRR -Concepts and Practice

Time	Topic/Agenda	Responsible Person
09.00 - 09.15	Recap of First Day	
09.15 - 10.15	Defining Mainstreaming DRR	
10.15 - 10.30 : Tea Break		
10.30 - 11.30	Issues for Mainstreaming Strategies	
11.30 - 12.15	Steps for Successful Mainstreaming	
12.15 - 01.00	Mainstreaming Initiatives in Bangladesh	
01.00 - 02.00 : Lunch		
02.00 - 03.30	Localizing DRR in Bangladesh and Integration of DRR in local level development planning	
03.30 – 04.30	Sharing best practice and SoD direction for Union Level Planning	
04.30 - 04.40 : Closing Tea		

Day 3 : Module 3-Global & National Framework for DRR

Time	Topic/Agenda	Responsible Person
09.00 - 09.15	Recap	
09.15 - 10.30	Sendai Framework of Action for DRR	
10.30 - 10.50 : Tea Break		
10.50 – 11.30	DRR Link with SDGs & Five Years Plan	
11.30 - 12.45	Disaster Management Act 2012	
12.45- 01.30	Disaster Management Policy 2015	
01.30 -02.30 : Lunch Break		
02.30 -03.30	Standing Orders on Disaster (SoD)	
03.30 -04.30	National Plan for Disaster Management	
04.30 -04.40 : Closing Tea		

Day 4 : Module 4 – Inclusiveness in DRR and Gender Responsive DRM

Time	Topic/Agenda	Responsible Person
09.00 - 09.15	Recap	
09.15 – 10.30	Social Inclusion & Inclusive DRR Global & Local Initiates for Inclusive DRR	
10.30 -10.45 : Tea Break		
10.45- 11.30	Dhaka Declaration of Int conference on Disability Inclusive Disaster Management	
11.30 -01.00	Importance of Gender Equality in DRR	
01.00 - 02.00 : Lunch		
02.00- 03.00	Gender and DRR in Policy Framework	
03.00 - 03.15 : Tea Break		
03.15 - 04.30	Checklist for Integrating gender into humanitarian programme	
Closing of the day		

Day 5 : Module 5– Community Based Disaster Risk Reduction (CBDRR)

Time	Topic/Agenda	Responsible Person
09.00 - 09.15	Recap	
09.15 - 10.30	CBDRR – Concepts, Approaches & Practices	
10.30 – 10.50: Tea Break		
10.50 - 11.30	Identification & Prioritization of DRR interventions and Action Planning	
11.30 – 12.30	Course Evaluation	
12.30 – 01.00	Certificate awarding & closing programme	

List of potential experts for training sessions

Sessions Title	Resource Persons	Contact information
Disaster and Development Nexus	A K M Mamunur Rashid Climate Change Specialist, UNDP	
	S M Morshed Project Manager, NRP-PD	
Mainstreaming DRR: Concepts and Practice	Syeedul Huq former Chief, Programming Division	
	Dr. Nurun Nahar Joint Chief, Programming Division	
DIA and EIA	Professor Rezaur Rahman BUET	
DRR in Local Level Planning	Netai Chandra Day Sarker Deputy Director, Dept of Disaster Management	
	Taposh Ranjan Chakroborty DRR Specialist, BRAC Palash Mondal Disaster Preparedness Specialist	
Global Framework for DRR	Jahedul Huq Planning Specialist, NRP	
Regulatory and Policy Framework for DRR	Mohammad Abdul Wazed Former DG, Dept of Disaster Management	
Inclusiveness in DRR	Kamal Hossain Project Manager, NRP-DDM part	
	S M Morshed Project Manager, NRP-PD	
Gender Responsive DRM	Mahbuba Nasren Pro Vice Chancellor, Bangladesh Open University	
	Dilruba Haider Program Specialist,, UN -Women	
	Farhana Hafiz Gender Mainstreaming Analyst, NRP	
Community Based Disaster Management	Polash Mondal Disaster Preparedness Specialist, NRP	

Table of Contents

Day 1

Module-1

Disaster and Development Nexus

Overview of the Module 1

Objectives

This module is designed with the objectives of introducing the participants to the intricate inter-relationships between disaster and development. Careful arrangement of the module particularly emphasizes the importance of the measurable skill development of the participants so that they can achieve the learning goals specified below. Participants are highly expected to demonstrate an informed knowledge on the basic concepts related to disaster and development, a knowledge that would enable them to analyse complex phenomena and apply their skills in identifying as well as resolving pressing problems.

The purpose of the module is to introduce the participants with the basic concepts of disaster and development, correlation between development and disaster and their unique inter-relationship.

Expected Learning Outcome

By the end of this module, the participants will be able to understand the following issues:

- Assess risk and risk informed development
- Evaluate how resilience contributes to sustainable development
- Explain the disaster -Development Nexus – clarify how disaster damage development, how development can create disaster and turning crisis to opportunity
- Estimate and apprise Risk Informed Development
- Review mainstreaming DRR initiatives in Bangladesh
- Recognize global and local commitment for DRR
- Linking DRR in achieving SDG, Delta Plan and 8th Five Years Plan, Perspective Plan
- Integrated approaches for DRR and CC adaptation

Method and Materials

- Interactive Lecture
- Visual aids and Power Point Presentations
- Documentary Screening
- White Board
- Handouts
- Group work/Exercise/presentation
- Sharing Case studies

Discussion Agenda

1.1 Concepts and Dimensions on Disaster and Development
1.2 Understanding Risks & Risk Informed Development
1.3 Resilience as a Tool for Development
1.4 Principles for an integrated approach for DRR and Climate Change

1.1 The Concepts of Disaster and Development

Disaster has been defined as *'a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of affected society to cope on its own resources'*[1], the Disaster Management Act, 2012 is more specific and defines disaster as 'natural, environmental and human induced hazards as the consequential impact of which requires a significant coordinated response by the Government and other entities to help the community recover with external assistance as it is not able to do so with its own resources and capabilities'[2]:

Development is defined as *'the achievement of economic growth and hence improved living standards achieved through the use of society's natural and institutional resources'*[3]. Development is also defined as 'process of a goal leading to a life of dignity for people in relationship to the overall context of their community and the environment that sustains them as a means of poverty alleviation'[4]. Development is a multi-dimensional process involving economic, institutional, social and political dimensions, hence achievement in one area does not capture the essence of development.

It is usually believed that disasters impede development, but some disasters can also precipitate development in the same way that development can either increase or reduce vulnerability to disaster.

There are also some dilemmas of disasters and development. Disaster limits development and economic growth. It causes destruction to fixed assets and production capacity and damage infrastructures, transport and communications. On the other hand, development reduces disaster risks. Advancement into technology can reduce poverty and increase access to food, health services, education and information and calls for inclusive development.

This relationship explains the need of mainstreaming DRR into Development. Mainstreaming DRR into development means to consider and address risks emanating from natural hazards in strategic frameworks and institutional structures, legislation, strategies and policies, budgetary process, design and implementation and last but not the least, in monitoring and evaluation[5].

1.2 Understanding Risk

Risk is *"the combination of the probability of an event and its negative consequences"*[6]. The word "risk" has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in "the risk of an accident"; whereas in technical settings the emphasis is usually placed on the consequences, in terms of "potential losses" for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.

Risk, on the other hand, as understood by a politician is different from the risk to a seismologist, or to an insurance company executive, or to a family living in an earthquake zone. Risk is also different to local and national

[1] United Nations Department of Humanitarian Affairs (2001), https://reliefweb.int/organization/un-dha

[2] The Disaster Management Act, 2012, https://www.humanitarianresponse.info/en/operations/bangladesh/document/government-bangladesh-disaster-management-act-2012-english

[3] United Nations Department of Humanitarian Affairs (2001), https://reliefweb.int/organization/un-dha

[4] Todaro, M. P., & Smith, S. C. (2015). Economic Development (12 ed.). https://www.pearson.com/us/higher-education/program/Todaro-Economic-Development-12th-Edition/PGM142511.html

[5] USAID & ADPC(2010). https://reliefweb.int/report/bangladesh/usaidofda-asia-disaster-preparedness-and-mitigation-programs-fact-sheet-1

[6] UNISDR (2009):Terminology on Disaster Risk Reduction. Geneva, Switzerland. https://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf

governments involved with disaster management. From the point of view of local and national public policy authorities who make decisions for the well-being of the community, *the community elements at risk* include its structures, services, economic and social activities such as agriculture, commercial and service businesses, religious and professional associations and people.

Box 1: A word on risk [7]

A risk is not the same as a threat, hazard, impact or disaster: it is a description of potential outcomes if a threat were to occur, not the threat or disaster event itself. 'All risk concepts have one element in common, however: the distinction between reality and possibility'. Risk is potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. Hazards may be natural, anthropogenic or socio natural in origin (UNISDR, 2017).

The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk results from the interaction of vulnerability, exposure, and hazard (IPCC, 2014b).

Although applied to risks associated with different threats, all of these definitions are similar, and articulate that risk results from the interaction between threats and underlying conditions.

1.3 Risk Informed Development

Risk-informed development allows for development to become a vehicle to reduce risk, avoid creating risks and build resilience. Only resilient development can become sustainable development; sustainable development initiatives will fail unless they are risk informed. Risk, resilience and sustainability knowledge and actions need to go together[8].

Global frameworks such as the Sendai Framework for Disaster Risk Reduction 2015–2030 call for risks related to human and natural threats to become an integral part of development planning and action. The Paris Agreement under the UN Framework Convention on Climate Change (UNFCCC) focuses specifically on climate change risk reduction through legally binding mitigation and adaptation targets. These two global frameworks, alongside the experience of development, conflict and peace practitioners, demonstrate a number of actions needed to move towards making risk-informed, sustainable development normative practice. These actions, among others, include:

- Strengthen capacity and expertise in risk informed decision-making within both the international development community and governments.
- Deepen understanding of the resources, constraints, legal mandates and risk tolerances that shape development objectives, alongside a greater appreciation of the trade-offs of decisions for different groups of people.

[7] Report on Risk Informed Development : From Crisis to Resiience -2019 UNDP

[8] www.preventionweb.net

- Build capacities to understand the limitations of tools and methods for assessing complex threats and risks and appraising development options, and to judge when to use particular methods and tools.
- Strengthen data collection to improve the evidence base and reduce the risk that development decisions or actions will heighten risks or be undermined by threats.
- Encourage new financing mechanisms for risk-informed development that are designed to reduce vulnerability, exposure and risk creation, and help countries cope and recover better when crises occur.
- Integrate global initiatives and framework agreements into development, including Agenda 2030 for Sustainable Development, the Sendai Framework, the Paris Agreement and the World Humanitarian Summit, alongside recent declarations and policy processes on refugees and migrants and urbanisation and urban crises.

1.4 Resilience as part of Development/ Resilience as a Tool for Development

UNDRR defines Resilience as ": the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management".

Resilience covers both 'physical and societal systems' through four 'R' principles as given below:

- Robustness: the inherent strength or resistance in a system to withstand external demands without degradation or loss of functionality;
- Redundancy: system properties that allow for alternate options, choices, and substitutions under stress;
- Resourcefulness: the capacity to mobilize needed resources and services in emergencies; and
- Rapidity: the speed with which disruption can be overcome."

Box 2: A word on development, sustainability, and resilience

Development, in the broadest sense of the term, can be thought of as past and present social, economic, political, cultural, and technological pathways and trends, and how these change processes create, interact with and are shaped by environmental change. Development, under this rubric, may or may not be sustainable or risk-informed. Sustainable development is defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (UNGA, 1987: 43). Resilient development enables people, socioeconomic and environmental systems to 'cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation' (IPCC, 2014a: 1,772). Development needs to include both; it cannot be sustainable if it is not resilient.

Source: Adopted from Report on Risk-informed development: From crisis to resilience (2019), UNDP [9]

[9] Sarah Opitz-Stapleton et.al. Report on Resilient Development: From Crisis to Resilience (2019), UNDP, https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Risk-informed%20development_WEB_final.pdf

Disaster set back development

Disaster can set back development programming thereby destroying years of development initiatives in the following ways:

a. Loss of resources

- Development resources are lost when disaster wipes out the products of previous investment e.g. tropical storms, earthquakes and floods can destroy factories, fishing ports, power systems and telecommunications, buildings, transport and public utilities.
- There is also loss of resources for producing goods and services. This has the effect of raising prices above the level which the poor cannot afford.
- Death, e.g. in Haiti earthquake of 2010 left a trail of destruction and affected the state's ability to trade.
- Destruction of Infrastructure, led to the loss of crops, massive soil erosion and flooding

b. Interruption of programmes and switching of crucial resources to other emerging needs.

- Development activities can be interrupted through the switching of resources from long term programmes to highly visible short- term recovery and emergency response programmes.
- Resources meant for productive activities are also channelled to these short- term needs. This lowers economic growth, resulting in balance of payment problems, heavy debt and inflation

c. Negative impact on investment climate

- Repeated disasters have a negative impact on investment. A climate of stability and certainty is required to encourage investment.
- Under conditions of uncertainty, both domestic and foreign investors will generally be cautious about supporting entrepreneurial activities.

d. Disruption of the informal sector

- In many societies, the informal sector, while not included in the national economic statistics, can involve a substantial portion of the population.
- This sector is vulnerable because the infrastructure from which they do their businesses can easily be destroyed.
- Import of relief items can be a disincentive to small producers, particularly in the agricultural and household goods sector.

Development Programmes reduce vulnerability to disasters:

Development programmes should always aim to reduce vulnerability of people to disaster. The following are examples of developmental ways of protecting populations and critical economic assets against hazards and of reducing the overall impact of a disaster:

- Strengthening of urban utility systems and industrial support. Urban utility systems can be constructed in ways that they can be resistant to particular hazards. For example, construction in Japan is done with earthquakes in mind.
- Investment in communications, road and air transport can improve a country's ability to respond to and recover from major emergency situations. Better communications lead to improved early warning and more effective preparedness and response measures. Better air ports and bridges can help speed up the delivery of relief resources.

- Improved drainage and flood protection measures can protect people and facilities in hazardous areas.
- Investment in improving administration and strengthening the resource base of public institutions will have a general positive impact on effectiveness of preparedness arrangements, emergency responses and long-term recovery planning.
- Capacity Development Programmes in general and training programmes with a managerial and technical focus can improve mitigation and response measures.
- Agricultural and forestry programmes e.g. Reforestation programmes and Water harvesting can provide a range of opportunities for mitigation.

Post Disaster Socio Economic Development Opportunity

- Rebuilding after a disaster provides significant opportunities to initiate development programmes. Particularly, the Build Back Better approach can be followed in such circumstances.
- A self-help house development programme to rebuild houses destroyed by an earthquake teaches new skills, strengthens community pride and leadership
- Rehabilitation and reconstruction activities create opportunities for the integration of disaster risk measures.
- Floods provide opportunities for constructing dams which can be used to produce electricity generation and irrigation.

1.5 Principles of an integrated approach to DRR and climate change adaptation

Innovative action-research in the field of climate change adaptation is rapidly producing valuable indicators of the fundamental elements for effective adaptation programming. Most recently, interest among development and humanitarian actors in improving understanding of how to generate greater resilience to shocks and stresses, including hazards and the effects of climate change, is resulting in constructive debates. There is significant convergence in the lessons, recommendations and challenges emerging from each of these spheres of activity, and a growing consensus on the need for an integrated approach.[10]

Principles for Integrated Approach to DRR and Climate Change

The following 10 principles for an integrated approach to disaster risk reduction and climate change adaptation are drawn from this increasing body of knowledge [11]. These principles provide development and humanitarian practitioners with a set of criteria for building disaster and climate resilience that is applicable across the programme cycle in multiple sectors and varied contexts.

1. Increase understanding of the hazard and climate change context: An understanding of past trends, present experiences and future projections of hazard occurrence, climate variability and the range of effects of climate change should underpin any decisions or actions to build disaster and climate resilience. The risk analysis process

[10] file:///C:/Users/User/AppData/Local/Temp/ECB-toward-resilience-Disaster-risk-reduction-Climate-Change-Adaptation-guide-english.pdf

[11] United Nations (2009) Global Assessment Report on Disaster Risk Reduction, Geneva. United Nations (2011) Global Assessment Report on Disaster Risk Reduction, Geneva. https://www.preventionweb.net/english/hyogo/gar/report/

IPCC (2012) Special Report of the Intergovernmental Panel on Climate Change:Managing the Risks of Extreme Events and Disasters to Advance Climate ChangeAdaptation (SREX), https://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-1/ipcc-2012-managing-the-risks

itself should increase understanding among all stakeholders, both because of its participatory nature, and through sharing of the results.

2. Increase understanding of exposure, vulnerability and capacity: An assessment of the vulnerabilities and capacities of the population, systems and resources should be the foundation for decisions on the location, target populations, objectives and approach of measures to build disaster and climate resilience. It should include analysis of the projected effects of climate change as well as of those currently observed.

3. Recognize rights and responsibilities: Disaster risk reduction and climate change adaptation should be regarded among the responsibilities of states and governments as duty-bearers for the realization and enjoyment of human rights. Governance systems and the political environment should enable people at risk or affected by disasters and climate change to demand accountability for their decisions, actions, and omissions. The role of other stakeholders, including NGOs, should be complementary to, and enabling of, the relationship between duty-bearers and right-holders.

4. Strengthen participation and action by the population at risk: All people at risk have the right to participate in decisions making that affect their lives. Their first-hand knowledge of the issues affecting them is critical to ensuring that analysis and subsequent actions are based on empirical evidence. In addition, the sustainability of resilience-building strategies depends on their ownership and agency. Therefore, all decision-making processes and actions should directly involve the population at risk ensuring that women, men, and children are included.

5. Promote systemic engagement and change: As there are multiple causes and drivers of vulnerability and exposure to hazards and the effects of climate change, strategies to build disaster and climate resilience should engage all sectors of society and government. The goal of multi sectoral and multi-stakeholder engagement should be to make building disaster and climate resilience central to development planning. The commitment of all actors to this goal should be reflected in their respective policies, plans and budgets.

6. Foster synergy between multiple levels: The importance of an enabling political environment is critical to actions taken at the household, community and local levels. Similarly, the impact of a policy or law depends on its implementation by different levels of government and its relevance to the population at risk. Decisions and actions taken at each level should be mutually informative and facilitate the development of a coherent and coordinated approach.

7. Build diverse sources of knowledge: Analysis of disaster and climate change risk should seek to complement local and traditional knowledge with the results of scientific research to continue to co-generate new knowledge. Measures to build disaster and climate resilience should promote replication of effective practices, encourage autonomous innovation, and introduce, where appropriate, external technology to help address new or magnified challenges. Strategies and programmes should be monitored and evaluated to ensure that learning is captured and made available to others.

8. Instill flexibility and responsiveness: As the effects and impacts of climate change remain uncertain, particularly on a local scale, and many dynamic processes (such as urbanization and environmental degradation) influence exposure and vulnerability, analysis of disaster and climate change risk should be responsive to emerging knowledge. Similarly, strategies and programmes to build disaster and climate resilience should be flexible, to accommodate new inputs.

9. Address different timescales: Analysis, strategies and programmes should address current, identified risks and likely future scenarios. Preparing for the occurrence of known hazards should not be neglected in favor of building capacities to adapt to medium- and long-term effects of climate change, and other, potentially unknown shocks or stresses. Resource allocation and activities should be planned accordingly.

10. Do no harm: Processes to define strategies and programmes to build disaster and climate resilience should always incorporate an assessment of their potential negative impacts, including their contribution to conflict and effects on the environment. In cases where potential harm is identified, measures to substantially reduce or remove them should be built into the strategy and programme design. To avoid creating a false sense of security, or promoting mal-adaptation, programmes should always be based on a multi-hazard, multi-effect assessment.

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Day 2

Module-2

Mainstreaming Disaster Risk Reduction

Overview of the Module 2

Objectives

The objective of the session is to introduce the trainees with the basic concepts of DRR mainstreaming including steps and strategies for mainstreaming DRR and Initiatives taken by the GOB.

Expected Learning Outcome

Upon completing the session, the participants will be able to demonstrate the following learning outcomes

- Articulate the basic concepts of DRR mainstreaming.
- Identify the requisite tools for mainstreaming DRR project. Breakdown the steps to follow for mainstreaming of DRR
- Assess the current DRR Initiatives at the policy and intuitional level in Bangladesh

Method and Materials

- Lecture and participatory discussions
- Power Point Presentations
- Group work/presentations
- Case studies
- Question and Answer sessions

Discussion Agenda

2.1 Defining DRR Mainstreaming
2.2 Mainstreaming DRR Strategies
2.3 steps for successful mainstreaming
2.4 Mainstreaming DRR initiatives in Bangladesh

2.1 Defining DRR Mainstreaming

UNISDR defines DRR "Mainstreaming disaster management into the development planning process essentially means looking critically at each programme, activity and project that is being planned, not only from the perspective of reducing the existing risks but also from the perspective of minimizing its potential contribution to creation of new risks of disasters.".

"The objective of mainstreaming is to bring to the forefront an important issue that is not the concern or business of a sector but is the common concern of all sectors, or what is often characterized as" everybody's business". The core philosophy of mainstreaming is that by bringing the critical cross-cutting issue to the forefront, it becomes the core principle of governance that permeates all sectors and all levels. And it goes beyond the public sector to include the private sector, the corporate world, academia, media, civil society and communities" [12].

Broadly, mainstreaming DRR is referred to as the integration of disaster risk reduction measures into development planning, poverty reduction strategy, as well as resource management and environmental protection. To mainstream is to change the way we deal with natural hazards (to see it as 'norms' rather than exceptions); to take natural disaster risk reduction as matter of development; and the most fundamental of all, to understand the dynamic nature of vulnerability and its underlying causes; and to make vulnerability reduction as the central focus.

With every disaster, there is a significant impact on agriculture, housing, health, education and infrastructure. The results are serious social and economic setback to the development and poverty reduction priorities of the developing countries and pose grievous threats to development aspirations. To meet the crisis, the scarce resources that are programmed for development are often diverted for relief and rehabilitation efforts. Thus, development activity and disaster risk reduction representing two sides of the same coin have to be dealt with in unison, with mainstreaming disaster risk management into development policies, plans and implementations. On the other hand, the process of development, and the kind of development choices made in many countries, often, create disaster risks. With disaster risk reduction considerations not featuring into the project designs of the development activities, increase the risks, thus increasing the negative impact of the disasters on the socio-economic set-up of the country.

2.2 Mainstreaming Risk Reduction Strategies

Mainstreaming risk reduction efforts within government, NGOs and private sector is viewed as being the key to achieving sustainable hazards risk reduction interventions across the whole country. In Bangladesh mainstreaming is seen in much the same way as poverty reduction in that it is the outcome of many top downs and bottom up interventions.

The strategies may include following issues.

Advocacy: Awareness raising among political leaders, senior policy makers and Government officials, media and academic institutions is a priority strategy for building knowledge and understanding on the benefits of risk reduction.

Policy and Planning Reform: A significant review of disaster management and development planning policy is being undertaken to ensure that it facilitates mainstreaming and promote a comprehensive risk reduction culture.

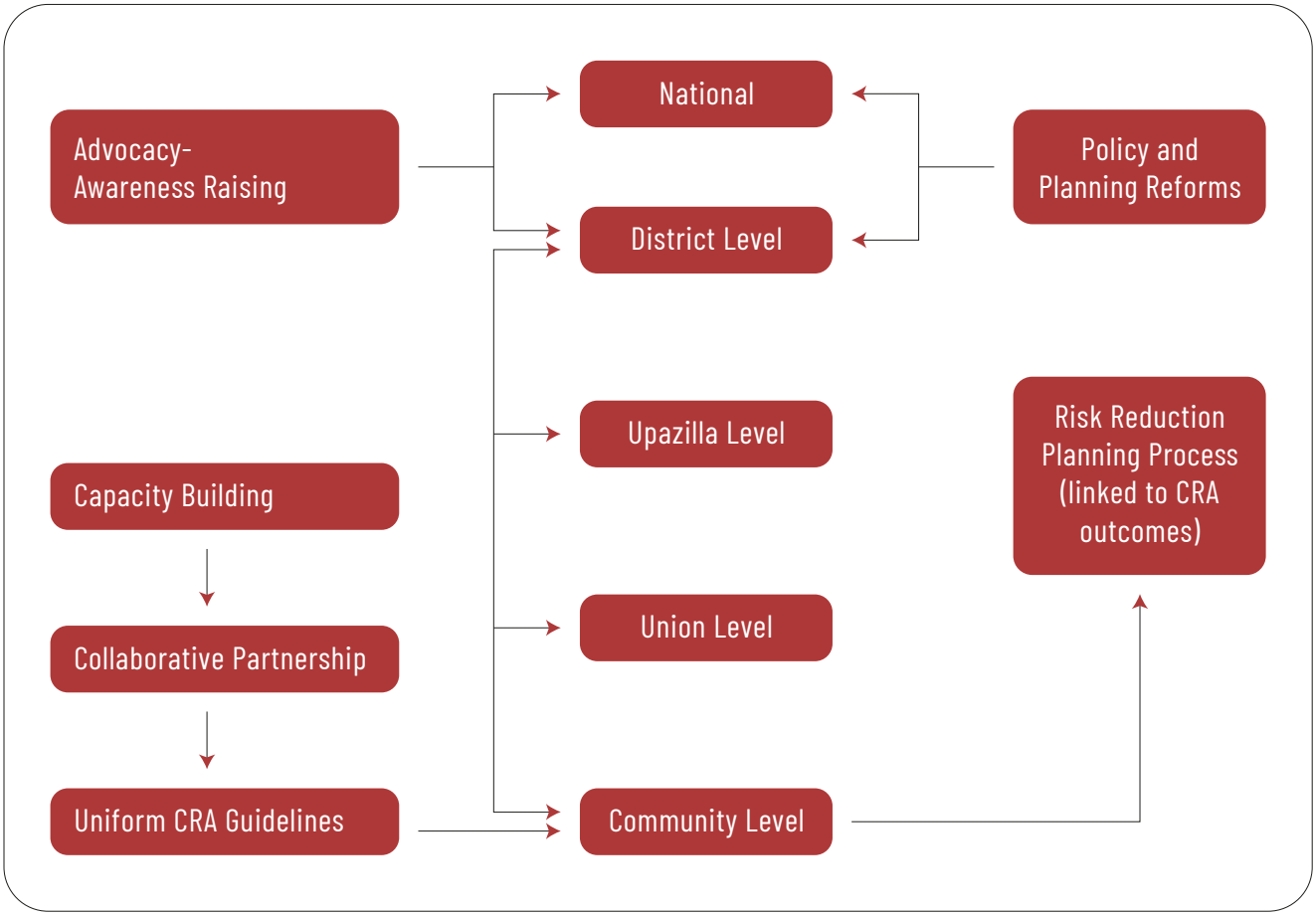
[12] Mainstreaming Disaster Risk Reduction for Sustainable Development: A Guidebook for the Asia-Pacific 2017

Capacity Building: This strategy has targeted a complete review of the roles and responsibilities of disaster management committees (DMCs) at all levels to ensure they reflect risk reduction as well as emergency response functions. A national training curriculum is being developed to ensure that committees receive capacity building training to ensure they understand and can fulfill their functions effectively.

Planning Frameworks: Disaster management planning at all levels is being significantly overhauled to ensure that DMC plans accommodate risk reduction mainstreaming at all levels.

Uniform CRA Guidelines: Uniform CRA processes are being established to ensure consistency in the conduct of community risk identification and compatibility with the risk reduction planning processes of the respective DMCs. The guidelines also have steps to ensure strong linkages with scientific analysis of information.

Mainstreaming DRR Strategies



Source: Ministry of Disaster Management and Relief (MoDMR), GoB

2.3 Steps for Successful Mainstreaming

For successful mainstreaming, following steps need to be followed:

Step 1: Awareness Raising

Awareness raising is must for better understanding on DRR issues. Awareness massage and campaign need to be develop considering the target groups.

Step 2. Enabling Environment

Development organization's policies and strategies need to pay due attention to disaster risk reduction, regarding it as a development issue rather than the responsibility of humanitarian departments. Revised policies and strategies need to be reflected in appropriate institutional arrangements.

Government prioritization of disaster risk reduction. As development organization aims and objectives are increasingly aligned with national development and poverty reduction strategies, it is essential that governments themselves priorities risk reduction as a critical development challenge in high-risk countries and develop related policies, capabilities and legislative and institutional arrangements. Development organizations need to explore incentives for encouraging governments in this process.

Step 3. Development of tools

Programming, appraisal and evaluation tools are required to investigate countries, sectors and individual projects at risk from natural hazards, provide detailed information on the nature and level of risk and ensure that appropriate risk reduction measures are taken.

Step 4. Training and Technical Support

Development organizations need to provide appropriate internal training and technical support to support the integration of disaster risk concerns into development.

Step 5. Change in Operation Practice

Early assessment. It is essential that hazard-related issues are considered during the very early stages of country programming and project design so that they can be fully and systematically taken into account and appropriately addressed where relevant. Country strategies and related country environmental analyses should indicate in which countries mainstreaming is required. Following issues need to be considered for changes in operation practice:

Adequate supporting information: Sufficient information is necessary to permit a full and accurate assessment of disaster risk and its appropriate treatment. Countries may require support in strengthening their information base – for instance, in improving hazard data collection and analysis

Cost minimization: Disaster risk analysis should be integrated into country programming and project design at minimum cost. Pooling of relevant information and related analysis within the development community and with governments would help achieve this.

Treatment of low-probability, high-impact risks: Climatological hazards are most likely to be identified as potential risks, reflecting their shorter return periods and thus higher probability that they will occur over the life of a project or country strategy. In contrast, risks emanating from earthquakes and volcanic hazards, with much longer return periods, may be discounted. However, even if ignored from an economic perspective, it is important to ensure that earthquake and volcanic risks are adequately considered from a safety perspective, taking rights to safety and protection into account.

Transparent, inclusive and accountable consultation: The consultative process must give a voice to poor and marginalized groups, who are often among the most vulnerable to natural hazards, and ensure that their interests are adequately addressed and their rights protected.

Adequate maintenance of development investments: Mechanisms for ensuring that development investments are adequately maintained and remain in good condition are essential in ensuring that their designed level of hazard resilience is maintained.

Step 6. Measuring progress

Internationally agreed targets for disaster reduction should be addressed, such as commitment for SDGs and Sendai Framework and actions, so that progress can be measured against targets.

Step 7. Learning and experience sharing

Community, together with other stakeholders, should make a concerted effort to monitor, share and learn from its experience in mainstreaming disaster risk reduction into development.

a. Mainstreaming DRR Initiatives in Bangladesh
a. Revision of Standing Orders on Disasters (SoD) 2019
b. Disaster Management Act
c. Disaster Management Policy
d. Inclusion of DIA in Feasibility Study Format
e. National Plan for Disaster Management 2016-2020 and NPDM for 2021-2125
f. Inclusion of DRR issues in the 8th Five Year Plan and setting result indicators

g. Inclusion of Risk Informed Development Practices in ADP 1999-2020 Guidelines
h. Activated disaster coordination mechanisms at national and local level.
i. Establishment of the Disaster Management Research and Training Institute
j. Integrate DRR and CCA for resilience approaches and principles within the planning and policy frameworks of all Government institutions, provide technical assistance, monitor and report on implementation.
k. Inclusion of DRR and CCA issues in the training curriculum for local government, public representative officials, Bangladesh Ansar & VDP, religious leaders, scouts, etc.
l. Implemented a gendered approach to disaster resilience in all Government planning, policy frameworks and programmes. Monitor and report on implementation.
m. Establishment of effective partnerships for disaster resilience with the private sector focused on roles, responsibilities, investment priorities and incentives, including regulation.
n. Develop policy framework for addressing slow onset disasters such as water logging in south-west, riverbank erosion etc.

2.4 Disaster Impact Assessment (DIA) Framework

Purpose

A practical framework has been prepared which will be used to address Section 24.3 of Development Project Proforma (DPP). This is a simple tool to help both proponent and appraiser to assess whether disaster issues have been adequately considered in DPP in order to make the project sustainable.

Principles

The principles behind this framework are as follows:

Simple yet comprehensive: i.e. the format should be easily understandable and workable yet it needs to cover major issues related to DIA.

It is a living document: i.e. it is not static rather dynamic. It is expected that the manual will be updated with time.

No new analysis: The format will use information already available from Feasibility Report. Such information will be presented in a DIA format.

Scope

The scope of this manual is as follows:

Applicable for DIA at project level only: DIA can be carried out at policy and programme level which are equally needed. However, this format is applicable for preparation of DPP for projects only.

Applicable for infrastructure projects: At this stage, the DIA format has been prepared considering infrastructure projects. This is because, these types of projects are more vulnerable to hazards, may create more hazards and need to be resilient most.

Consideration of service: This format encourages to consider not only the physical damage to the infrastructure itself but the services that these infrastructures provide.

Consideration of chain of hazards: One hazard may lead to other hazards such as from damage to a building during earthquake may generate fire hazard.

Gender consideration: The countermeasures need to duly consider gender aspects.

The infrastructures and the hazards that they might face which have been considered in formulation of the framework are as follows:

Infrastructures	Hazards
• Road • Bridge • Shelter • Embankment • Buildings (including schools, hospitals etc.) • WASH facilities • Town protection • Dredging • Power plant • etc	Natural • Flood • Drought • Cyclone • Earthquake • Erosion • Tornado • Landslide • Lightning • Salinity • etc. Manmade • Fire • Water logging • etc.

Steps of DIA

The proposed DIA format has six steps as below:

1. Locating project site on hazard map
2. Identification of impact of hazards
3. Proposing counter measures
4. Assessment of resilience
5. Estimating cost of DRR
6. Reporting residual risk

The steps are described as follows.

1. Locating project site

The site of the project should be located on maps of hazards that the project is facing. Districts facing different types of hazards have been prepared by Planning Commission and ADB (PC, 2018) as given below.

Table 6.1: List of districts and respective exposure to types of hazards.

Division	District	Potential Hazards	Note
Barisal	1. Barisal	C, Er, F, SS	C = Cyclone D = Drought Eq = Earthquake Er = Erosion F = Flood FF = Flash flood S = Salinity SLR = Sea-level Rise L= landslides SS= Storm Surge
	2. Bhola	C, Er, F, S, SLR, SS	
	3. Barguna	C, Er, F, FF,S, SLR, SS	
	4. Jhalokati	S, Er, F, S	
	5. Patuakhali	C, Er, F, S, SS	
	6. Pirojpur	C, Er, FF,S, SLR	
Chattogram	7. Bandarban	Er, Eq, FF, L	
	8. Brahmanbaria	Er, F, FF,S, SLR	
	9. Chandpur	Er, F	
	10. Chattogram	C, FF, SLR, Eq, L	
	11. Cumilla	Er, F	
	12. Cox'z Bazar	C, Er, FF, S, SLR, L	
	13. Feni	C, Er, F, S, SLR	
	14. Khagrachhori	C, Er, F, FF, Eq, L	
	15. Lakshmipur	C, Er, F,S, SLR	
	16. Noakhali	C, Er, F, FF,S, SLR	
	17. Rangamati	C, FF,S, SLR, Eq, L	
Dhaka	18. Dhaka	F	
	19. Faridpur	Er, F	
	20. Gazipur	F	
	21. Gopalganj	Er, F, S	
	22. Kishoreganj	Er, F, FF	
	23. Madaripur	Er, F	
	24. Manikganj	Er, F, Eq	
	25. Munshiganj	Er, F	
	26. Narayonganj	Er, F	
	27. Narsingdi	F	
	28. Rajbari	Er, F	
	29. Shariatpur	Er, F	
	30. Tangail	Er, F	
Khulna	31. Bagerhat	C, Er, F, FF,S, SLR	
	32. Chuadanga	Er, F	
	33. Jashore	Er, F	
	34. Jhenaidah	F, S	
	35. Khulna	C, Er, F, S, SLR, SS	
	36. Kustia	F, Er, S	
	37. Magura	Er, F, S, D	
	38. Meherpur	Er, F, D, S	
	39. Narail	Er, S, F	
	40. Satkhira	Er, S, SLR, F	

Division	District	Potential Hazards	Note
Rajshahi	41. Bogura	C, Er, F, D	
	42. Joypurhat	Er, F, D	
	43. Naogaon	Er, F, D, S	
	44. Natore	Dr, F	
	45. Nawabganj	C, Er, F, D	
	46. Pabna	Er, F, D	
	47. Rajshahi	Er, F, D	
	48. Sirajganj	Er, F, D	
Rangpur	49. Dinajpur	Dr, Er, F	
	50. Gaibandha	Er, F	
	51. Kurigram	C, Er, F, D	
	52. Lalmonirhat	Er, F, D	
	53. Nilphamari	Er, F, D	
	54. Panchagarh	Er, F, D	
	55. Rangpur	Er, F, D, Eq	
	56. Thakurgaon	Er, F, D	
Sylhet	57. Habiganj	Er, FF, F, FF	
	58. Moulvibazar	Er, F, FF	
	59. Sunamganj	Er, F, FF	
	60. Sylhet	Er, F, FF	
Mymensingh	61. Jamalpur	Er, F	
	62. Mymensingh	Er, Eq, F	
	63. Netrokona	Eq, Er, F, FF	
	64. Sherpur	Er, F, Eq	

The hazard maps have also been prepared by the Planning Commission and ADB. One map, as an example, is reproduced here (Figure 6.1). Once the site is located on map, the expected impact of the hazard on the project becomes apparent. The projects can be categorized as red, yellow or green based on their location on the map. It is recommended that Red category projects be required DIA. Yellow category be required preliminary DIA and green category be required of no DIA.

Figure 6.1: Storm surge hazard index map *(source: PC, 2018)*

2. Impact of hazards

Then the impact of hazards on the structure (including the services they provide) will be reported. Example of impacts for major infrastructures are as follows:

- Cyclone shelter will be exposed to wind hazard, storm surge and salinity.
- Embankments may be breached or overtopped by storm surges leading to water logging.
- Roads through a floodplain may be submerged by flood disrupting communication.
- Bridges may be subject to river erosion.
- Buildings may be damaged by earthquake and then creating fire hazard.
- Collapsed or damaged infrastructure might cause injury and bring challenges for women, adolescent girls, person with disability and aged people for equal access and safety.
- Increase of salinity, water logging has negative impact on women's reproductive health and hygiene practice.
- Damage of infrastructure specifically to road communication can cut off supply of goods and services that make negative impact on economic life of people.

Sometimes the projects itself create new hazards. Such will also need to be reported here. Examples of such transfer of risks are as follows:

- Embankment can raise flood level in the unprotected area
- Roads may lead to water congestion

Disaster Impact Mechanism

The flow of impact by a natural disaster can be divided into two stages: the primary impact and the secondary impact. Primary impact means direct impact from a natural disaster itself on infrastructure with physical damages and losses. For example, a hurricane brings few destructive powers such as winds, rain, flood, hail, tornado, etc. Infrastructure in the influenced territory would get damaged or collapse directly due to the impact of the hurricane. The results could be outage of electricity, break in communications, collapse of buildings, roads and bridges, etc. After these direct impacts or during the disaster impact on infrastructure, secondary impact will be on the services of associated industries. These service failures occur due to damaged infrastructure.

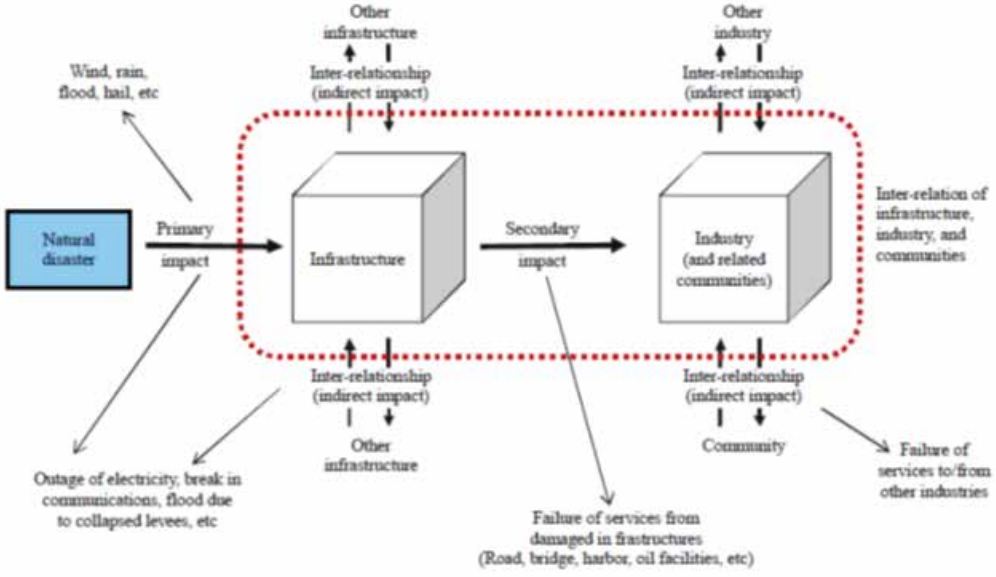


Figure 6.2. Disaster Impact Mechanism *(Source: Oh et.al., 2010)*

Inter-relations of infrastructure and associated industries are the key component to establish a disaster impact mechanism. A natural disaster primary impacts the infrastructure with physical power and some vulnerable infrastructure may get damaged. Then the damaged infrastructure secondarily transfers its impact to associated industries according to their inter-relation. Figure 6.3 shows the flow of the impact from a natural disaster to associated industries through damaged infrastructure for the representative case, Hurricane Katrina. Few critical infrastructure and associated industries are chosen as examples to show the impact flow and how they are inter-related.

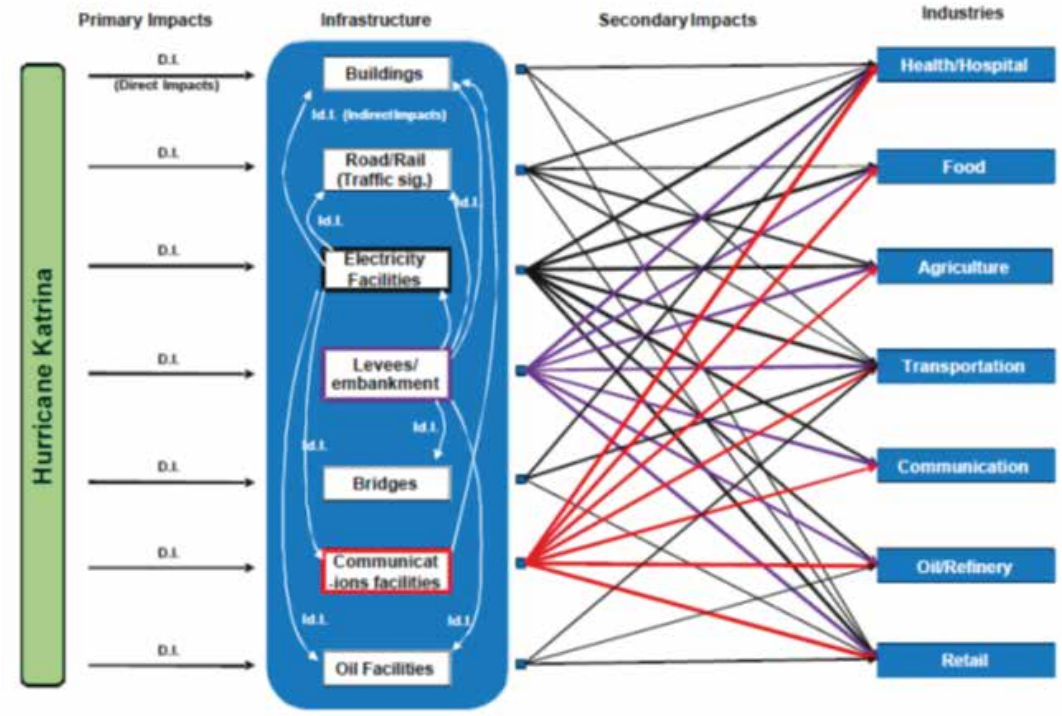


Figure 6.3. Impacts on Infrastructure and Industries from Hurricane Katrina *(Source: Oh et.al., 2010)*

Case study

According to Volker (Volker, 1983) the effects of embanking can be divided into three groups:

- the hydraulic effects;
- the morphological effects;
- other environmental impacts;

Hydraulic Effects: These effects are caused by the elimination, by embanking, of the overland flow and overland storage of water on the land areas. The result is a rise of the flood levels, the downstream areas are exposed to higher floods and the rise propagates also in upstream direction. The strip between the channel and the embankment will be exposed to deeper flooding than before which led to public cut of embankments.

Morphological Effects: Embanking tends to increase the velocity of the flood flow and as such, enable the river to carry more silt load. Thus, after embanking, while some river show aggrading tendency (braided form) on account of progressive silt deposit, some remain stable (Srivastave, 1985). The bank erosion may introduce a failure of the embankments. In many cases, after embanking, a rise of the river bed has been observed leading to still higher flood levels. Embanking halts the natural process of building up of the land areas. Embanking also stops the deposition of fertilizing silt.

Other Environmental Impacts: After embanking excess water from local rainfall will not flow to the receding river. Not only drainage outfalls (sluices) in the embankments are necessary but also a system of drainage canals to convey the water to the outfalls. This leads to disappearance of water conservation and to storage of water in the beginning of the dry season. Also, the beneficial effects of flooding in the early stages of the growing season has been eliminated. In a number of cases, like in Polder 22, the farmers have made cuts in the embankments to admit the water. Embankments also eliminate the beneficial effects of the floods in removing dirt, wastes and salinity accumulated during the dry season, rinsing of the canals will be necessary.

3. Counter-measures

This section will report the countermeasures that have been taken against the impacts noted in the previous section. Countermeasures should address both hazard and vulnerability. An example is provided below.

Project	Risk reduction	Measures
Cyclone shelter	**Hazard**	
	Wind	Max wind speed considered as per BNBC
	Storm surge	Plinth level above historically highest surge level
	Salinity	Thicker covering; modular construction
	Vulnerability	
	River erosion	Sufficient set back distance has been maintained
	Access to shelter	Roads and culverts have been provided Roads and other communication are accessible, safe and secured for women, adolescent girls, and person with disability.
	Safety at shelter	Separate areas for men and women with separate WASH facilities with sufficient light; Emergency lighting facilities in place.
	Services afterwards	Plan for resuming normal operation is in place

Main causes of damage/breaching of dike and its countermeasures are as follows:

Causes of damage	Countermeasures
Erosion (Scouring)	The surface of the dike on both sides shall be covered with vegetation for protection against erosion. The riverside should be protected with revetment, if necessary.
Overflow	Sand bagging for emergency measure. For long term measure, provide concrete and asphalt covering for the crest and the landside slope.
Seepage	To prevent the collapse of dike caused by seepage, embankment materials for the dike should consist of impervious materials (e.g. clay) in the riverside, and pervious materials in the inland side. Drainage structures and related facilities works should be provided at the inland side to drain accumulated water.
Earthquake	Immediately repair/restoration after the earthquake.

4. Assessment of resilience

The resilience can be assessed by the following indicators:

1. Whether the project has an Emergency disaster management plan – All projects are subject to fail and therefore need to have emergency/contingency plan. For example, if a building collapses during earthquake, then there needs to be an evacuation plan and arrangement for automatic shutdown of utilities such as electricity, gas etc. to prevent fire.
2. Service continuity plan – Important installations such as hospitals, schools, power plants etc need to have service continuity plan for immediate aftermath of a disaster. For example, a school need to resume schooling as soon as possible after a flood when large number of people took shelter in that school building; community health services including provision of reproductive health services to women need to continue even after a hospital is lost to river erosion; mobile network needs to resume operation quickly after a cyclone even if there is loss of few transmission towers.
3. Time of recovery – If a project fails, then it may require considerable period of time for rehabilitation if this issue is not considered during project planning and design. For example, many polders damaged after cyclone Aila and Sidr in later part of 2000s still await full rehabilitation prolonging the sufferings of the inhabitants.

5. Cost of DRR

Cost of DRR will be reported in this section. The percentage of DRR cost compared to the total project cost will also be reported.

Some projects are entirely DRR projects such as cyclone shelter, embankments etc. Here entire project cost is the DRR cost. On the other hand, in some projects cost of DRR is incremental cost. For example, a sea-side road may need protection from sea erosion. In this case, cost of DRR is only the cost of erosion protection.

Costs should also be reported unit-wise. For example, in case of cyclone shelter, in addition to total cost, cost for sheltering each person would be reported.

6. Residual Risk

Risk cannot be absolutely eliminated. In this regard, it is important for the appraiser to judge the residual risk with respect to cost incurred for DRR and the total cost of project.

In this section, the remaining risk after the intervention will be reported. This is to facilitate comparison of residual risk with the cost of DRR. If a road is designed above 1 in 100-year flood it should be reported that there is likelihood that the road will be flooded once in 100 year. If a building is designed to withstand earthquake with a magnitude of 7 in Richter scale then the probability of earthquake above 7 need to be reported.

Training materials

Oh, E.H., Deshmukh, A., and Hastak, M. (2010). Disaster impact analysis based on inter-relationship of critical infrastructure and associated industries. International Journal of Disaster Resilience in the Built Environment, Vol. 1 No. 1, 2010, pp. 25-49

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2.5 Environmental Impact Assessment (EIA)

Environment Impact Assessment (EIA) can be defined as the study to predict the effect of a proposed project on the environment. A decision making tool, EIA compares various alternatives for a project and seeks to identify the one which represents the best combination of economic and environmental costs and benefits.

Benefits of EIA from development perspective

One of the most useful analytical tools for fulfilling the objective of sustainable development is the undertaking of Environmental Impact Assessment (EIA) for Development projects. EIA systematically examines both beneficial and adverse consequences of the project and ensures that these effects are taken into account during project design. EIA is a formal study process used to predict, foresee and examine environmental consequences of proposed development projects. This involves the study of the probable changes in the physical and biological as well as socio-economic environment which may result from the proposed development activities or projects, and a suitable environmental management plan to minimize adverse effects on the one hand to enhance positive effects on the other. By considering the environmental effects of the project and their mitigation early in the project planning cycle, environmental assessment has many benefits, such as protection of environment, optimum utilization of resources and saving of time and cost of the project. Properly conducted EIA also lessens conflicts by promoting community participation, informing decision makers, and helping lay the base for environmentally sound projects. Benefits of integrating EIA have been observed in all stages of a project, from exploration and planning, through construction, operations, decommissioning, and beyond site closure.

Since EIA are mainly used as decision making tools, this must have to be linked to the project planning process and their findings and measures are integrated throughout entire project cycle –inception, feasibility, technical design, cost estimation, preparation of portfolio and various phases of project implementation. In Bangladesh, it has, in fact, not been the case. There have been gap between EIA process and project planning. However, this drawback has recently been removed through issuance of government notification that has provided detailed directives in this regard. Now the challenge remains is to create enabling condition and capacity in which good and desired quality EIA studies and professional practices are cultured and flourished in the country.

EIA Linkage with DRR (disaster risk reduction, if any)

The EMP chapter of the EIA report incorporates the Emergency Response Plan, which outlines how to reduce disaster risk. Emergencies can happen, including fires, explosions, chemical spills, toxic gas releases, disease outbreak, epidemic or pandemic, and other events that may occur during project implementation and operation. In addition the project may also be affected by natural disasters such as storms, cyclones, landslides, tsunamis, earthquakes and floods. Anticipating emergencies and planning the response can greatly lessen the extent of injuries, illnesses and limit equipment, material and property damage.

While it is not possible to plan and be ready for all emergencies, preparedness for emergencies is a means to reduce risks to the project and to the environment. Emergencies response plan should provide for any disease outbreak especially in pandemic situations that may endanger workers and project communities. With the mobility of workers, the Project Proponent needs to consider the overlap between the regional impact of a pandemic disease and the overlap with their workers and local communities where the project is located. The project includes a pandemic preparedness plan within the ERP when the risk has been identified.

This is best left to the Project Proponent working in tandem with the relevant authorities, such as the police, fire department and other emergency services. Nevertheless, ERPs should outline the basic preparedness steps needed to handle the anticipated emergencies and should provide appropriate guidance on what to do during an emergency.

Legal framework of EIA

The Government of Bangladesh, with a view to providing for conservation and improvement of environmental quality, and controlling and mitigating pollution of the environment, enacted the Bangladesh Environment Conservation Act (BECA), 1995, which became effective from June 1, 1995. Section 12 of this Act stipulates that "No industrial unit or project shall be established or undertaken without obtaining environmental clearance from the Director General, Department of Environment in the manner prescribed by the rules". Section 12 (4) of the Act (as amended in 2010) provides the guidance to adopt detailed rules on, inter alia, Environmental Impact Assessment (EIA) Report, Preparation of Environmental Management Plan, Judging of Public Opinion, Public Access to Information, Structure and Function of the Environment Clearance Committee, Minimum Necessary Conditions for Clearance, Appeal, etc. within the context of obtaining the Environmental Clearance Certificate. The Environmental Conservation Rules (ECR), 1997, the main subsidiary legislation of the BECA, provides specific rules and procedures for various categories of projects in relation to their approval prior to construction and operation. For projects and activities listed within the Red category as ECR requires an EIA.

EIA Procedures and Practice

The EIA process comprises of six key steps:

1. Screening

The first step in the process, screening helps to decide whether an EIA is required for a project. An appropriately designed screening system can, thus, prove to be an effective tool for preventing the squandering of time and money on assessing projects with insignificant environmental impacts.

2. Scoping

This step begins after screening has decided on the requirement for an EIA. Scoping is considered the backbone of the EIA process, and is ideally undertaken at the project planning stage. The main objective of the scoping process is to establish the environmental and social priorities and set the boundaries for the study and define the Terms of Reference (ToR) for the impact assessment. Systematic and well-planned scoping forms the basis for an effective and efficient EIA process. It also helps avoid unfocused and voluminous reports.

3. Baseline data generation

Baseline data provides a detailed description of the existing status of various environmental and social components in the study area. Both primary and secondary data is collected to describe this status.

4. Impact assessment

In this step, the characteristics of potential impacts are identified, evaluated and predicted using the baseline information on one hand and the features of the project on the other (cause-effect relationship). Impact predictions are normally done by using common methodologies and models. However, models can be used with care and prudence, as most of them are designed keeping in mind the requirements of the developed world; also, in most developing countries, the quality of data used to design these models is not always adequate.

5. Mitigation of impacts

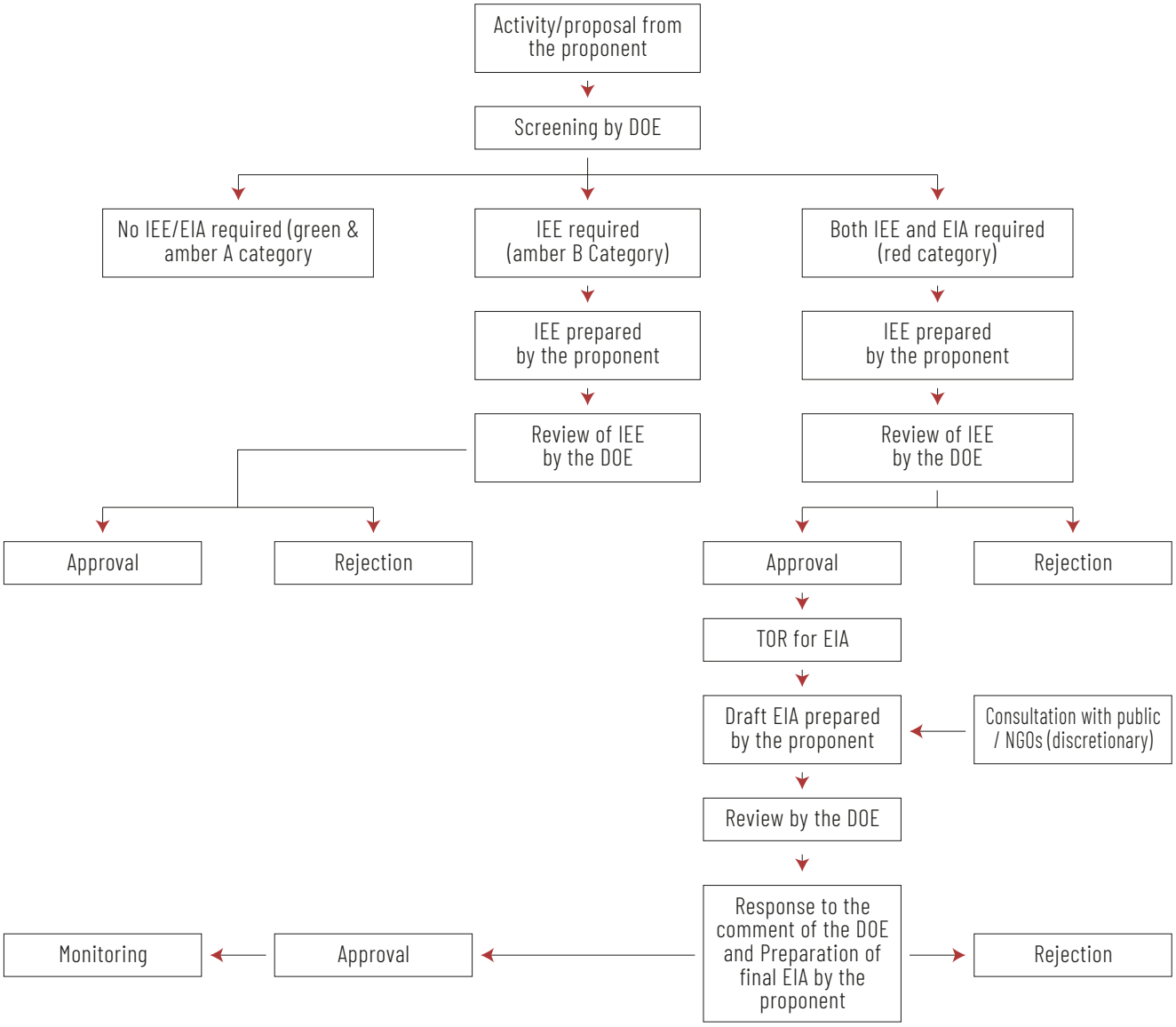
At this stage, the possible preventive, remedial and compensatory measures for each adverse impact are determined and recommended. The application of mitigation hierarchy (avoidance, minimization, mitigation, compensation/ offset) is adopted.

6. Environmental Management Plan

An environment management plan (EMP), also referred to as an impact management plan, is prepared as part of the EIA reporting process. It translates recommended mitigation and monitoring measures into specific actions that have to be carried out by the proponent. Depending upon specific requirements, the plan may be included in the EIA report or can be prepared as a separate document.

For projects and activities listed within the Red category, the ECR requires that an Initial Environmental Evaluation (IEE) be first submitted for approval. This should be accompanied with the terms of reference for an EIA, which is to follow the IEE. The EIA study is to be based on terms of reference that have the prior approval of the DoE. Conducting an EIA study and preparation of an EIA report are the responsibilities of a project proponent who may get this done either through in-house resources or through consultants. Further, the responsibility for carrying out review of the EIA report before according clearance, rests on DOE

Institutional Arrangement for EIA



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Day 3

Module-3

DRR in Local Level Training

Overview of the Module 3

Objectives

The objective of the session is to introduce the trainees with the importance of localizing DRR and help them in understanding the effective ways of integrating DRR into development planning at local level.

Expected Learning Outcome

By the end of the session the participants will be able to understand on following issues.

- Evaluate and exemplify the importance of localizing DRR in Bangladesh
- Explain the integration of DRR into development planning at local regional and sectoral level
- Observe and compare international and local level good practices

Method and Materials

- Power Point Presentations
- White Board
- Handouts
- Group work/presentation
- Case studies
- Local Level Disaster Plan Guidance in SoD

Discussion Agenda

- Importance of localizing DRR
- Integration of DRR in local level planning
- Local level DRR Action Plan

3.4 The importance of localizing DRR in Bangladesh

Disaster risk is context specific; It considers places and times, local patterns of exposure, vulnerability, adaptive capacities and resilience. Risk profiles may change over time and the local scale is where these changes are more directly perceived, and action is taken. Thus, it is crucial that local actors – including local governments (politicians and civil servants), the private sector, NGOs, community-based organizations, and representatives of vulnerable groups – take part in DRR processes and consolidate development pathways that include DRR.

The following factors justify the importance of localizing DRR in Bangladesh

- Impacts of disasters are most immediately and intensely felt at the local level.
- Hazards usually occur locally and many of the most effective tools to reduce exposure to hazards – e.g., land use regulations and enforcement of building codes – are at the local level.
- Basic environmental management and regulatory governance functions are essential for effective DRR
- Local governments and communities can work together for resileince
- Local actors are the first responders if a disaster occur, hence feedback and adjustments can be adopted and implemented more quickly and according to the specific context.

Due to climate change the frequency and intensity of disaster have been increased. There are very numerous localized hazards and climate risk. Therefore, it is important to emphasize that local DRR and DRM are not limited to the municipal political- administrative boundaries. Moreover, the metropolitan or city-region scale is gaining relevance in terms of development planning. To this end, supra-local authorities and agencies are formed to coordinate among municipalities, cities and local governments.

3.5 Integrating DRR into development planning at local level:

Mainstreaming DRR in development essentially means looking critically at each programme, activity and project that is being planned from the perspective of reducing risks and minimizing the potential contribution of development towards creating new risks. Mainstreaming thus has the dual purpose of ensuring:

1. development is protected from existing and future disaster risks and
2. development does not create any new risks of disasters or exacerbates the existing risks.

Integrating DRR into development planning at local level has to be accomplished using these following strategies:

a. Awareness-raising from grass root level to national level should be the top most priority which include

- **Hazard mapping and physical exposure from bottom level to national level.**

Maps and data on geological and ecological features, including fragility and areas prone to floods, droughts, tsunamis and landslides and related information on the location of infrastructure are fundamental in mainstreaming disaster risk reduction concerns into land-use planning, building appropriate hazard-resilient infrastructure and targeting vulnerable groups. The hazardous mapping should be both at local, regional and national levels.

For example, for any development project undertaken in any locality of worth BDT 50 lacs to one crore, there must be a hazard mapping with respect to DRR and mitigation measures to be approved by the competent authority from the upazila parishad or Local Government Division. If the development project is bigger than this, then it requires

feasibility study, EIA as required by Environmental law/regulations and also hazardous mapping to be carried out. This requires an appropriate legislation.

- **Disaster losses with respect to disaster prone and vulnerability of DRR.**

Bangladesh has relatively good historical disaster loss data as compared with many other developed countries. However, there have been some significant shortcomings in the intensive damage assessment process. The MoDMR follows standard format for Damage and Need Assessment.

- **The socio-economic impact of disasters at national and community levels and their relevance to the sustainable development agenda.**

A more disaggregated approach, focusing on the impact of hazard events on particular sectors or regions of the country, would also help shed further light on the economic impact of disasters and help overcome problems relating to analysis at a national level. Certain sectors and regions are more vulnerable to natural hazards (e.g., agriculture in general and coastal regions) while there is considerable regional variation in the incidence of hazards. The understanding of vulnerability and the challenges posed to sustainable development and in identifying opportunities to strengthen resilience both of individual sectors, community levels and sub-sectors and of the economy more broadly is pertinent.

DRR in Action: Case Study

The Sendai Framework for Disaster Risk Reduction (SFDRR) principles are applicable to bring changes for local communities. These are as follows:

Principle 1: Empowerment of local authorities and communities through resources, incentives and decision-making process.

Principle 2: Full engagement of all state institutions of an executive and legislative nature at national and local and community levels.

Principle 3: Primary responsibility of states to prevent and reduce disaster risk, including through cooperation from all sectors and stakeholders.

Good Practices:

Here is short description on some good global best practices

District Disaster Management Plan in India : "Though Generic guidelines have the advantage of permitting innovations and flexibility in mainstreaming, a review of more than 300 district disaster management plans in India found that few of them had indicated how DRR should be mainstreamed within the existing local development plans. And none proposed any new development programme, activity or project for DRR. The reasons for lack of initiative for local-level mainstreaming are not difficult to work out. First, most development programmes, projects are designed at the national or provincial context local authorities for implementation under rigid guidelines has a little scope for innovation. Second, local capacities and coordinating mechanisms are not strong to any changes in local allocations". [13]

[13] Mainstreaming Disaster Risk Reduction for Sustainable Development: A Guidebook for the Asia-Pacific:https://scholar.google.com/scholar?q=Mainstreaming+disaster+risk+reduction+for+sustainable+development:+A+regional+guidebook+for+the+Asia-Pacific+(2017)&hl=en&as_sdt=0&as_vis=1&oi=scholart

Multi-Hazard Risk Maps in Indonesia: The Indonesian National Board for Disaster Management (BNPB) has developed multi-hazard risk maps for all provinces, districts and municipalities of the country, based on assessed hazards, vulnerabilities and capacities. The BNPB used this information to produce a composite Disaster Risk Index of Indonesia (DRII). The DRII provides information on the level of various disaster risks in each district and municipality to enable them to make appropriate investment decisions for mitigation (see figure below). Although the DRII has helped to prioritize investments for DRR in local areas, it has not resulted in mainstreaming DRR in existing or new investments in the various development sectors.

Legal Initiatives in Vietnam: Vietnam made a new law titled "Law on Natural Disaster Prevention and Control of 2013". This law recognizes local organizations, households and individuals who are the first responders ('on-the-spot forces') and shall carry out natural disaster prevention and control activities. It has a provision in establishing Commune-level People's Committees. It makes explicit provisions for communities to participate in the elaboration of local plans on natural disaster prevention and control, which are integrated into local socio-economic development plans and programme.

Good Practice: 5: Bangladesh: Disaster Management Institutions

Revised SoD 2019 guided formation of Union Disaster Management Committee (UDMC) and Ward Disaster Management Committee and mentioned roles and responsibilities of these committees. The SoD mentioned key considerations for Union Disaster Management Plan which will include Risk Reduction Action Plan (RRAP) and Contingency Plan. Similarly, RRAP and Contingency Plan is applicable for Upazila Disaster Management Plan, District Disaster Management Plan and City Corporation Disaster Management Plan.

Union Disaster Management Plan- Things to Consider (As referred in SoD 2019)

Each Union will formulate Union Disaster Management Plan (UDMP). In the plans made by Union Disaster Management Committee following things will be included:

1. Risk Reduction Work plan and 2. Risk Reduction Work Plan. This plan will be formulated by the inclusive policies and participation of all communities. Following things to be considered to formulate the plan:

1. Risk Reduction Work Plan (RRAP)

1.1 To formulate this plan by using Community Risk Assessment (CRA) tools and techniques in the participatory process.

1.2 Defining and redefining community risks to hazards utilizing both traditional and scientific knowledge.

1.3 The work plan will have a list of specific risk reduction activities in the form of tables, which can be measured and there will be a roadmap of when, where, how to implement it.

1.4 Risk reduction for both infrastructural and non-infrastructural activities by considering disability inclusive, Gender sensitive and environmental balance.

1.5 In the case of resource management for implementation of the work plan Union Parishad, Government Programme, NGO, Social institution and individual sector enterprises.

2. Contingency Plan

2.1 To prepare emergency plan by considering both male-female and disaster situation of Union.

2.2 Disaster Management Committee to take on the following issues in a disaster situation based on knowledge and skill:

Distribution of responsibilities between voluntary groups and NGOs;

A. Provide early warning

B. Rescue and safe relocation
C. First aid services
D. Shelter management and distribution of humanitarian assistance
E. Burial of dead body management and debris removal
F. Trauma counseling
G. Safety and Security
H. Damage assessment and data management

It is mentioned that, according to local situation, the type of responsibility may vary.

2.3 Regular mock exercise will be required to achieve expertise in the duty according to the emergency plan in the real scenario.

Example: Preparedness plan of Union Disaster Management Committee (UDMC), (Period January to December 2019)

Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Note
Monthly coordination meeting													
Flood early warning dissemination among the community people													
Rescue and evacuation of flood affected people from char lands and distress places													
Arrange safe water and sanitation for sheltering people													
Ensure security of shelter camp													
Arrange dry food and saline for victims													
Repair/maintenance road communications after flooding													
Preparing a list of losing households													
Provide better services for women, elders and pregnant mothers during sheltering													
Conduct awareness session about disaster													
Coordination with Upazilla Disaster Management Committee for better services													
Arrange rescue boat for evacuation and rescue work													
Special attention for disabled and handicapped people during sheltering													
Taken initiatives for rehabilitation of agriculture activities													

Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Note
Arrange vaccination camp, medicinal treatment for live-Stock													
Arrange transport of dead bodies and inform relatives of Death													
Keep pollution free environment through cleaning of debris, dead animals and other contaminants													
Ensure heath services during post flood period by arrange health camp, medicine distribution etc.													

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Day 3

Module-4

Global Framework for Disaster Risk Management (DRM)

Overview of the Module 4

Objectives

Introducing global frameworks relevant to Disaster Risk Management and letting the trainees know how it evolved over time.

Expected Learning Outcome

The session is designed as such that at the end of the session, participants are expected to understand:

- The paradigm shifts in disaster management concepts at the global level;
- Overview of post-2015 development framework;
- Mainstreaming global framework into national policies, plans and directives.

Method and Materials

- Power Point Presentations
- Handouts
- Open Discussions

Discussion Agenda

4.1 Background Information on Global Framework for DRR
4.2 Shifting in global disaster management paradigm
4.3 Sendai Framework for Disaster Risk Reduction (SFDRR)
4.4 Sustainable Development Goals (SDGs)
4.5 Paris Climate Agreement

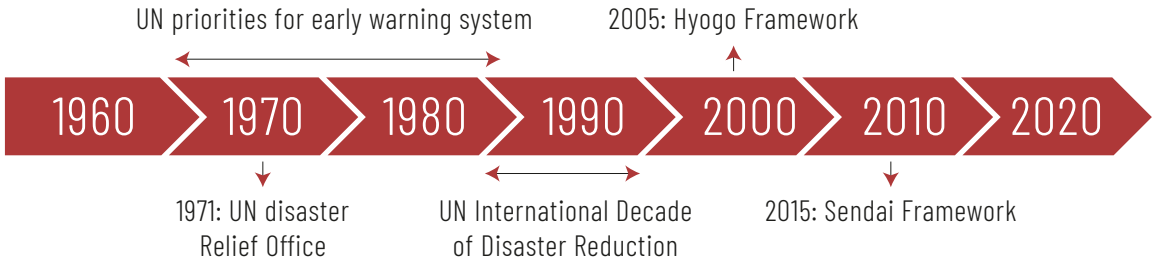
4.5 Background Information on Global Framework for DRR

Three landmark events of 2015, the Sendai Framework on Disaster Risk Reduction (2015-2030) adopted at the Third World Conference on Disaster Reduction in March 2015, the 2030 Agenda for Sustainable Development adopted by the United Nations General Assembly in September 2015, and the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC), accepted by the States in December 2015, have created new windows of opportunities for and constitute the three pillars mainstreaming DRR within development. But we should go back to trace the origins of these landmark event (Figure 4.1). An important landmark came with the UN General Assembly's recognition of the importance of reducing the impact of natural disasters for all. In 2000, the International Strategy for Disaster Reduction (UNISDR) was established. The UN/GA convened the Second World Conference on DRR in Kobe, Hyogo, Japan 2005 and adopted the Hyogo Framework for Action (HFA) 2005–2015. The HFA outlined five priorities for action:

1. Ensure that DRR is a national and a local priority with a strong institutional basis for implementation
2. Identify, assess, and monitor disaster risks and enhance early warning
3. Use knowledge, innovation, and education to build a culture of safety and resilience at all levels
4. Reduce the underlying risk factors
5. Strengthen disaster preparedness for effective response at all levels.

In 2005, Annual Reports of the Secretary General (ARSG) summarized the essential elements of the Hyogo Framework for Action, but health stakeholders were not highlighted. In 2006, the ARSG stated that the World Health Assembly urged member states to engage actively in collective measures to establish global and regional preparedness plans that integrate risk reduction into the health sector and build capacity to respond to health-related crises. In 2008, the Hospitals Safe from Disasters campaign, supported by the World Health Organization (WHO) and the World Bank (WB), attempted to better protect the lives of patients, health staff, and the public by reinforcing the structural resilience of health facilities; ensuring that health facilities continue to function in the aftermath of disasters; and upgrading preparation and training of health workers on preparedness plans.

Figure 4.1: Global shifts in disaster management paradigm



4.6 Sendai Framework for Disaster Risk Reduction (SFDRR): An All-Hazards Approach

The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. It is the result of stakeholder consultations initiated in March 2012 and inter-governmental negotiations held from July 2014 to March 2015, which were supported by the UNDRR upon the request of the UN General Assembly. The Sendai Framework for Disaster Risk Reduction 2015-2030 (henceforth, Sendai Framework) provides Member States with concrete actions to protect development gains from

the risk of disaster. It emphasises on the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. Additionally, Sendai framework recognizes States' the primary role are to reduce disaster risk, but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The Sendai Framework is a voluntary agreement adopted on 18 March 2015 by 187 UN member states after extensive negotiations at the Third World Conference on Disaster Risk Reduction. It has a greater emphasis on health and gives a clearer mandate emphasizing the need for a more integrative DR process that incorporates bottom-up as well as top-down actions. This far-reaching new framework for DRR has sorted out the expected outcome, goal, seven global targets, and four priorities for action

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.¬¬

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

Targets

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015
- Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

UNISDR
The United Nations Office for Disaster Risk Reduction

www.preventionweb.net/go/sfdrr
www.unisdr.org
isdr@un.org

Chart of the Sendai Framework for Disaster Risk Reduction
2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015
- Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015
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- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

Priority 1
Understanding disaster risk

Priority 2
Strengthening disaster risk governance to manage disaster risk

Priority 3
Investing in disaster risk reduction for resilience

Priority 4
Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

- **Priority 1:** Understanding disaster risk Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.
- **Priority 2:** Strengthening disaster risk governance to manage disaster risk: Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk.
- **Priority 3:** Investing in disaster risk reduction for resilience: Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation.
- **Priority 4:** Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction: Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases.

Guiding Principles

- Primary responsibility of states to prevent and reduce disaster risk, including through cooperation
- Shared responsibility between central Government and national authorities, sectors and stakeholders as appropriate to national circumstances
- Protection of persons and their assets while promoting and protecting all human rights including the right to development
- Engagement from all of society
- Full engagement of all state institutions of an executive and legislative nature at national and local levels
- Empowerment of local authorities and communities through resources, incentives and decision-making responsibilities as appropriate
- Decision-making to be inclusive and risk-informed while using a multi-hazard approach
- Coherence of disaster risk reduction and sustainable development policies, plans, practices and mechanisms, across different sectors
- Accounting of local and specific characteristics of disaster risks when determining measures to reduce risk
- Address underlying risk factors cost-effectively through investment versus relying primarily on post disaster response and recovery
- 'Build Back Better' for preventing the creation of, and reducing existing, disaster risk
- The quality of global partnership and international cooperation to be effective, meaningful and strong
- Support from developed countries and partners to developing countries to be tailored according to needs and priorities as identified by them.

In order to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030, the Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action.

4.3 Sustainable Development Goals (SDGs)

The SDGs are a set of 17 goals (figure 4.3) for the world's future backed up by a set of 169 detailed targets, negotiated over a two-year period at the United Nations and agreed to by nearly all the world's nations on 25 September 2015. The SDGs are a call for action - poor, rich and middle-income - to promote prosperity while protecting the environment. They recognize that ending poverty must go together with strategies that build economic growth and address a range of social needs including education, health, equality and job opportunities, while tackling climate change and working to preserve our ocean and forests.

Figure 4.2: Sustainable Development Goals (SDGs)

Core Principles Underpinning the agenda

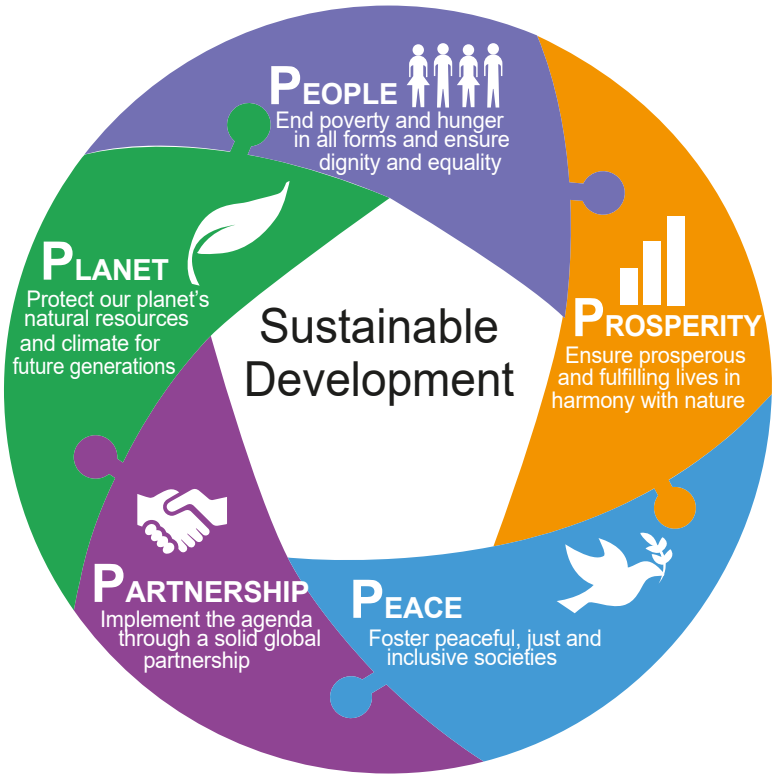
Universality	First, and most important, these goals apply to every nation ... and every sector. Cities, businesses, schools, organizations.
Leaving no one behind	The 2030 Agenda seeks address all people and commits to reach out all people in need and deprivation targeting their specific challenges and vulnerabilities.
Integration	It is recognized that the goals are all inter-connected, in a system. We cannot aim to achieve just one goal. We must achieve them all
Inclusiveness	The 2030 Agenda calls for the participation of all segments of society—irrespective of their race, gender, ethnicity, and identity—to contribute to its implementation

Multi-stakeholder partnership	The 2030 Agenda calls for facilitating multi-stakeholder partnerships for mobilizing and sharing knowledge, expertise, technology and financial resources, to support the achievement of SDGs in all countries.
Transformation	it is widely recognized that achieving these goals involves making very big, fundamental changes in how we live on Earth.

Dimension of SDGs: 5Ps

The following 5Ps are at the heart of SDGs: [14]

- People (Social inclusion)
- Prosperity (Economic growth)
- Planet (Environmental Protection)
- Partnership
- Peace



Strategy of integrating 10 SDGs out of 17 with DRR targets and how to make them operational across the Ministries/Division and Department:

Disaster risk reduction cuts across different aspects and sectors of development. There are 25 targets related to disaster risk reduction in 10 of the 17 sustainable development goals, firmly establishing the role of disaster risk reduction as a core development strategy.

[14] https://unfoundation.org/blog/post/the-sustainable-development-goals-in-2019-people-planet-prosperity-in-focus/

SDGs	Target related to disaster risks
Goal 1. End poverty in all its forms everywhere	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
Goal 3. Ensure healthy lives and promote well-being for all at all ages	3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and nonviolence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
	4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all
Goal 6. Ensure availability and sustainable management of water and sanitation for all	6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
	Target 9.a: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island development states.
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	11.1: By 2030, ensure access for all to adequate, safe and affordable and basic services and upgrade slums.
	11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
	11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage
	11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

SDGs	Target related to disaster risks
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels
	11.c: Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials
Goal 13. Take urgent action to combat climate change and its impacts	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
	13.2 Integrate climate change measures into national policies, strategies and planning.
	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
	13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.
	13.b Promote mechanisms for raising capacity for effective climate change- related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities.
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.
	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for 19 sustainable development.
	15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

4.4 Paris Agreement, 2015/ Paris Climate Agreement

The twenty-first Conference of Parties or CoP21 of the United Nations Framework Convention on Climate Change (UNFCCC) concluded the "Paris Agreement" after a long session from November 29 to December 11, 2015 in Paris. Because the CoP21 came against the backdrop of two great failures - the Kyoto Protocol (KP) and the CoP15 at Copenhagen in 2009, during which the parties in question could not come to an agreement. This enhanced the risks for rapid increase in climate change as evidenced from accelerating extreme weather-related events across the world. Thus, there was a lot of scepticism about whether Paris would get an agreement at all. The Paris agreement will give rise to a large number of activities in many sectors such as finance, mitigation, adaptation, capacity building, disaster management, governance, planning monitoring and evaluation, agriculture and food, energy, water, forestry, infrastructure, health, fisheries, coastal, ecosystem services, transport, land, local government, human rights, gender integration, regional cooperation, to mention a few. It will need a huge amount of expertise as well as a specific institution and dedicated human resources. Many of these issues are going to be long-term activities (5-15 years and more), while initially some short-term activities (1-2 years) may emerge as follow-up to the Paris Agreement.

The Paris Agreement under the United Nations Framework on Climate Change has, for the first time ever, an article that "recognizes the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage".[15] The Paris Agreement has undertaken to enhance "understanding, action and support" in eight areas of DRR. These are early warning systems; emergency preparedness; slow-onset events; events that may involve irreversible and permanent loss and damage; comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance solutions; non-economic losses; and resilience of communities, livelihoods and ecosystems. This emphasis clearly implies that industrialized countries should provide the necessary support for reducing the risk of climate-related disasters, which account for more than 80 per cent of disasters in the world. It also implies that the opportunities for integrating DRR with climate change adaptation (CCA) should be expanded.

Figure 4.4: An excerpt of Paris Agreement descibe the key aim for addressing climate change *(Source: Adapated from Partis agreement)*

1. This Agreement, in enhancing the implementation of the Convention including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and effoers to eradicate poverty, including by:
   a. Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 15°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
   b. Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and
   c. Makin finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.
2. This agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

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https://sdgs.un.org/goals

[15] Article 8 of the Paris Agreement, adopted at the 21st Session of Conference of Parties of the United Nations Framework Convention on Climate Change, December 2015. https://unfccc.int/sites/default/files/english_paris_agreement.pdf

Day 3

Module-5

National Policy Framework and Action plan for DRR in Bangladesh

Overview of the Module 5

Objectives

The objective of the session is to share information on national policy framework and action plan for DRR in Bangladesh.

Expected Learning Outcome

At the end of the session, participants are expected to have better understanding on following policy and plans:

- Allocation of Business (AoB) of the Ministry of Disaster Management and Relief (MoDMR) in relation to national policy framework of DRR
- Disaster Management Act 2012
- Disaster Management Policy 2015
- Standing Orders for Disaster (revised in 2019)
- National Plan for Disaster Management (NPDM)

Method and Materials

- Power Point Presentations
- White Board
- Hand outs
- Group work/presentations

Discussion Agenda

5.1 Allocation of Business for MoDMR
5.2 Disaster Management Act 2012
5.3 Revised SoD 2019
5.4 Disaster Management Policy 2015
5.5 National Disaster Management Plan 2016-2020

15 Allocation of Business (AoB) of MoDMR

The Ministry of Disaster Management and Relief is mandated [16] to drive national risk reduction reform programmes to address the disaster management issues. It strives to fulfil the Government's vision to reduce the risk of people, especially the poor and the disadvantaged, from the effects of natural, environmental and human induced disasters/hazards to a manageable and acceptable humanitarian level and to have in place an efficient emergency response management system. The mandate, in relation to DRR, can be summarized as: Formulation, review and execution of legislation, policies, plans, procedures, standing orders and guidelines in relation to overall disaster risk reduction and emergency response management including relief rehabilitation and safety net programmes.

- Relief and disaster risk reduction programmes, planning, and monitoring.
- Coordination of all activities in relation to disaster management and relief incorporating disaster risk reduction and emergency response management.
- Mainstreaming Disaster Risk Reduction across ministries and agencies at all levels, local governments, NGO, CBOs, civil society and all other stakeholders.
- Implementation of the disaster related programmes/projects undertaken due to adverse impacts of climate change.
- Approval, administration and monitoring of safety net programmes such as Test Relief (TR), Vulnerable Group Feeding (VGF), Vulnerable Group Development (VGD), Food For Works programme. Institutional Feeding programme, Rural Infrastructure Maintenance programme, Risk Reduction Programme, Road Maintenance Programme, House Building Grants etc.
- Construction and Maintenance of small bridges/culverts, multi-purpose disaster shelters, cyclone shelters, flood shelters with a view to eliminating/ reducing disaster risks.

As it can be seen from above, there is an inbuilt element of DRR in almost all generic programmes of MoDMR. In order to create a legal basis in the area of disaster management, the government has enacted Disaster Management Act 2012 which facilitates a more coordinated, objective driven and strong disaster management system. The Government of Bangladesh has produced a National Plan on Disaster Management, revised its Standing Orders on Disaster (SOD), and enforced its legal framework for disaster risk reduction. Efforts are being made to fulfil GoB's promises through the Hyogo Framework of Action towards providing disaster risk reduction services to its citizens.

Disaster Management Framework and Key Policies/Programmes

In 2009, the Disaster Management and Relief Division (DMRD) was formed as a separate division. The Ministry of Disaster Management and Relief (MoDMR) was subsequently set up. The Ministry has been playing a vital role in disaster risk reduction and preparedness and in overall disaster management.

Disaster Management (DM) in Bangladesh has been guided by a number of national and international drivers which among others includes:

a. The Standing Orders on Disasters (SOD) first introduced in 1997 and then revised in 2010; SoD also revised in 2019
c. The National Plan for Disaster Management 2010-2015, 2016-2020 and 2021-2025
d. The Sendai Framework for DRR 2016-2030
e. The SAARC Framework for Action (SFA) 2006-2015.

[16] Allocation of Business among the different Ministries and Divisions (schedule I of Rules of Business 1996) (revised up to December 2014), Cabinet Division, Government of Bangladesh, https://www.google.com/search?q=Allocation+of+Business+among+the+different+Ministries+and+Divisions&oq=Allocation+of+Business+among+the+different+Ministries+and+Divisions&aqs=chrome..69i57.1582j0j4&sourceid=chrome&ie=UTF-8

This international guidance included in national drivers like the SOD and the NPDM. In light of SDG and HFA expiring in 2015, Disaster Management issues in the 8th five years plan will reflect the Sustainable Development Goals and Sendai Framework for Disaster Risk Reduction.

Mainstreaming Disaster and Climate Change risk reduction integration efforts within government, NGOs and private sector and effective response mechanism across the whole country will help to achieve sustainable development from national to community level. Women, children, elderly, the disable and other socially marginalized groups will be primary beneficiaries of all disaster management efforts.

Disaster Management Act 2012: The objectives of this Act are substantial reduction of the overall risks of disasters to an acceptable level with appropriate risk reduction interventions; effective implementation of post disaster emergency response; rehabilitation and recovery measures; provision of emergency humanitarian assistance to the most vulnerable community people; strengthening of institutional capacity for effective coordination of disaster management involving government and non-government organizations, and establishing a disaster management system capable of dealing with all hazards in the country. [17]

The DM Act 2012 focusing on the Establishment & Coordination has emphasized on the following broad issues with clear delineation of the duties and responsibilities:

- Establishment of DDM and its headquarter
- Roles and Responsibilities of the Department
- Director General and his Responsibilities
- National Disaster Management Research and Training Institute
- National Body of Volunteers for Disaster
- Formulation of National DM Policy
- Formulation National and Local DM Plan
- Committees and Groups: 18 [national to union]
- Roles and Responsibilities of Ministries, Departments and Organizations

Following its enactment, the Government has set up the Department for Disaster Management (DDM) with a more robust and wider role focusing on comprehensive disaster management and has been responsible for implementation of the national disaster management related policies and plans at all levels.

5.3 Standing Orders on Disaster (SoD)

The Standing Orders on Disaster (SoD) outlines the disaster management arrangements in Bangladesh and describes the detailed roles and responsibilities of committees, ministries, divisions, departments and other organizations involved in disaster risk reduction and emergency response management and established the necessary actions required in implementing Bangladesh's disaster management model, e.g. defining the risk environment, managing the risk environment and responding to the threat environment. All ministries, divisions/department and agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation.

Changes took place in Revised Standing Orders on Disaster (SoD) in 2019

Changes have been made in the Standing Orders on Disaster (SoD) to reflect the current need and lessons learned from national and international context. The summary of the changes is captured below:

[17] www.modmr.gov.bd

- Preamble: Inclusion of SFDRR 2016-30, SDGs -30 and Delta Plan 2100
- Policy and Framework: Policy and Framework in DRR has been revised and extended
- "Regulatory Framework" part has been renamed as "Policy and Framework in DM
- Committee Formation: Increased to 15 from existing 12 at the national level. The newly incorporated important committees are:
    a. Chemical Disaster Management & Awareness Committee
    b. Disaster Loss and Demand Assessment Committee
    c. Fire Management Committee
- The DM Policy Guide has been included in different national Committees
- The representations of Women and Persons with Disability and related Institutions have been in included in the national Committees
- New DM Committees formulated at WARD level in City, Pourasava and Union
- Disaster Response Group Established at Union and Ward Level
- Roles and Responsibility: Newly established Divisions and PIOs at the Upazila
- NEOC and Civil-Military Coordination

5.4 Disaster Management Policy

The Disaster Management (DM) Policy was approved by the Government of Bangladesh in 2015. It emphasizes on Disaster Risk Reduction (DRR) to a great extent. The policy puts importance on DM fund which will be a dedicated fund for DM. Overall, it is expected that the policy will be an effective instrument to make DM efficient in Bangladesh. Principles of DM Policy includes Comprehensive Disaster Management, Peoples Participation in Disaster Management, Adaptation Approaches, Hazard Base Risk Management, Emergency Response etc

5.5 National Plan for Disaster Management (NPDM)

NPDM for 2021-2025 has been formulated with following objectives

- Reduce the number of death and missing persons
- Reduce the trend of erosion
- Reduce economic losses due to disaster
- Construction of additional 2000 shelter centres
- Enlist and train 100,000 volunteers for urban and coastal areas
- Construction of disaster resilient housing

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ii. National Plan for Disaster Management (NPDM) - https://modmr.gov.bd/site/download/e66d2ee4-9af2-4bce-8b23-e5cbd495e462
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Day 4

Module-6

Inclusiveness in DRR

Overview of the Module 6

Objectives

The purpose of the session is to enhance understanding and analytical skill on social inclusiveness in DRR

Expected Learning Outcome

Participants are expected to have better understanding on the followings after completing the session:

- The Global Mandate for Disability: Inclusive DRR
- Importance of Inclusive DRR
- The salient features of Dhaka Declaration and Future Plan.

Method and Materials

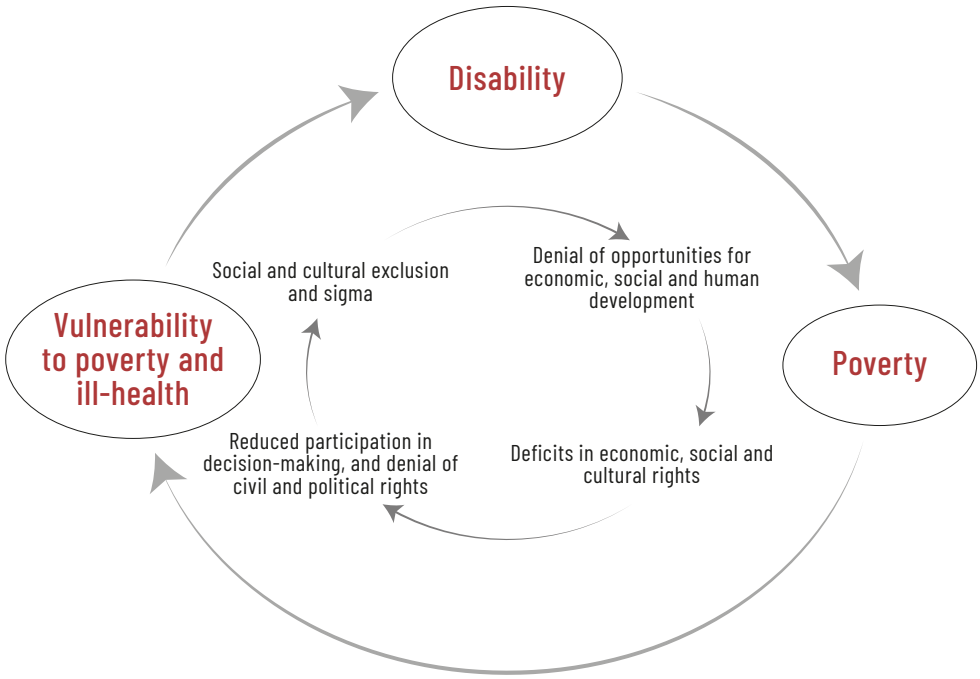
- Power Point Presentations
- White Board
- Hand outs
- Group work/presentations

Discussion Agenda

6.1 The Global Mandate for Disability: Inclusive DRR
6.2 Dhaka Declaration of Disability Inclusive DRR Conference 2018
6.3 Proposed actions.

6.1 The Global Mandate for Disability: Inclusive DRR

Persons with disabilities are not a homogenous group, and anyone can be born with or can be with a disability. The inter sectionalist of disability with age, race, ethnicity, sex, gender, religion, sexual orientation, socioeconomic status, and other identities can multiply the types and degrees of stigma, discrimination in their way of life. The disadvantage that a person with disabilities faces in real life is very complex and disgraceful. Literature review on disasters and its official statistics indicate that incidence of gender-based violence is higher than the usual one. Particularly more powerful and complex is the interrelationship between disability and poverty. It is now widely accepted that disability is a risk factor for poverty, and poverty is a risk factor for disability, as illustrated below.



The poverty/disability cycle. *Source: "Disability, Poverty and Development," U.K. Department for International Development, London, UK, February 2000. (http://hpod.org/pdf/Disability-poverty-and-development.pdf)*

The review of literature reveals that societal discrimination and stigma contribute to systemic barriers to education, health care, employment, transportation and infrastructure, housing, political and public life, justice, and other aspects of life. These are very crucial factors responsible for persons with disabilities to live independently and to be mainstreamed in the community. Thus, societal barriers curtail to enjoy the human rights by persons with disabilities on an equal basis with others. To bring these disable people in the mainstream of development and in their way of life, Bangladesh has undertaken several initiatives complying with many global and international obligations . Some of the major instruments are summarized below:

Under Sendai Framework Priority 4, this is stated "Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key". For contributing Priority Action 4 of Sendai Framework for Disaster Risk Reduction and for realizing the SDG's key agenda of "leave no one behind",

Several World Bank regulatory frameworks also are relevant, including the Environmental and Social Framework, Rapid Response to Emergencies and Crises operations policy, and International Development Association (IDA) crisis financing mechanisms (including the Immediate Response Mechanism and the Crisis Response Window).

6.2 Importance of Inclusive DRR

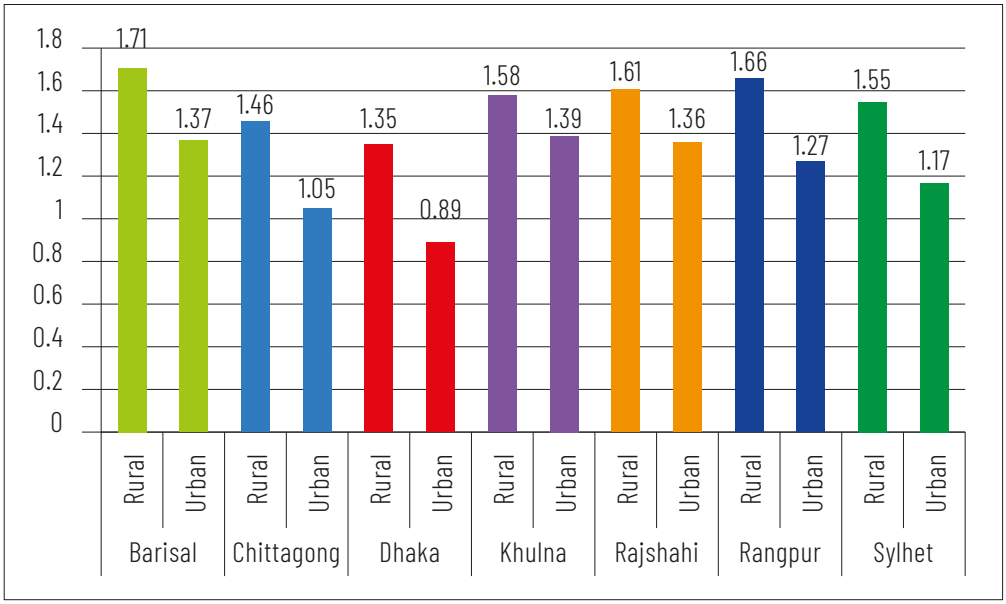
To make the DRR inclusive, the participation of women is very important. It is seen that women, children, elderly persons with disability are more vulnerable than men in the communities. Besides, there are adolescent girls who may need additional care during the days of disasters, or even during passing of one or two nights in the cyclone/ flood shelters. So, in framing DRR policy and plans inclusive DRR with close involvement of women and girls to be considered for sustainable resilience building and economic development. The Inter-governmental Panel on Climate Change (2007) reports that, whether in developing or developed countries, there is evidence to suggest that women are more vulnerable than men and likely to die as a result of disasters, and if they survive, they suffer more than men in the aftermath of the disasters. This happens because men and women experience disasters differently due to some social and cultural reasons and existing gender norms, for example, they cannot leave their houses earlier during cyclones without the permission of their husbands. Inequalities prevailing between them ultimately reinforce the disparity between them. It was observed during cyclone of 1970 (Bhola cyclone) and cyclone Gorki (1991), and even less strong cyclones that death rate of women is much more than of men. Women and girls have less access to resources to cope with disasters as they are lagging in education, health, skill-building activities, for example swimming, and have less control over social assets. The cyclone shelters constructed before 2012, in face before Cyclone Shelter Construction, Maintenance and Administration Guidelines adopted by the government in 2011, were not women friendly. There were no washroom and other emergency facilities for women. In Cyclone Preparedness Programme (CPP) selection of one-third women volunteers is mandatory. Women should be given scope in designing early warnings and translating the BMD and FFWC warnings into community language, building of shelters and awareness building. So, women's active role in climate change and disaster-related decision-making process of resilience planning and sustainable development. Disaster Management Policy 2015 asks for empowering the community at risk, particularly women, the poor, and the disadvantaged.

Another segment of people that is normally overlooked in development issues, and DRR too, are the persons with disability. According to last Census (2011) data 7.6 percent overall disability prevalence in Bangladesh was 7.6 percent whilst the Household Income and Expenditure Survey (HIES) 2016-17 data points 6.94 which is slightly lower than the Census data. The table below shows the prevalence and type of disability in Bangladesh based on Census 2011.

Variable	Type of Disability						Total Number of people
	Speech	Vision	Hearing	Physical	Mental	Autistic	
Male	0.21	0.26	0.12	0.63	0.19	0.09	3,607,174
Female	0.17	0.29	0.14	0.47	0.16	0.08	3,597,485
Total	**0.19**	**0.27**	**0.19**	**0.55**	**0.18**	**0.09**	**7,204,659**

Source: BBS (2014): Disability in Bangladesh: Prevalence and Patter

Distribution status of persons with disability division wise and urban and rural basis in the figure below shows that their concentration is more in rural areas compared to cities. It may also be pointed out that their prevalence is more in the disaster-prone division like Barisal, Khulna and Rangpur.



Source: Copied from BBS (2014) : Disability in Bangladesh: Prevalence and Patter

Bangladesh first enacted Disability Welfare Act 2001. However, a major shift from welfare-based to right- based approach was done by enacting "The Rights and Protection of Persons with Disability Act 2013". The present law is in conformity with the UN Convention on the Rights of Persons with Disabilities (UNCRPD) and new hope has given to the persons with disability. Act 2013 will not only ensure their dignity in the society but also give scope for participation in social and state activities. So, their role in climate change adaptation and disaster risk reduction particularly their participation in resilience building and sustainable development is to be ensured. Ministry of Disaster Management and Relief (MoDMR) has taken keen interest in mainstreaming the persons with disability in DRR initiatives. The MoDMR has organised two international conferences in Dhaka in 2015 and 2018 where Dhaka Declarations had been adopted and applauded by UNDRR and world communities.

6.2 Dhaka Declaration of 2nd International Conference on Disability and DRM

In May 2018, Dhaka Declaration Plus was adopted in the Second International Conference on Disability and DRM. These Events were much appreciated in Asian Regional platform (AMCDRR) in 2016 India and in 2018 Mongolia accordingly. The progress of implementation of Dhaka Declaration which was mentioned in Article 59 of the Chair's Summary of Global Platform for Disaster Risk Reduction 2017 such as "The Global Platform recognized the importance of the Dhaka Declaration on Disability and Disaster Risk Management as practical guidance for inclusive implementation of the Sendai Framework. Countries were urged to implement the Declaration and report progress on its implementation when reporting progress of the Sendai Framework in 2019".

The Declaration notes with concern the relatively higher rates of mortality experienced by persons with disabilities as compared with other community members. Highlighting the importance of the active contribution of persons with disabilities and DPOs, and the need to implement and recognize the linkages between the CRPD, Sendai Framework, and the SDGs, the Declaration calls on all governments and other stakeholders to:

- Ensure a people centered approach.
- Strengthen governance, partnership, and cooperation.
- Integrate gender, age and disability disaggregated data.
- Promote empowerment and protection; and
- Act at local to national to global levels.

For each of the five issues highlighted, the Declaration also includes concreate, action-oriented indicators against which to measure progress. The Declaration was endorsed during the 2017 Global Platform on DRR and included as part of the conference's outcomes.

6.3 Proposed Actions

The action points for disability inclusion need to be included:

- Develop and disseminate the multi-hazard early warning so that these are accessible to persons with disability according type of disability (the most important one)
- Inclusive SAR for proper evacuation of person with disability and their accessibility to shelter and services
- DRR plan need to be inclusive where participation from the person with disability and DPOs in the decision process need to ensure

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Day 4

Module-7

Gender Responsive Disaster Risk Reduction and Resilience

Overview of the Module 7

Objectives

The purpose of the session is to enhance understanding and analytical skill on addressing gender responsiveness into risk informed development process.

Expected Learning Outcome

The session is designed for participants with little prior knowledge on the topic. At the end of the session, participants are expected to have better understanding on following issues:

- How and why gender matters for DRR planning and programming
- Identify and interpret gender concepts addressed through global and National policy framework: SDG, Paris Agreement, Sendai Framework of Action, 7th Five-year plan, Disaster Management Act etc.
- Mainstream gender responsive DRR and Resilience in the project cycle and Introduction of Gender Responsive Resilience Analysis tools/checklist.

Method and Materials

- Showing Video Clips and Analysis (Suggested video Show on Women's vulnerability and capacity in DRR context. https://www.youtube.com/watch?v=-88CwktEWdc
- Group Work
- Plenary discussions
- Power Point Presentations

Discussion Agenda

7.1 Defining Gender& Gender Mainstreaming
7.2 Why Gender Equality is Important in DRR
7.3 Why Gender Matters in Disaster Context
7.4 Gender in Policy Framework
7.5 Mainstreaming of Gender Responsive Resilience
7.6 Approaches for Gender Integration in Humanitarian Programs

7.1 Defining Gender & Gender Mainstreaming

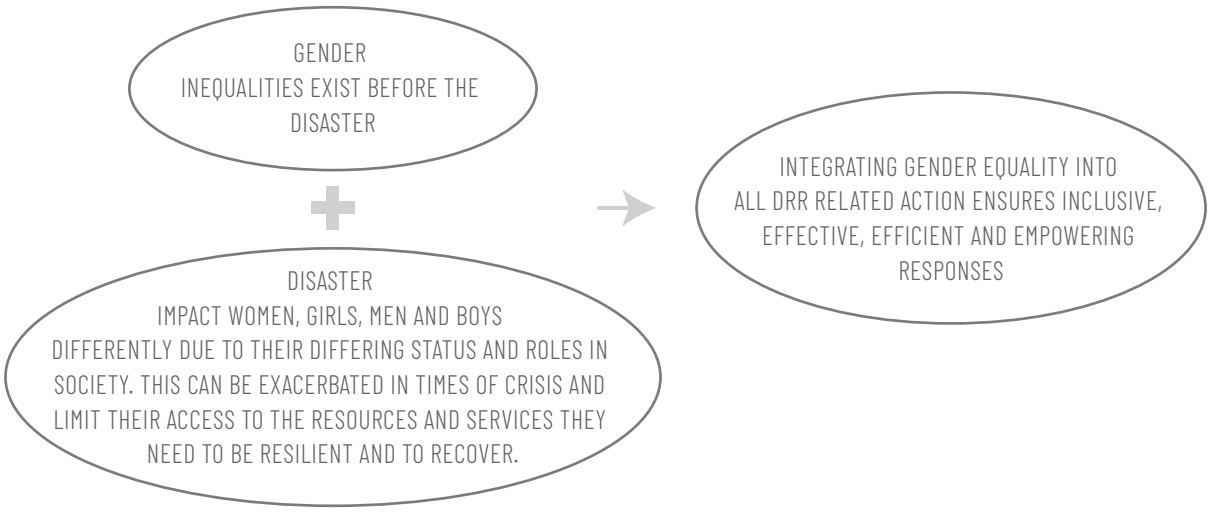
Gender is a social construct built through cultural, political, and social practices that defines the roles of women, girls, men and boys, as well as the social definitions of what it means to be masculine and feminine. Gender roles are taught, learned, and absorbed and vary between and even within cultures. Gender often defines the duties and responsibilities expected of women, girls, men, and boys at any given time of their lives and sets some of the barriers they may face or opportunities and privileges they may enjoy throughout their lives.

Gender, along with age, sexual orientation, and gender identity, determines the power which women, girls, men and boys have and their ability to access and control resources. For instance, although international legal frameworks guarantee equal rights to women and men, the lived experiences of women, girls, men and boys are different. In most contexts, men and boys play gender roles which often hold more social, economic and political power than those of women and girls. Consequently, men and boys exercise more decision-making power and autonomy over their own lives and over the decisions in their communities and families. Conversely, women and girls often lack the power to manage their own lives, including making decisions over their own bodies, marital status and having access to social, economic or political resources.

Gender Mainstreaming

UNISDR [19] elaborates gender mainstreaming as the process of bringing a gendered perspective into the mainstream activities of governments at all levels, as a means of promoting the role of women in the field of development and integrating women's values into development work. Although, the ultimate aim of gender mainstreaming is to achieve gender equality, it is not for promoting equality to the implementation of specific measures to help women; it is to achieve equality in all general policies and measures by actively and openly taking the possible effects on the respective situation of men and women into account at the planning stage.

7.2 Why Gender Equality is Important in DRR ?



[19] International Strategy for Disaster Reduction(2002), Gender Mainstreaming in Gender Reduction, UNISDR, https://www.un.am/up/library/Gender%20Mainstreaming_DRR_eng.pdf

Gender inequalities exist before disasters

Cultural practices regarding gender are some of the most fundamental sources of inequality and exclusion around the world. The underlying roots of gender injustice stem from social and cultural dimensions and manifest themselves through economic and political consequences, amongst many others. Whilst progress has been made in reducing gender inequalities against women and girls in areas such as school enrolment, life expectancy and labour force participation, many challenges still remain.

For instance, women and girls often have less access to education because of barriers reinforced by traditional gender roles through which women are seen singularly as caregivers, limiting their personal ambitions, talents, and interests. Power imbalances also make women and girls more vulnerable to GBV and domestic abuse. Due to the aforementioned lack of livelihood opportunities and cultural pressures, women and girls can be forced into marriages, limiting their personal autonomies and capacities to contribute to their communities free from intimidation, violence and coercion. These long-standing inequalities can be addressed as part of crisis preparedness work. Sound gender analysis and programming from the outset are key to effective crisis response in the short term and equitable and empowering societal change in the long term.

Disasters impact women, girls, men and boys differently

The needs and interests of women, girls, men, and boys vary, as do their resources, capacities, and coping strategies in disaster scenario. The pre-existing and intersecting inequalities referred to above mean that women and girls are more likely to experience adverse consequences.

In disaster and post-disaster settings, women often find themselves acting as the new head of their households due to separation or loss of male household members. But they are not always able to access resources and life-saving support because there is no assistance for childcare, and acquiring resources like food or water can be dangerous tasks. Consequently, women and girls are more likely to suffer from food insecurity in emergency settings. As men generally have greater control over income, land and money, their coping mechanisms differ. Additionally, due to shifting power dynamics in gender roles, women may experience a backlash from men who are unable to play their traditional roles as wage earners, heads of households and providers. Men may become humiliated and frustrated by the rapid changes in emergency settings and this may manifest as an increase in domestic violence.

When women and men are included equally in DRR action, the entire community benefits. For instance, women as well as men usually are among the first responders to an emergency and play a central role in the survival and resilience of families and communities. It is their right that their perspectives be heard in emergency response from the outset.

7.3 Why gender matters in disaster contexts

Disaster can exacerbate pre-existing gender inequalities : Women may be excluded from preparedness planning due to their social roles (e.g., they are not engaged in first aid training or systems for early warning). Their socially prescribed roles can make it difficult to seek safety (e.g., caretaking, restrictions on travelling alone or on staying at shelters with non-related men). Young men may face forced recruitment into the military or armed groups. As economies are strained, for instance, girls are frequently withdrawn from school to support the home or forced into early marriage in the hope that they will be provided for and better protected.

Women, girls, men, and boys have specific needs during a crisis : Pregnancy-related death is the second leading cause of death for women in any context. Risks of sexual violence are also experienced differently based on gender and gender roles.

Women, girls, men, and boys have specific viewpoints and capacities

Differing roles and life experiences often lead to varying perspectives as how best to respond in emergency situations. By tapping into these differences, humanitarian workers can better target diverse groups and especially those individuals most in need of support.

7.4: Gender in Policy Framework

7.4.a Gender in Sendai Framework of Action

Despite being the most at-risk group in disaster contexts, women are given comparatively lesser importance than what ideally should be the case. When examining the instances where gender-related terms are used, focusing particularly on the areas of the text where targets, indicators and recommendations are discussed, three entries have been identified. These are as follows:

- **Para 19d:** A gender, age, disability and cultural perspective in all policies and practices; and the promotion of women and youth leadership; in this context, special attention should be paid to the improvement of organised voluntary work of citizens;

- **Para 19.g:** Disaster risk reduction requires a multi-hazard approach and inclusive risk-informed decision-making based on the open exchange and dissemination of disaggregated data, including by sex, age and disability, as well as on the easily accessible, up-to-date, comprehensible, science-based, non-sensitive risk information, complemented by traditional knowledge;

- **Para 24.e:** Make non-sensitive hazard exposure, vulnerability, risk, disasters and loss disaggregated information freely available and accessible, as appropriate; and

- **Para 25.a:** Enhance the development and dissemination of science-based methodologies and tools to record and share disaster losses and relevant disaggregated data and statistics, as well as to strengthen disaster risk modelling, assessment, mapping, monitoring and multi-hazard early warning systems.

- **Para 32. Priority 4:** Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery rehabilitation and reconstruction approaches are key; and

- **Para 33b:** Develop such systems through a participatory process. Tailor them to the needs of users, including social and cultural requirements, in particular gender.

7.4.b Gender and UNFCCC

In accordance with the global 2030 Agenda, UNFCCC and major global climate finance mechanisms such as the Global Environment Facility and the Green Climate Fund have recognized that women are at the centre of the climate change challenge. UNFCCC has identified the following key gender aspects of climate change action [20] :

- Ensuring the equal participation of men and women in decision-making and implementation around adaptation and mitigation
- Ensuring women can act as agents of change at different levels of the adaptation and mitigation process

[20] UNFCC website, "Gender and Climate Change", unfccc.int/gender_and_climate_change/items/7516.php adopted from GENDER EQUALITY IN NATIONAL CLIMATE ACTION: PLANNING FOR GENDER-RESPONSIVE NATIONALLY DETERMINED CONTRIBUTIONS (2016)

- Promoting mitigation approaches that are aware of gendered implications and outcomes and working towards gender equality and positive impacts on the lives of women through improving livelihoods and health and allowing time for the pursuit of additional opportunities
- Developing resource mobilization strategies, applying climate finance instruments, and ensuring equal participation in the deployment of financial resources, particularly at the local level
- Developing and transferring environmentally sound technologies that promote gender mainstreaming in technology access, information and training; and,
- Taking a gender-sensitive approach to create, develop and strengthen institutional, systemic and human-resource capacity-building to foster gender balance in decision-making on, in the delivery of, and in the accessing of means and tools for the implementation of mitigation or adaptation actions.

7.4.d National Disaster Management Policy 2015

Para 10 of the policy outlines the ways and means for integrating marginal and socially deprived group with disaster management [21], sub-para 10.1 outlines the inter-relationship between disaster and women. The salient features are appended below:

- To publicise and exercise the constitutional right of equality to ensure the access to information of women during disaster;
- To increase number of female members at all levels of disaster management committee-from village and local to national, and make provision for compulsory increase of women leadership.
- Analyse the context of women and gender in disaster to critically understand the experiences, relationship with children and prevention of violence to women, and ensure their participation in all disaster related activities of government/NGO.
- Offer common and special opportunity to women for resources, productive work, implement and skill.
- To encourage women's direct participation in DRR, disaster and post-disaster and utilise women's knowledge and experiences in disaster management.
- To recognise the role of women in protecting and rebuilding family and community during disaster and post-disaster period.
- To create a society more tolerant and responsive through women empowerment
- To reduce all physical and sexual threat to women, including adolescence and young, during disaster and post-disaster period.
- To ensure more women-friendly relief materials and ensure all accessories for reproductive health care, and to ensure health protection for pregnant mothers and neo-natals.
- To include elder widow, pregnant women and female -headed family in all government social safety net programmes e.g., FFW, TR, VGF, EGPP, etc.

7.5 Mainstreaming of Gender Responsive Resilience

- **What is Resilience:** "Ability to anticipate, avoid, plan for, cope with, recover from and adapt to (climate related) shocks and stresses" – DFID, 2014

[21] UNFCC website, "Gender and Climate Change", unfccc.int/gender_and_climate_change/items/7516.php adopted from GENDER EQUALITY IN NATIONAL CLIMATE ACTION: PLANNING FOR GENDER-RESPONSIVE NATIONALLY DETERMINED CONTRIBUTIONS (2016)

- "The capacity of a system, community or society potentially exposed to hazards to adapt, by stressing or changing, in order to reach and maintain an acceptable level of functioning and structure" – UNISDR 2005
- Resilience is the ability and capacity of systems to improve wellbeing despite shocks, stresses and uncertainty.

We do care Gender Responsive Approach because

It is not about indicators that measure how many women participate in the project

Conventional Thought: Women are most vulnerable segment of society to Climate DRR, so we should respond according to their need.

Transformational Thought: Women play the first and immediate response within family and community with their local knowledge and experiences, so we should work with them as agents of change.

Zooming in

- How do women, men, girls, and boys perceive their own risks, vulnerability and capacities and that of their household and community?
- What does wellbeing look like to individuals?
- Who is a household composed of?
- How do individuals relate to each other?
- What gendered power dynamics exist among them?
- How do individuals relate to organizations and institutions that are critical to them and what are the gendered power dynamics there?

Zooming out

- How do women and men understand the causes of the current situation?
- How do national law and policies affect women and men?
- Are women active in the local or municipal governments?
- What is the long-term risks for women and men associated with current development choices, climate change and other changes?
- How do local leaders understand a particular situation in a community?

This checklist lists gender equality entry points at each phase of the HPC (adopted from the OCHA Gender in the HPC Checklist 2016 for Field Users)

HPC PHASE	KEY GENDER EQUALITY ACTIONS
Preparedness	• Incorporate gender into all preparedness activities. • Learn and network by sharing exercises and information with targeted groups and humanitarian actors. • Ensure that SADD and gender analysis are integrated robustly into baseline data collection, assessments, information systems, communications and advocacy. • Participate in the creation and implementation of minimum gender equality standards in preparedness for sectors. • Ensure that monitoring facilitates retracking to effectively address gender, age and diversity issues. • Identify and coordinate with local organizations representing women and girls, including those with disabilities and other marginalized groups.

HPC PHASE	KEY GENDER EQUALITY ACTIONS
Needs assessment and analysis	**INITIAL RAPID ASSESSMENTS** • Collect and analyse sex-, age- and disability-disaggregated data. • Consult with women, girls, men18 and boys from diverse groups to ensure that their particular circumstances, needs, priorities and capabilities are fully understood. • Ensure an equal balance of men and women on the assessment team. • Use participatory methods such as FGD, KII, assessment processes like ranking, community mapping, transect walks, etc. and create separate groups for women, girls, men and boys. • Map the existing services available for women, girls, men and boys and trace referral pathways for specific services like GBV interventions.
	IN-DEPTH JOINT ASSESSMENTS • Secure the involvement of women, girls, men and boys in assessments and where feasible and appropriate. • Analyze the specific priorities, capacities and needs of women, girls, men and boys. • Be aware of possible biases in information collection and analysis. • Be aware of information gaps, especially in instances where responses and information vary. • Trace or cross-check data from a variety of sources and multiple perspectives to arrive at consistent information and validate findings. • Engage local women's organizations and women's leaders.
Strategic Planning	**PREPARATORY PROCESS** • Check that the level of analysis and SADD available for the strategic planning process are as thorough as feasible. • Consider primary and secondary data on risk analysis. • It is mandatory to include and use the IASC Gender Marker and other gender markers required by the organization and/or donors. • Ensure adequate participation of, and consultation with, gender-focused inter¬agency and other coordinating mechanisms to provide technical support and guidance on gender analyses. • Use participatory approaches involving women, girls, men and boys in the decision-making and planning processes for programmes. • Consult preparedness information, such as existing secondary data and analysis on gender roles and inequalities as well as GBV.
	FORMULATION OF THE HUMANITARIAN NEEDS OVERVIEW • Break down population figures by sex, age and other relevant forms of diversity and compare data with pre-crisis information. • Conduct a gender analysis of the situation of women, girls, men and boys. • Identify key gender inequalities and protection risks across sectors.
	FORMULATION OF THE HUMANITARIAN RESPONSE PLAN • When developing the strategy narrative, strategic objectives and indicators, cross-cutting issues, response monitoring and sector response plans, plan response programming so that it is consistent with the gender issues identified in the Humanitarian Needs Overview. • Address both the immediate practical needs of women, girls, men and boys and strategic interests regarding underlying causes and contributing factors to gender inequality.

HPC PHASE	KEY GENDER EQUALITY ACTIONS
Strategic Planning	• Prioritize prevention and response to GBV. • Apply the IASC Gender Marker and review plans to improve gender equality programming. • Engage in equitable and participatory approaches to involving women, girls, men and boys in decision-making processes so that they participate in the design and implementation of the programmes and that are included in the Humanitarian Response Plan. • Ensure a demonstrable and logical link between the needs identified, programme activities and tracked outcomes.
Resource Mobilization	• Include gender analysis results in the initial assessment reports to influence funding priorities for the overall response. • Refer to gender audit results and look at resources already available and prioritize accordingly. • Prepare key messages with inter-agency/intersectoral gender working groups to enable advocacy for both technical and financial resources with donors and other humanitarian stakeholders. • Apply and track the IASC Gender Marker project codes to demonstrate gender equality programming and programming coherence. • Report regularly to donors and other humanitarian stakeholders on resource gaps.
Implementation and monitoring	• Develop and maintain feedback and complaint mechanisms that include ways to safely hear and respond to feedback and complaints both within the agency and with other agencies. • Engage affected women and men in the delivery of the programme as much as possible as decision makers and implementers as well as recipients. • Inform women, girls, men and boys of the available resources as well as about the agency itself and how to influence the programme. • Monitor access to humanitarian protection and assistance by women, girls, men and boys as well as indicators designed to measure change for women and girls or men and boys. • Contribute to the Humanitarian Response Plan's gender-specific outcome and all other gender-transformative outcomes through coordinating with other actors about implementation efforts, achievements and lessons learned. • Apply the IASC Gender Marker to assess and improve gender equality programming.
Implementation and monitoring	• Develop and maintain feedback and complaint mechanisms that include ways to safely hear and respond to feedback and complaints both within the agency and with other agencies. • Engage affected women and men in the delivery of the programme as much as possible as decision makers and implementers as well as recipients. • Inform women, girls, men and boys of the available resources as well as about the agency itself and how to influence the programme. • Monitor access to humanitarian protection and assistance by women, girls, men and boys as well as indicators designed to measure change for women and girls or men and boys. • Contribute to the Humanitarian Response Plan's gender-specific outcome and all other gender-transformative outcomes through coordinating with other actors about implementation efforts, achievements and lessons learned. • Apply the IASC Gender Marker to assess and improve gender equality programming.

HPC PHASE	KEY GENDER EQUALITY ACTIONS
Gender and operational peer review and evaluation	• Review the methodologies and processes used in the Humanitarian Response Plan to determine whether there was equal participation of women and men (and girls and boys, where applicable), both in terms of their access to the services on offer and in their level of decision-making in the planning and implementation of the programme. • Where possible, review the project with women and men as well as girls and boys from appropriate age groups. Assess which women and girls were effectively reached and those who were not and why. • Share the IASC Gender Marker (monitoring phase) codings with the sector and collectively plan how to share good practices and address gaps.

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Day 5

Module-8

Community Based Disaster Risk Reduction (CBDRR)

Overview of the Module 8

Objectives

The purpose of the session is to introduce the concept of CBDRR and its evolutions & efficacy and explore the participant's ideas about the procedures of doing the business on the ground

Expected Learning Outcome

After completing the session, participants will be able to do the following:

- Understand the background and theoretical base of CBDRR
- Describe the basic characteristics of CBDRR
- Understand the importance of CBDRR, it's approaches and practices in Bangladesh
- Design and conduct climate-inclusive community risk assessments
- Identify measures for climate-inclusive disaster risk reduction
- Analyse issues and challenges in the implementation of CBDRR programmes

Method and Materials

- Interaction
- Discussion
- Activity
- Flip Charts/stand
- ii. Board markers/white board
- iii. Reference Materials/Handouts) Power Point Presentation/Multimedia

Discussion Agenda

4.1 Theoretical base of CBDRR
4.2 Basic Characteristics
4.3 CBDRR -approaches
4.4 CBDR Practices in Bangladesh
4.5 Climate inclusive community risk assessment:
4.6 Prioritization of DRR Interventions and action planning (group work)

4.1 Introduction and Theoretical base of CBDRR

The term community refers to a group of people who share a common interest in a local area. The common interest can be of a social or economic nature, and these are usually shared by residents, the private sector, educational institutes religious entities and civil-society organizations that are often situated at the lowest administrative level. Community Based Disaster Risk Reduction (CBDRR) can be defined as an approach used by a community to manage disaster risk within their geographical area. The approach is often supported and initiated by outside organizations that contribute with needed technical expertise. The major aim of the approach is to manage disaster risk by increasing local capacity and resilience and reducing vulnerability. It offers a tailor-made solution to manage local disaster risk.

CBDRR, in short, is a process, which leads to a locally appropriate and locally "owned" strategy for disaster preparedness and risk reduction. CBDRR approaches [22] are important elements of vulnerability reduction and disaster management strategies. They are associated with policy trend that values knowledge and capacities of local people and builds on local resources, including social capital. CBDRR is instrumental not only in formulating autonomous coping and adaptation strategies, but also in situating them within wider development debates. In theory, local people can be mobilized to resist unsustainable forms of development or livelihood practices and to raise local concerns more effectively with political representatives.

The fundamental principle of CBDRR involves the development of bottom-up processes arising from the communities themselves with the special emphasis on the vulnerable communities.

CBDRR is an integral part of sustainable development, which focuses inclusion of gender, age and disability for DRR and CCA and facilitates the process of sharing knowledge for vulnerable communities through identification, assessment evaluation and management of disaster risks at the local level.

4.2 Basic characteristics of CBDRR

Following are the characteristics of CBDRR [23] :

Participatory	Community is the key actor and primary beneficiary
Responsive	• Considers the community's perception and prioritization of DRRO • Community empowerment through ownership creation
Proactive	• Prepares the communities to face disasters beforehand
Comprehensive	• Structural (dam construction, early warning centers) • Non-structural (education and training, public awareness)
Integrated	• Involves all the stakeholders in DRRO • Pre, during and post-disaster measures are planned and implemented as necessary by the community

[22] Community-based approaches to reduce disaster risk have been known by various different names. Some called it community-based disaster risk management (CBDRM), community-based disaster management (CBDM), community-driven disaster risk reduction (CBDRR), community-based disaster preparedness (CBDP), community-driven disaster risk management (CDDRR), community-managed disaster risk reduction (CMDRR) and community-managed disaster risk management (CMDRM). Some have been hazard specific such as community-based flood risk management (CBFRM) or CBDP and a dozen more combinations of wordings.

[23] R. Shaw et al. (eds.), Disaster Risk Reduction Approaches in Bangladesh, Disaster Risk Reduction (2013)

Participatory	Community is the key actor and primary beneficiary
Multi-sectoral and multi-disciplinary	• Combines indigenous/local knowledge with sciences and new technologies • Builds capacity within while bringing resources externally
Empowering	• People's options and capacities increased • More access to and control of resources and basic services • Meaningful participation in decision-making
Developmental	• Contributes in poverty reduction • Correlated to developmental activities

4.3 Importance of CBDRR, it's approaches and practices

In CBDRR, communities are the frontier to respond to any disaster. They use coping and survival strategies to face and respond to the situation long before any outside help arrives. The term 'community-based' explicitly means that disaster management is jointly dealt with by the community, it is agreed that under this approach, communities are the main actors that develop and implement important policies in relation to disaster management. Therefore, the main aim of CBDRR is to reduce vulnerabilities by strengthening individuals, families and communities. It seeks to address conditions, factors, processes, and causes of vulnerabilities brought by poverty, social inequality, and depletion of environmental resources. Therefore, the goal of CBDRR is building safer, disaster-resilient and developed communities.

CBDRR Approaches

In every disaster, people within the community suffer the and they are the first front line responders to survive with disaster. During or after disaster period, it has been often seen that external support comes later to rescue community. In this regard, CBDRR is a new concept that provides an opportunity to dovetail indigenous knowledge for disaster risk reduction and settle strategy to mainstream risk reduction at the community level. In Bangladesh, the communities have developed a number of community driven approaches with the collaboration with different international as well as governmental organization or NGO. Thus, it eventually helps in building the capacity of the local community to prepare and respond with emergency faced by disasters. On the contrary, Government of Bangladesh (GoB) has established Ministry of Disaster Management and Relief (MoDMR) through which it operates all disaster management activities within the country. CBDRR activities are now institutionalized in local government through the recent national program of Comprehensive Disaster Management Programme (CDMP) with the assistance of United Nations Development Programme (UNDP).

4.d . CBDRR practices in Bangladesh

The evolution of CBDRR helps to give them a platform to deal better with disasters which recognizes and values local culture, conditions. Few of them are appended below:

CB Projects	Approach	Lesson learned
Floating Garden	Community people in southern Bangladesh has developed and established a sustainable community based floating garden system that helps to protect them from the devastating effects of floodwater and allow farmers to grow crops in a floating platform. Usually people of this region use bamboo and other local materials to make the floating base which help to avoid damage due to wave action or drifting.	Floating garden provides as an alternative means to grow vegetables on the floating bed by turning the flooded and water-logged area into productive lands It generates income for the rural poor, and leads to significant and substantial increase of food production It provides a proper gender balance by involving men and women to maintain this activities
Cyclone Preparedness Programme (CPP) in early warning	CPP is a mechanism which relies on technical skills and volunteers' commitment for ensuring all potential victims of an approaching cyclone are given sufficient warning to coastal people residing in the coastal areas, so that they can move to safe sites including the cyclone shelters and buildings. The designated warning signal for approaching cyclone comes from Bangladesh Metrological Department (BMD) and transmitted to village unions and lower levels through very high frequency (VHF) radios using the usual administrative channels.	CPP is an effective; grass-root oriented, disciplined organization which is a remarkable and successful example of CBDRR in Bangladesh. It demonstrates the dedication of people along with community capacity build up activities. Volunteer is the backbone of CPP where they exhibit a high level of commitment for their program and readiness to meet the community requirements. CPP involves community with full participation, increase awareness of the community for reducing risks and losses.
Rainwater harvesting	Rainwater harvesting refers to the collection and storage of rainwater in situ or within the vicinity of rainfall. In Bangladesh, it is mainly used for drinking and cooking purposes. It provides a viable option than the other technologies.	The rainwater harvesting in rural areas gives as an alternate water source especially in the arsenic, salinity and drought affected area. The number of rainwater harvesting has rapidly increased, but it needs time to maintain the water quality. During dry season, the situation becomes worse, because most of the water tanks start to empty. This situation bound the local people to collect drinking water from pond using the filtering technology Rainwater harvesting and its judicious utilization for agriculture and municipal use would be essential in our future life
Adaptive agriculture	Agriculture technologies include crops diversification, tolerant crop varieties (i.e., flood or submergence/drought tolerant/short duration or early maturing varieties etc.) and sustainable agricultural practices (i.e, composting, mulching/water retention techniques, pest management, improved pit, bed system, line sowing floating bed etc). Besides, diversification of income through livelihood options e.g., sheep (instead of goat) rearing, duck rearing, improved pond fishery, vegetable farming, nurseries, etc.	

From the above discussion, it is proven that community people are the key actor for doing any types of activities to reduce the disaster risk. They can utilize their local resources and share indigenous knowledge as well as lived experiences to resolve the disaster impacts. Therefore, these best practices can be used as successful example for the vulnerable communities in any disaster affected area that is prone to climate change as well as disaster effects.

4.e Conducting climate inclusive community risk assessment:

Natural and human induced disaster risks are needed to be identified by various tools. Tools of Hazard, Vulnerability and Capacity Assessment (HVCA) and their applications for risk assessment including monitoring and evaluation indicators should be utilized:

The HVCA consists of three components:

- Hazard assessment: community members analyse the nature and behaviour of hazards or threats that are likely to hit the community
- Vulnerability assessment: community members identify elements at risk per hazard type and analyse reasons and why these elements are at risk
- Capacity assessment: people identify resources they rely on in times of crisis to reduce the damaging effects and of hazards and to secure the sustainability of their livelihood.

Activity/Group work: A handout to be provided for the tools:

- Hazard mapping
- Vulnerability assessment (Ranking)
- Capacity assessment

4.f Identification/prioritization of DRR Interventions and action planning

Community based organization- CBO FRAMEWORK and ACTION PLAN must be incorporated (group work can be done here for 20 mns)

Example of action plan

DRR options/Activities	Target (Qty)	Timeframe	Required resources	Responsible
Coordination meeting				
Rescue activities				
Emergency Information camp				
Minor relocation				
Training on first aid ...				
Ensure WASH during disaster				
Shelter arrangement				
Awareness building activities				
Livestock management in emergency				

a. Challenges in implementation of CBDRR

Some common challenges are:

- Insufficient attention in awareness
- Lack of capacity building activities
- Inappropriate coordination
- Lack of resource mobilization mechanism
- Lack of rewarding system /incentives.

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Annex

Introduction to Disaster Risk Reduction Related Terminologies

Disaster

A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability, and capacity, leading to one or more of the following: human, material, economic and environmental losses, and impacts.

Annotations: The effect of the disaster can be immediate and localized but is often widespread and could last for a long period of time. The effect may test or exceed the capacity of a community or society to cope using its own resources, and therefore may require assistance from external sources, which could include neighboring jurisdictions, or those at the national or international levels.

Disaster Risk Reduction (DRR)

Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

Disaster Risk Information

Comprehensive information on all dimensions of disaster risk, including hazards, exposure, vulnerability and capacity, related to persons, communities, organizations and countries and their assets.

Hazards

A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption, or environmental degradation.

Annotations: Hazards may be natural, anthropogenic or socio natural in origin. Natural hazards are predominantly associated with natural processes and phenomena. Anthropogenic hazards, or human-induced hazards, are induced entirely or predominantly by human activities and choices. This term does not include the occurrence or risk of armed conflicts and other situations of social instability or tension which are subject to international humanitarian law and national legislation. Several hazards are socio-natural, in that they are associated with a combination of natural and anthropogenic factors, including environmental degradation and climate change.

Hazards may be single, sequential, or combined in their origin and effects. Each hazard is characterized by its location, intensity or magnitude, frequency and probability. Biological hazards are also defined by their infectiousness or toxicity, or other characteristics of the pathogen such as dose-response, incubation period, case fatality rate and estimation of the pathogen for transmission.

Multi-hazard means (1) the selection of multiple major hazards that the country faces, and (2) the specific contexts where hazardous events may occur simultaneously, cumulatively over time, and considering the potential interrelated effects.

Hazards include (as mentioned in the Sendai Framework for Disaster Risk Reduction 2015-2030, and listed in alphabetical order) biological, environmental, geological, hydrometeorological and technological processes and phenomena.

Biological hazards are of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins, and bioactive substances. Examples are bacteria, viruses, or parasites, as well as venomous wildlife and insects, poisonous plants and mosquitoes carrying disease-causing agents.

Environmental hazards may include chemical, natural, and biological hazards. They can be created by environmental degradation or physical or chemical pollution in the air, water and soil. However, many of the processes and phenomena that fall into this category may be termed drivers of hazard and risk rather than hazards in themselves, such as soil degradation, deforestation, loss of biodiversity, salinization, and sea-level rise.

Geological or geophysical hazards originate from internal earth processes. Examples are earthquakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses and debris or mud flows. Hydrometeorological factors are important contributors to some of these processes. Tsunamis are difficult to categorize although they are triggered by undersea earthquakes and other geological events, they essentially become an oceanic process that is manifested as a coastal water-related hazard.

Hydrometeorological hazards are of atmospheric, hydrological, or oceanographic origin. Examples are tropical cyclones (also known as typhoons and hurricanes); floods, including flash floods; drought; heatwaves and cold spells; and coastal storm surges. Hydrometeorological conditions may also be a factor in other hazards such as landslides, wildland fires, locust plagues, epidemics and in the transport and dispersal of toxic substances and volcanic eruption material.

Technological hazards originate from technological or industrial conditions, dangerous procedures, infrastructure failures or specific human activities. Examples include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.

Build Back Better

The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment.

Contingency Planning

A management process that analyses disaster risks and establishes arrangements in advance to enable timely, effective, and appropriate responses.

Annotation: Contingency planning results in organized and coordinated courses of action with clearly identified institutional roles and resources, information processes and operational arrangements for specific actors at times of need. Based on scenarios of possible emergency conditions or hazardous events, it allows key actors to envision, anticipate and solve problems that can arise during disasters. Contingency planning is an important part of overall preparedness. Contingency plans need to be regularly updated and exercised.

Standing Orders on Disasters (SoD)

Standing Orders on Disasters (SoD) was introduced in 1997 with details guideline regarding roles and responsibilities of different committees on disaster management. This SoD was first revised in 2010 and latest revision was endorsed in the meeting of National Disaster Management Council in 2019. The revised SoD included some new committees such as Chemical Disaster management and Awareness Raising Committee, Fire Risk Management Committee, Ward Committee in City Corporation, Ward based disaster response group in Union Parishad etc.

Sendai Framework for DRR 2015-2030

The Sendai Framework for DRR 2015-2030 was adopted at the Third UN World Conference in Sendai, Japan on March 18, 2015. It is the outcome of stakeholder's consultations initiated in March 2012 and inter -governmental

negotiations from July 2014 to March 2015, supported by UN-ISDR at the request of UN General Assembly. This framework aims to achieve following outcome over the years

"The substantial reduction of disaster risk and losses in lives, livelihood and health and in the economic, physical, social, cultural and environmental aspects of persons, business, communities and countries".

The framework identified following four priorities for action

a. Understanding disaster risks
b. Strengthening disaster risk governance to manage disaster risk
c. Investing in disaster risk reduction for resilience
d. Enhancing disaster preparedness for effective response and to build back better in recovery, rehabilitation, and reconstructions

Sources: UNDRR

Conference 2018 on Disability and Disaster Risk Management Dhaka

Bangladesh, May 15 - 17, 2018

We, the participants of the 2ndInternational Conference on Disability and Disaster Risk Management, from 32 countries, including members from Governments, groups and organizations of persons with disabilities, representatives from UN agencies, UNESCAP, regional and international non-government organizations working on disability and disaster risk management, professionals and academicians, bi-lateral and multi-lateral development agencies, private sector and other different development sector representatives meeting here in Dhaka, Bangladesh from 15-17 May 2018 have agreed to the following statements:

Appreciating the Government of the People's Republic of Bangladesh, in particularly Ministry of Disaster Management and Relief, for organizing the Dhaka Conference in collaboration with UNISDR and supported by many other agencies.

Building on the recognition of the Dhaka Declaration 2015, we reemphasize that the Dhaka Declaration is a practical guideline for states to implement and report on Sendai Framework for Disaster Risk Reduction and Sustainable Development Goals on the inclusion of persons with disabilities.

Recognizing the inherent dignity, equal and inalienable rights of all human beings, to experience non-discrimination, protection, full accessibility, and effective participation in decision making processes, equalization of opportunities, individual autonomy, and independence of persons with disabilities.

We are concerned that in the last decade disasters have cost the global economy US$ 520 billion and pushed 26 million people into poverty2. Despite a lack of global data on disability, evidence shows that the mortality rate of persons with disabilities was 2-4 times greater than for other members of communities in last decade3. A UNISDR survey indicates that the key reason for disproportionate number of persons with disabilities suffer and die in disasters is because their needs are ignored in the planning process4.

Acknowledging that inclusive and effective disaster risk management is based upon collaborative approaches, shared values and a common concern for those who are disproportionately affected and living in hazard and risk-prone situations.

We Recall

1. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), in particular Article 11 on situation of risks and humanitarian emergencies.
2. The commitments to the inclusion of persons with disabilities in the 2030 Agenda for Sustainable Development, which includes the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction 2015-2030, the Paris Climate Change Agreement.
3. The commitments tothe inclusion of persons with disabilitiesfrom the World Humanitarian Summit, Habitat III and existing regional frameworks and strategies

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[1] 1This is the Dhaka Declaration 2015 plus 2.

[2] UN Deputy Secretary General in GPDRR, Cancun, Mexico, 2017

[3] Report on 2011 disaster of Japan

[4] UNISDR 2013 Survey – 5,717 persons with disabilities responded

The Declaration

WE CALL ON GOVERNMENTS, REGIONAL ENTITIES, PRIVATE SECTOR AND OTHER STAKEHOLDERS TO:

Ensure people centered approach

1. Ensure the meaningful participation, inclusion and leadership of women, men, girls and boys with disabilities and Disabled People's Organizations (DPOs) within disaster risk management at local, national, regional, and global levels.

   Specific Actions 1: By end of 2021 at least Twenty Countries globally ensure the representation of persons with disabilities which is gender and age responsive at all levels of Disaster Risk Management Committees.

   Specific Action 2: At least Twenty Countries globally

   - develop inclusive Community Risk Assessments, Risk Reduction Action Plans, frameworks, and guidelines by end of 2021
   - identify and address barriers that limit the leadership and participation of persons with disabilities in decision making by end of 2021
   - Integrate the Dhaka Declaration 2015 in the system of reporting, implementation and monitoring of Sendai Framework for global platform by April 2019.

Strengthen Governance, partnership, and cooperation

2. Enhance collaboration among Governments at all levels, development agencies, UN, NGOs, CBOs, persons with disabilities, DPOs, professionals, active citizens, academic institutions, private sector and other key stakeholders to work together and ensure the effective implementation of inclusion within the Sendai Framework at all levels to reduce vulnerabilities and prevent and reduce the consequences of disasters for persons with disabilities.

   Specific Action: By end of 2021 at least Twenty Countries globally engage in local, national and regional multi-stakeholder platforms and intergovernmental initiativesto implement the Sendai Framework for persons with disabilities.

Integrate sex, age and disability disaggregated data

3. Ensure that governments and other stakeholders establish effective mechanisms and guidelines to collect sex, age and disability disaggregated data at all stages of DRM.

   Specific Action: By end of 2021 at least Twenty Countries establish effective mechanisms and guidelines to compile sex, age and disability disaggregated data at pre and post-disaster situations as an input to the Sendai Monitor and to inform disaster risk management policy and practice at all levels.

Promote Empowerment and Protection

4. Support inclusive community-based disaster risk management initiatives, risk analyses and data banks to facilitate and inform local, national and regional level early warning systems, disaster preparedness plans and social protection programs that are accessible by all.

   Specific Action 1: By end of 2021 at least Twenty Countries develop inclusive and accessible multi-hazard early warning systems.

Specific Action 2: By end of 2021 the Interagency Standing Committee endorse and roll out the IASC guidelines on the inclusion of persons with disabilities in humanitarian action.

Removal of barriers to reduce the impact of disasters on persons with disabilities

5. Strengthen the self-reliance of persons with disabilities and care-givers at local and national levels through removing all kinds of barriers (cultural, social, economic, procedural, physical, communication and attitudinal), engaging private sector, guided by 'build better' approach and resilient universal design and support to replicate Information, Communication and Technology (ICT) based tools, equipment, devices and intermediate technology for inclusive humanitarian response and disaster risk reduction.

   Specific Actions: By end of 2021 at least Twenty Countries

   - take action to incorporate universal design principles in building resilient infrastructure models and roll out at the local level and share learning in regional and global consultations.
   - ensure support to replicate accessible and affordable technology, devices and equipment for inclusive humanitarian response that follow universal design principles.
   - ensure improved access to services for persons with disabilities, psychosocial wellbeing, education and social protection.

Act at Local to National to Global

6. Take necessary actions to report against the Dhaka Declaration 2015 and this declaration of 2018 and include these in the development of national, regional and global road maps, action plans, indicators and terminologies for the implementation of the Sendai Framework.

   Specific Action: By end of 2021, most countries endorse and report against the Dhaka Declaration 2018.

7. Declare a focal point for inclusive DRR at the national level in coordination with governments, national and regional DPOs, organizations working on disability and DRR with a priority intention to review progress achieved against this declaration and progress towards inclusive implementation of the Sendai Framework.

   Specific Action 1: By end of 2021 at least Thirty National Focal Points will include disability agenda within their scope of report.

   Specific Action 2: By end of 2021, National and Regional DPOs, organizations working on disability and DRM review progress against specific actions and report the updates to the respective Regional Platforms hosted in 2018 and 2020 and at the Global Platform for Disaster Risk Reduction in 2019 and 2021.

8. Take initiatives for knowledge sharing and learning among and between DPOs, governments and government departments, UN agencies, private sector, academicians, researchers, NGOs and other stakeholders to better address disability inclusion in DRM and Humanitarian action.

   Specific action: By end of 2021 at least twenty countries establish initiatives for knowledge sharing and learning.

The document is open for sign up by states, regional forum and platforms, civil society groups, private sector and individuals who could not join the conference but working and advocating to make disaster risk management and development inclusive.