

**Training Manual**

**Mainstreaming  
Disaster Risk  
Reduction**

**National Resilience Programme (NRP)  
Programming Division,  
Planning Commission**

**Final Training Manual  
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## **Acronyms and Abbreviations**

<b>BPATC</b>	Bangladesh Public Administration Training Centre
<b>CBDRR</b>	Community Based Disaster Risk Reduction
<b>CPP</b>	Cyclone Preparedness Programs
<b>CDRMO</b>	Community Disaster Risk Management Organization
<b>DDM</b>	Department of Disaster Management
<b>DMIC</b>	Disaster Management Information Centre
<b>DRR</b>	Disaster Risk Reduction
<b>ERD</b>	Economic Relations Division
<b>FFWC</b>	Flood forecasting Warning Center
<b>GBV</b>	Gender-based Violence
<b>GP</b>	Global Platform
<b>GDP</b>	Gross Domestic Products
<b>GED</b>	General Economic Division
<b>GSB</b>	Geological Survey of Bangladesh
<b>GoB</b>	Government of Bangladesh
<b>HVCA</b>	Hazard, Vulnerability and Capacity Assessment
<b>IASC</b>	Inter Agency Standing Committee
<b>IVR</b>	Interactive Voice Response
<b>KII</b>	Key Informant Interview
<b>NAPD</b>	National Academy for Planning and Development
<b>NILG</b>	National Institute of Local Government
<b>NRP</b>	National Resilience Project
<b>PDRA</b>	Participatory Disaster Risk Assessment
<b>PC</b>	Planning Commission
<b>SADD</b>	Sex and Age-Disaggregated Data
<b>SFDDR</b>	Sendai Framework for Disaster Risk Reduction
<b>SDG</b>	Sustainable Development Goals
<b>TNA</b>	Training Need Assessment
<b>ToR</b>	Terms of Reference
<b>UNDP</b>	United Nations Development Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNOPS</b>	UN Office for Project Support

## ACKNOWLEDGEMENTS

This Training Manual has been prepared on the basis of contract 'Training Need Assessment for Mainstreaming Disaster Risk Reduction and Develop a Training Manual' by UNDP, Bangladesh. Obviously this is the second part of the contract and in sequel to the first part-the Training Need Assessment. The consultant likes to put on record his gratitude to UNDP Bangladesh for the trust and confidence reposed on him for the respectable task.

As is explained the training manual follows the first part, the Training Need Assessment, the topics were pre-determined and well selected to capture the whole gamut of DRR and the process of mainstreaming DRR which has already made its mark on academic and administrative literatures. The TNA process identified the areas on which the Training Manual is to be developed and it emerged that the Training Manual should encompass major eight areas on which training has to be delivered in four days as per the training schedule. The issues, as identified, were scrutinised, arranged in sequence and harmonised in a structured manner. The consultant, on the basis of this input, has been sincerely putting all the relevant pieces together to give it a semblance of a proper training manual and likes to thank all those academicians and experts for the resources those have been utilised. The author made sincere efforts to formally acknowledge those resources.

The preparation of a training manual is always an onerous as well as multidimensional task and needs supports and helps from so many quarters. I would like to specially thank Dr.Nurun Nahar, Project Director, National Resilience Programme (NRP), Programming Division, Dr. S M Mrshed, Project Manager, NRP and Muhammad Jahedul Haque, Planning Specialist, UNDP-NRP for their continued support, kind encouragement and bearing with me. Arif Abdullah Khan, Programme Analyst, UNDP Bangladesh also allowed me to share his insights, comments and expertise on the training manual. Their support and constant feedback (one of the prophesied pillar of methodology) made the assignment, though quite daunting, easier and interesting too.

My friends and colleagues, across the spectrum, were equally generous to offer help and advice while preparing the manual. Of those I must mention Mohammad Abdul Wazed (former Director General, Department of Disaster Management), Dr. AHM Mustain Billah (former Joint Secretary, Mistry of Environment and Climate Change) and Md. Jamal Hossain (Consultant, Institute of Public Finance Bangladesh) for sharing their valuable insights and continuous support.

'Building a disaster-resilient, prosperous Bangladesh: Challenges and opportunities', an article by Robert D Watkins, UN Resident Coordinator and UNDP Resident Representative in Bangladesh, published in The Daily Star, February 26, 2017 is an interesting reading as well as guiding beacon for the broader disaster management in Bangladesh. The article has been annexed in this training manual and I would also like to thank Robert D Watkins for his scholarly article.

Training is a continuous capacity development process and training manuals should be subject to continuous upgrading. This is reasonably expected that this manual will be followed in many public sector training institutions and that would offer the real test for this manual. I shall be looking for those occasions and the resultant feedback for further upgrading the manual.

## NOTE TO THE USERS

This note has been prepared to help the users, equally applicable to the trainer and trainee, to steer this training manual to apply for practical use. The present training manual is an outcome of an assignment of UNDP Bangladesh to develop a training manual on Mainstreaming of Disaster Risk Reduction (DRR) based on a comprehensive Capacity and Training Needs Assessment (TNA) exercise. The TNA was conducted across the relevant stakeholders to understand the training needs and to identify the issues pertaining to training and professional development plan. This assessment of training needs also gave equal importance to future training needs beyond the project tenure of NRP with an objective of sustainability.

Training needs and priorities determined, as part of the TNA process, the gaps/needs in skills and knowledge required to effectively carry out the range of capacity development. However, successful and effective training cannot necessarily be imparted until the successful methods of training is well understood and practiced as well. Adult learning process has always been challenging and an intriguing task. For this sake a separate chapter on **'Introduction Basics of Adult Learning'** has been annexed at the end of the training manual so as to enable the user to apply the manual more prudent and successfully.

The overarching objective of the training manual is to offer, on the basis of the TNA exercise, a set of issues on mainstreaming DRR to be delivered before a bigger audience in a comprehensive and lucid manner, but the issues therein have their own dimensions and uniqueness. As such all the issues have been segregated and its own session objectives and learning objectives are delineated at the beginning of each session. Trainers must make sure that these objectives are well understood and trainees are made aware of these fundamental conditionalities of training. Moreover, the trainees are encouraged to use the manuals for reviewing/recapping the subject matter after training and it can serve as a reference document in the work place.

But the efficacy of any training and its sustainability will much depend on how it met the expectations/needs of the trainee and whether the training has succeeded to carry out its objectives. Moreover, the sustainability of the manual will also depend on how fast it adapts to changing need of the time. Here we need a robust monitoring and evaluation strategy to assess whether the course has achieved its stated objectives or not and, if not, what improvements are required. Much often the adopted strategy was developed by Donald Kirkpatrick, which is best known as 'Four Level' model for training course evaluation. The four levels are sequential and each level has subsequent effect on the next level. A **'Training Evaluation Framework'** to that effect is annexed for the benefit of the users.

Two set of questionnaires, to be conducted before and after the course, are also annexed in the manual. This is to evaluate participants' opinion, feeling and level of satisfaction about the training. Data at this level addresses the appropriateness and usefulness of the course according to the participants at the completion of the course (level 1) and partially learning (level 2). However, a more formal examination has to be conducted at the end of the course to evaluate whether the training course has increased the knowledge or capability, skills and attitude of the participants (level 2). Question paper shall contain Multiple Choice (to assess extent of study), Conceptualization Type Questions (to assess the understanding about the concepts) and Problem Solving Type Questions judge participants' understanding about the skill of solving problems. The trainer should also shall assess the participants' oral presentation skills through group presentations that would enable the authority to pick up potential trainer. However, separate set of

questionnaire has to be developed to understand the efficacy of each session and performance of the responsible trainer. The session outlines, as given in the manual, is more indicative in nature and should be applied with flexibility.

'Ten Golden Rules: The comprehensive training management policy to adhere to' is also annexed in the training manual for strict compliance. It is expected that the efficacy of the training programme will be enhanced through adherence to these rules.

It was a gargantuan task to draft the training manual and the degree of its success will much depend on the trainers' dexterity in the use of the manual, particularly his greater understanding and application of the adult learning process, UNDP's principles of capacity building that enshrines capacity development as **'about transformations that empower individuals, leaders, organizations and societies. If something does not lead to change that is generated, guided and sustained by those whom it is meant to benefit, then it cannot be said to have enhanced capacity, even if it has served a valid development purpose'**<sup>1</sup>. in conjunction with the evaluation framework. Theoretical issues pertaining to application of the adult learning process is annexed in the training manual so as to enable the future trainers to better perform, the author wishes all the success for them.

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<sup>1</sup>Capacity Development: A UNDP Primer

### Objectives of the Training

#### Main Objective:

The main objective of the training, as designed in the present training manual, is to update the knowledge and skill base of the government officials to sustain the resilience of human and economic development in Bangladesh through inclusive, gender responsive disaster management and risk informed development.

#### Specific Objective:

The specific objective of the training is to build capacity of the officials in Bangladesh Planning Commission, MoDMR and DDM around the basic issues of DRR, Mainstreaming of DRR, SDG, the Sendai Framework's priority areas of actions, as against the contemporary planning process of Bangladesh.

#### Training Outcomes:

It is expected that, at the end of the training, the participants will be able to grasp the following critical issues pertaining to broader disaster risk reduction (DRR) and its related discourse:

- Definition of Risk and Risk Informed Development
- Resilience as a tool for Development
- How resilience contributes to sustainable development
- Disaster -Development Nexus – How disaster damage development, how development cannot create disaster and turning crisis to opportunity
- Risk Informed Development
- Linking DRR in achieving SDG and Delta Plan
- Resilient Infrastructure
- Principles of an integrated approach to disaster risk reduction and climate change adaptation
- Mainstreaming DRR
- Mainstreaming DRR in Bangladesh
- DRR in 7<sup>th</sup> five Year Plan
- Integrating DRR issues in development process
- Mainstreaming disaster in development of sectoral planning: agriculture
- Mainstreaming disaster in development of sectoral planning: water and sanitation
- Mainstreaming disaster in development of sectoral planning: infrastructure
- Mainstreaming disaster in development of sectoral planning: education
- Scope and Opportunity for Integrating DRR in Local level Planning
- Global Framework for DRR
- Special focus on Sendai Framework for DRR
- National Policy Framework and Action Plan for DRR in Bangladesh
- Inclusiveness in DRR
- Mainstreaming of Disability in DRR, GOB Initiatives and Dhaka Declaration
- Gender Responsive Resilience
- Community Based Disaster Risk Reduction

### **Training Methods:**

The training method to be followed in the present case should follow the principle of adult learning (Annexure A), emphasising the importance of a participatory methods to be applied in the training.

It recognizes the unique nature and motivation of adult learners, as well as important characteristics of mature adults, in the methods and strategies for training. It also recognised that adults tend to learn differently, that the characteristics of adult learners is different than those of adolescent learners, and the motivation – the reasons for learning – are substantially different between adults and children.

Though the detailed method is topic specific, an overall training method is as follows:

- Theory of Solving Problem
- Power Point Presentations
- White Board
- Hand outs
- Group discussion/work/presentation
- Case study

### **Importance of feedback:**

The training manual also recognises the importance of feedback in the form of formal evaluation framework (Annexure B). Moreover it also solemnly reiterate the famous teaching principle of John Dewey (page 3) to upgrade continuously for the benefit of learners. It is expected that if the formal evaluation process is strictly followed, it not only measure the level of reaction and learning of the participants, which would also enable the authority to continuously upgrade the manual.



**Teaching principle**

**If we teach the  
students of  
Today**

**As we taught the  
students of  
Yesterday**

**We rob them of  
Tomorrow**

**John Dewey (1859-1952)**

**Session outline<sup>2</sup>**

DAY 1

Session	Time	Topic
1	<b>Morning<sup>3</sup></b>	<b>a. Introduction to basic theory of adult learning</b> <b>b. The disaster and development nexus</b>
Prayer and Lunch break		
2	<b>Afternoon<sup>4</sup></b>	<b>The disaster and development nexus (continued)</b>
DAY 2		
3	<b>Morning</b>	<b>Mainstreaming DRR</b>
Prayer and Lunch break		
4	<b>Afternoon</b>	<b>DRR in Local Level Planning</b>
DAY 3		
5	<b>Morning</b>	<b>Global Framework for DRR</b>
Prayer and Lunch break		
6	<b>Afternoon</b>	<b>National Policy Framework and Action Plan for DRR in Bangladesh</b>
DAY 4		
7	<b>Morning</b>	<b>Inclusiveness in DRR</b>
Prayer and Lunch break		
8	<b>Afternoon</b>	<b>a. Gender Responsive Resilience</b> <b>b. Community Based Disaster Risk Reduction</b>

<sup>2</sup> The session outline has been prepared for a four-day course. The inaugural session of the first day should include registration, introducing the participants to training rules and pre-evaluation of the course by the participants with some space for basic theory of adult learning. On the other hand, the afternoon session of the 4<sup>th</sup> day should include, among others (if any), the post-evaluation of the course by the participants.

<sup>3</sup> Every morning session should be divided into two parts: the first part should more concentrate on the presentation of the issues while the second part, after a short refreshment break, should be dedicated to group work and presentation, case study, experience sharing, etc. (whichever is more appropriate).

<sup>4</sup> The afternoon session should follow the same procedure as the morning session.

### **Session: 1**

#### **The disaster and development nexus**

Session objectives:

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

Learning Objectives:

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

- Defining Risk and Risk Informed Development
- Resilience as a tool for Development
- How resilience contributes to sustainable development
- Disaster -Development Nexus – How disaster damage development, how development cannot create disaster and turning crisis to opportunity
- Risk Informed Development
- Linking DRR in achieving SDG and Delta Plan
- Resilient Infrastructure

Lecture Format:

- Theory of Solving Problem
- Power Point Presentations
- White Board
- Handouts
- Group work/Exercise/presentation
- Case studies

#### **Understanding risk:**

Risk is the combination of the probability of an event and its negative consequences<sup>5</sup>. 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

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<sup>5</sup>UNISDR (2009):*Terminology on Disaster Risk Reduction*. Geneva, Switzerland.  
[https://www.unisdr.org/files/7817\\_UNISDRTerminologyEnglish.pdf](https://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf)

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 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**

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.

Source: Adopted from Report on Resilient Development: From Crisis to Resilience (2019), UNDP<sup>6</sup>

### **Risk and Risk Informed Development:**

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.

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<sup>6</sup>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](https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Risk-informed%20development_WEB_final.pdf)

- 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.
- 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 hand-in-hand.

### The concepts of disaster and development:

Though 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

#### **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 Resilient Development: From Crisis to Resilience (2019), UNDP<sup>7</sup>

cope on its own resources<sup>8</sup>, 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

<sup>7</sup> 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](https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Risk-informed%20development_WEB_final.pdf)

<sup>8</sup>United Nations Department of Humanitarian Affairs (2001), <https://reliefweb.int/organization/un-dha>

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<sup>9</sup>:

Development, on the other hand, is 'the achievement of economic growth and hence improved living standards achieved through the use of society's natural and institutional resources'<sup>10</sup>. But this definition is quite narrow and development can be 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'<sup>11</sup>. 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<sup>12</sup>.

### **The cases of development creating vulnerability:**

Obviously underdevelopment inevitably makes a population more vulnerable to natural and man-made disasters, there are even some development programmes which can increase vulnerability as follows:

#### **a. Consumption, overuse and destruction of natural resources:**

Technological developments have allowed humans to control and transform natural resources into products that increasingly provide more personal security,

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<sup>9</sup>The Disaster Management Act, 2012,

<https://www.humanitarianresponse.info/en/operations/bangladesh/document/government-bangladesh-disaster-management-act-2012-english>

<sup>10</sup> United Nations Department of Humanitarian Affairs (2001), <https://reliefweb.int/organization/un-dha>

<sup>11</sup> 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>

<sup>12</sup>USAID & ADPC(2010). <https://reliefweb.int/report/bangladesh/usaيدofda-asia-disaster-preparedness-and-mitigation-programs-fact-sheet-1>

health and comfort. As the pace and demand for continued use of natural resources increases, it results in depletion of these resources.

Technological progress and growth have encouraged societies to use lands that previously were considered unsafe or unproductive. This depletion of lands are inevitably more prone to hazards for example, marine and coastal zone development exposes people settled in these areas to possible storm-surge, high winds, flash flood and landslide risks.

### **b. Urbanization:**

Uncontrolled growth in cities strains resources, increases harmful waste production, as well as bring new hazards from industry and technology, high rate of liquid and solid waste generation, outbreak of diseases, sewer spillage in high densities. It also leads to unplanned settling in wet lands which expose people to flash floods.

### **c. Investment in poorly controlled hazardous industries:**

Such investment may expose people to hazards from both chronic and catastrophic releases of toxic pollutants into the air water and soils. There may be immediate impact on the health of humans, animals and plants and there can also permanent contamination of basic resources may preclude their use.

### **d. Industrial Development:**

Chemicals and chemical processes are often keys to industrial development. Chemical fires, explosions, and leakage represent hazards. Gas storage tanks, nuclear reactors and other technologies of modern industries also pose other hazards

### **e. Misguided development projects:**

Poorly managed forestry programmes leading to deforestation and increased risk of landslides. Livestock development projects leading to severe loss of vegetation cover and near desertification. Development paths which generate inequality, promoting social isolation or political exclusion e.g. nuclear weapon development.

### Development Programmes those may 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:

- a. **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.
- b. **Investment in communications, road and air transport** and 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.
- c. **Improved drainage and flood protection measures.** Improved drainage systems and flood protection measures can protect people and facilities in hazardous areas.
- d. **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.
- e. **Capacity Development Programmes** in general and training programmes with a managerial and technical focus can improve mitigation and response measures.
- f. **Agricultural and forestry programs** e.g. Reforestation programs and Water harvesting can provide a range of opportunities for mitigation.

### How Disaster set back Development Programmes:

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

- a. **Loss of resources**
- b. 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.

- c. 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.
- d. Death, e.g. in Haiti earth quake of 2010 left a trail of destruction and affected the states ability to trade.
- e. 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 shorter term needs.**

- a. Development activities can be interrupted through the switching of resources from long term programmes to highly visible short term recovery and emergency response programmes.
- b. 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**

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

**d. Disruption of the non-formal sector**

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

**How disaster can be opportunities:**

- i. Rebuilding after a disaster provides significant opportunities to initiate development programmes.

- ii. A self-help house development programme to rebuild houses destroyed by an earthquake teaches new skills, strengthens community pride and leadership
- iii. Rehabilitation and reconstruction activities which creates opportunities for the integration of disaster risk measures.
- iv. Floods provide opportunities for constructing dams which can be used to produce electricity generation and irrigation.



Post-disaster Housing scheme: Example of how disaster has become an opportunity

**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.

SDG	Targets related to Disaster Risk
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<b>Goal 1. End poverty in all its forms everywhere</b>	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
<b>Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture</b>	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
<b>Goal 3. Ensure healthy lives and promote well-being for all at all ages</b>	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
<b>Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</b>	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
<b>Goal 6. Ensure availability and sustainable management of water and sanitation for all</b>	6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
<b>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</b>	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.
<b>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</b>	11.1: By 2030, ensure access for all to adequate, safe and affordable and basic services and upgrade slums.
<b>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</b>	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
	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
<b>Goal 13. Take urgent action to combat climate change and its impacts</b>	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.
<b>Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development</b>	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

<b>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</b>	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.

**Bangladesh Delta Plan (BDP):**

BDP 2100<sup>13</sup> has been conceived as a techno-economic, long-term, holistic, water centric integrated and interactive planning process comprising three major steps:

- i) conducting baseline studies;
- ii) developing delta vision, goals and management framework; and
- iii) formulating adaptive strategy.

These steps were supported by country wide consultation processes which eventually led to the outcome of an investment plan. The formulation of BDP 2100 drew lessons from Dutch delta experiences, while at the same time adapting to the specific needs of Bangladesh and finding inspiration in country's long tradition of resilience in adversity and water management. In short, it can be said that BDP 2100 focuses on "How to enable socio-economic development under uncertain changing conditions especially regarding

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<sup>13</sup>Bangladesh Delta Plan 2100 (2018), General Economics Division (GED) Bangladesh Planning Commission, <https://thefinancialexpress.com.bd/views/bangladesh-delta-plan-2100-implementation-challenges-and-way-forward-1553354695>

climate change and (trans-boundary) scarce water resources?" The plan is holistic, considering many themes and sectors and bringing together individual strategies as well as integrated ones for the whole country, considering the needs of all water-related sectors in a single plan.

BDP 2100 looks primarily at the delta agenda up to 2050 but being mindful that the decisions taken today have implications up to 2050 and beyond. It sets up a long term vision for the evolution of the Bangladesh Delta by the end of the 21st century as 'Achieving a safe, climate resilient and prosperous delta'. As steps to reach that vision it defines short to medium term goals as to achieve upper middle income status and eliminate extreme poverty by 2030 and being a prosperous country around 2041 with the longer term challenge of sustainable management of water, ecology, environment and land resources in the context of their interaction with natural disasters and climate change. The BDP 2100, therefore, seeks to ensure long term water and food security, economic growth and environmental sustainability while effectively reducing vulnerability to natural disasters and building resilience to climate change and other delta challenges through robust, adaptive and integrated strategies, and equitable water governance.

### Resilient Infrastructure



**United Nations (2015) established targets related to resilient infrastructure (part of Goal 9) as follows:**

- Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all;
- By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities;
- 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 developing states.

**Figure 1: Infrastructure resilience wheel<sup>14</sup>**



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

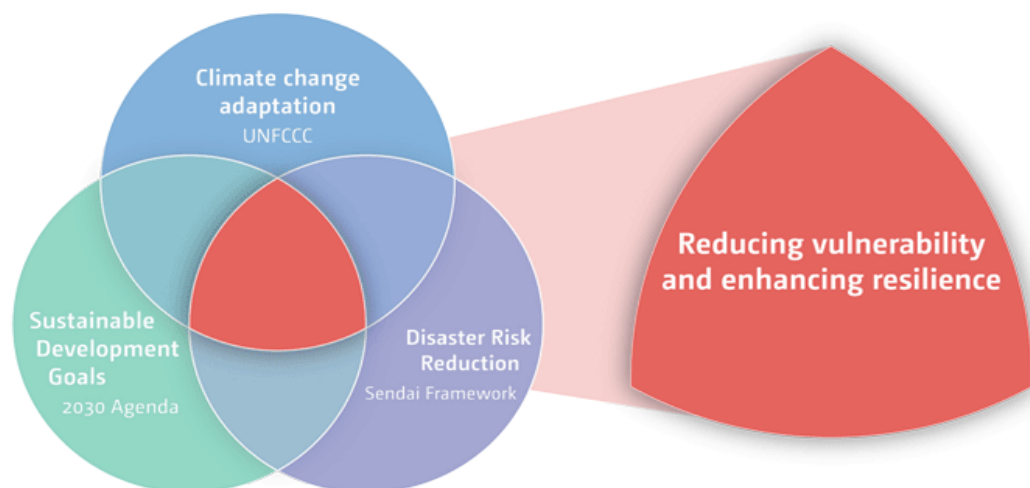
- Robustness: the inherent strength or resistance in a system to withstand external demands without degradation or loss of functionality;
- Redundancy: system properties that allow for alternate options, choices, and substitutions under stress;

<sup>14</sup> Introducing Infrastructure Resilience (2016) as adapted from Moor et al, 2015.

- Resourcefulness: the capacity to mobilize needed resources and services in emergencies; and
- Rapidity: the speed with which disruption can be overcome.”

### Principles of an integrated approach to disaster risk reduction and climate change adaptation:

Integrating adaptation with the Sustainable Development Goals and the Sendai Framework



Source: UNFCC

With global commitment to and investment in disaster risk reduction has grown, practitioners’ and policy-makers’ knowledge of good practice, enabling factors, and barriers to success have also increased. Meanwhile, 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 debate. 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.

The following 10 principles for an integrated approach to disaster risk reduction and climate change adaptation are drawn from this increasing body of knowledge<sup>15</sup>. Together, these principles provide development and humanitarian practitioners with a set of criteria for building disaster and climate resilience that is applicable across the program cycle in multiple sectors and varied contexts.

<sup>15</sup> 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 Change Adaptation (SREX), <https://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-1/ipcc-2012-managing-the-risks>



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 itself should increase understanding among all stakeholders, both as a result 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 of, 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. **Draw on and 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 in order 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 programs should be monitored and evaluated to ensure that learning is captured and made available to others.

**8. Instil 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 programs to build disaster and climate resilience should be flexible, to accommodate new inputs.

**9. Address different timescales:** Analysis, strategies and programs 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 programs 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 program design. To avoid creating a false sense of security, or promoting mal-adaptation, programs should always be based on a multi-hazard, multi-effect assessment.

## **Session: 2**

### **Mainstreaming DRR**

Session objectives:

The purpose of the session is to introduce the trainees with the basic concepts of DRR mainstreaming including the tools for mainstreaming DRR project and current DRR Initiatives in Bangladesh.

Learning Objectives:

The session is designed as such that at the end of the session the participants will be able to understand:

- The basic concepts of DRR mainstreaming.
- To identify the requisite tools for mainstreaming DRR project
- The steps to follow for successful mainstreaming
- DRR in 7<sup>th</sup> Five Year Plan
- Mainstreaming DRR in sectoral plan

Lecture Format:

- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Handouts
- Group work/presentation
- Case studies

### **Mainstreaming DRR:**

Since the 1990s, the term "mainstreaming" has been used by social scientists and policymakers to highlight critical cross-cutting but neglected issues to bring them to centre stage. The objective of mainstreaming is to bring to the forefront an important issue that is not the concern or business of a particular 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'<sup>16</sup>.

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 upstream; 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. This result is a serious social and economic setback to the development and poverty reduction priorities of the developing countries, and poses a threat for achieving the 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 policy, planning and implementation. On the other hand, the process of development, and the kind of development choices made in many countries, itself, creates disaster risks. With disaster risk reduction considerations not featuring into the project design of the development activities, increases the risks, thus increasing the negative impact of the disasters on the socio economic set up of the country. 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 policy, planning and implementation.

### **Tools for Mainstreaming Disaster Risk Reduction project:**

A set of standard tools, to be used by development organizations in designing and evaluating projects, has been designed for mainstreaming DRR project<sup>17</sup>:

- Vulnerability to natural hazards is complex and multi-faceted, requiring analysis and solutions from environmental, economic, social, institutional and technical perspectives and thus related tools to accomplish this.
- Existing programming, appraisal and evaluation tools and guidelines often cover risk in the broadest sense (relating to operational risk, financial risk, political risk and so forth) but typically contain few specific references to hazard-related issues.

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<sup>16</sup>Mainstreaming disaster risk reduction for sustainable development: A regional guidebook for the Asia-Pacific (2017), [https://www.unescap.org/sites/default/files/publication\\_WEBdrr02\\_Mainstreaming.pdf](https://www.unescap.org/sites/default/files/publication_WEBdrr02_Mainstreaming.pdf)

<sup>17</sup>Benson and Twigg(2004) adopted from Benson and Twigg, Tools for Mainstreaming Disaster Risk Reduction; Guidance Notes for Development Organisations (2007), [www.proventionconsortium.org/mainstreaming\\_tools](http://www.proventionconsortium.org/mainstreaming_tools)

- In consequence, natural hazards and related vulnerability are rarely considered in designing and appraising development projects, other than dedicated risk reduction projects, even in high-risk areas.
- Many of the existing programming, appraisal and evaluation tools could easily be extended to indicate countries, sectors and individual potential projects at risk from natural hazards, generate detailed information on the nature and level of risk and help ensure that appropriate risk reduction measures are taken.
- Collectively these tools would allow project and programme planners to explore hazard-related issues from a wide range of perspectives and areas of expertise, in keeping with the multi-faceted nature of vulnerability.
- There is nothing intrinsically difficult about either appraising disaster risks or designing and evaluating risk reduction measures if these tasks are approached thoughtfully and knowledgeably and are adequately resourced.

### **Steps to Successful Mainstreaming:**

The development of practical guidelines on the integration of disaster risk concerns within development organization country programming, project design and evaluation represent only one strand in a series of steps required to ensure successful mainstreaming in hazard-prone countries. As already indicated, certain other actions are already under way. These and further critical measures are elaborated upon below<sup>18</sup>:

#### **Awareness Raising**

Appreciation and understanding of the relevance of disaster risk reduction to sustainable development. Increased awareness of the potential importance of examining and, if necessary, addressing disaster risk is critical, on the part of both governments and development organizations.

#### **Enabling Environment**

Appropriate development of organization policies, strategies and institutional capacities. Overarching development organization 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.

#### **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.

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<sup>18</sup>Benson, Twigg & Rosetto (2007) adopted from Benson and Twigg, Tools for Mainstreaming Disaster Risk Reduction; Guidance Notes for Development Organisations (2007), [www.proventionconsortium.org/mainstreaming\\_tools](http://www.proventionconsortium.org/mainstreaming_tools)

**Training & Technical Support:**

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

**Change in Operational Practice:**

- Early Assessment
- Adequate Supporting Information
- Cost Minimization
- Treatment of low-probability, high impact risks
- Transparent, inclusive, and accountable consultation

**Measuring Progress**

Internationally agreed targets for disaster reduction should be established or disaster risk reduction concerns explicitly incorporated within the Millennium Development Goals, providing a common focus for development organisations and governments against which progress in mainstreaming can be measured.

**Learning and Experience Sharing:**

The development 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.

**Approaches to Mainstreaming in Bangladesh:**

Key targets/Priorities	Activities	Lead Agency	Supporting Agency/Department /Department
Mainstreaming DRR issues in all national and sectoral policies and plans	Develop Disaster Risk Identification and Mitigation Options (DRIMO) tools for all sectors and Projects	Ministry of Planning	MoDMR/Planning Commission/Ministry of Environment and Forest/ Ministry of Water Resources/Ministry of Agriculture/ NGO Affairs Bureau

	<p>Include DRIMO as a mandatory element for all public and private sector investment and development projects and programmes . Introduce block allocation in the development project proposal against foreseen and unforeseen risk reduction activities</p>		<p>Sectoral Ministries/NGOs, Private Sector bodies/ Development Partners</p>
	<p>Establish a monitoring mechanism to ensure that the development projects and programmes do not create new risks Review and revise the relevant sectoral policies by incorporating disaster risk reduction issues Establish Focal Points with relevant ministries and Departments</p>	<p>Relevant Ministries</p>	<p>MoDMR</p>
	<p>NGO mainstreaming includes DRR issues in the FD 6 Format<sup>19</sup> Design and implement an advocacy programme for mainstreaming DRR into NGO programmes (programmes do not create new risks)</p>	<p>NGO Affairs Bureau</p>	<p>MoDMR/ NGO</p>

**Mainstreaming DRR: Current DRR Initiatives in Bangladesh**

- Mainstreaming the issues into development policies
- Creating and strengthening national integrated disaster and climate risk reduction mechanisms.
- Implementing key activities as described in Hygo Framework for action (HFA).
- Flood forecasting Warning Center (FFWC) through data management and interactive website.
- Institutes of water and flood management
- Cyclone Preparedness Programs (CPP).
- Geological Survey of Bangladesh (GSB).
- Bangladesh Meteorological Department
- ECNEC decision to include DRR considerations in development project Proforma.
- Planning Commission: DRR and CCA as part of development compliance.

<sup>19</sup> FD 6 format is the prescribed FORM FD-6 of NGO Affairs Bureau for submitting Project proforma for foreign assisted projects

- Capacity building for planning professionals at all levels and for sectoral planning cells.

### Chronology of Bangladesh's transition towards DRR

Period of Time	Bangladesh's Transition towards DRR
1971- 1980	<ul style="list-style-type: none"> <li>- Response oriented disaster management</li> <li>- Cyclone Preparedness Programme established in 1972, a community level approach to build awareness.</li> </ul>
1980-1999	<p>DM approach emerged:</p> <ul style="list-style-type: none"> <li>- Directorate of Relief and Rehabilitation established.</li> <li>- Flood Action Plan adopted in post flood of 1987 and 1988.</li> <li>- Disaster Management Bureau established in 1993.</li> <li>- Standing Orders on Disaster formulated in 1997 (English version in 1998)</li> <li>- Paradigm shift: from relief culture to more comprehensive disaster management started during end of the 90s.</li> </ul>
2000 and onward	<ul style="list-style-type: none"> <li>- Comprehensive approach to disaster risk reduction</li> <li>- Establishment of the Ministry of Food and Disaster Management</li> <li>- Corporate Plan for Disaster Management 2004</li> <li>- Comprehensive Disaster Management Programme (CDMP) undertaken</li> <li>- Follow up of Hyogo Framework for Action (2005-2015)</li> <li>- National Plan for Disaster Management 2010-2015 formulated</li> <li>- Disaster Management Act 2012 passed in the Parliament</li> <li>- Cyclone Shelter Construction, Maintenance and Management Guidelines 2011 formulated</li> <li>- Dead Body Management Guidelines formulated</li> <li>- Disaster Management Policy 2015 formulated</li> </ul>

### The Implementation Challenges in Disaster Management: 7<sup>th</sup> FYP

Despite doing excellent in the management of disaster and being globally acclaimed for such feat, Bangladesh still lags in so many respects. The 7<sup>th</sup> FYP<sup>20</sup> identified some lessons and constraints, particularly in reference to DRR, from previous experience which are highlighted below:

**Whole of government approach:** Disaster Risk Reduction is a multi-sector business. It is not possible for government alone to tackle disaster unless strong collaboration among all the relevant stakeholders such as government, NGOs, researchers, scientists, civil society, private sector, media etc. are established and maintained. Collaborative efforts can strengthen the preparedness activities at all level and reduce the impact of disasters.

<sup>20</sup>7<sup>th</sup> Five Year Plan, <https://plandiv.gov.bd/site/files/d40d434b-5afa-48ec-854b-6ce391c466d6/>



**Mainstreaming:** Mainstreaming of DM policy and practice across government occurs at a relatively small scale and often on a pilot basis. A clear advocacy and technical assistance role for the MoDMR could help promote and deliver mainstreamed DM outcomes.

**Financing for Disaster Risk Management:** DM financing is largely focused on relief assistance through various social safety nets (2.0 % of GDP invested in extensive social safety net programmes) with DRR investment largely financed through international cooperation. The DM act provides the establishment of a DM fund. It is crucial that the Fund be established. Further strengthening of MoDMR financial management capacity, transparency and accountability is needed.

**Inclusive DRR with special focus on Gender:** Although women are key contributors to disaster management, policies and programmes are not designed or delivered through an analysis of gender needs. Inclusion of persons with disabilities, children and women is also lacking in the current framework that needs to pay special attention to address vulnerabilities of the most vulnerable sections of communities at risk.

### ***Goals of MoDMR in 7<sup>th</sup> FYP in relation to DRR and related issues:***

For the 7<sup>th</sup> FYP, MoDMR has set 4 broad categories of goals and one cross cutting category to make the country more disaster resilient. These goals and their associated activities will provide direction to carry out the necessary interventions in this sector.

#### **1. Mainstreaming DRR and CCA**

- a) Reform the SoD and DM Act and its rules, if needed in line with post MDG and Sendai Framework for DRR.
- b) Publish the National Plan for Disaster Management 2016-2020 in line with post MDG and Sendai Framework for DRR.
- c) Approve and implement the National Disaster Management Policy.
- d) Activate disaster coordination mechanisms at national and local level.
- e) Establish and activate the Disaster Management Research and Training Institute to develop capacity and provide technical assistance across all relevant government agencies including the DMCs.
- f) 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.
- g) Integrate DM in district development plans and provide capacity development training including UDMCs.
- h) Inclusion of DRR and CCA issues in the training curriculum for local government, public representative officials, Bangladesh Ansar & VDP, religious leaders, scouts, etc.
- i) Implement a gendered approach to disaster resilience in all Government planning, policy frameworks and programmes. Monitor and report on implementation.
- j) Establish effective partnerships for disaster resilience with the private sector focused on roles, responsibilities, investment priorities and incentives, including regulation.
- k) Develop policy framework for addressing slow onset disasters such as water logging in south-west, river bank erosion etc.

**2. Disaster Risk Reduction Strategies:**

- a) Establish or strengthen regional networks and agreements for real time data sharing on disaster risk.
- b) Streamline the risk assessment, analysis and information sharing systems within government.
- c) Monitor risk and vulnerability nationwide and widely disseminate regular reports on the changing risk profile.
- d) Develop risk assessment and CCA inclusion guideline and promote DRR and CCA inclusion in district level and below development planning processes.
- e) Allocate adequate sectoral financing of disaster management through line ministries and establish the Local DM Fund. Monitor and report on implementation.
- f) Promote structural and non-structural investment like disaster and climate resilient housing, roads, embankments, flood and cyclone shelters and other infrastructure construction and risk reduction programmes at community level.
- g) Promote RRAP (Risk Reduction Action Plan) and contingency planning across agencies and for all unions/cities/wards and monitor its implementation and practice.
- h) Encourage different hazard based contingency planning like chemical and technological hazards, road and water safety, nuclear and radiological risk, biological hazards, landslide etc.
- i) Encourage earthquake vulnerable building retrofitting for major cities especially public buildings
- j) Integrating DRR & CCA issues in private investments
- k) Develop tsunami guideline

**3. Disaster Preparedness, Warning and Response:**

- a) Establish the National Emergency Operations Centre (EOC) and fully operationalize it. An EOC is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management or disaster management functions at a strategic level in an emergency situation and ensuring the continuity of operation.
- b) Develop national emergency response co-ordination mechanism framework & guidelines
- c) Finalize, approve, disseminate and create capacity for implementation of critical guidelines and plans on debris management, dead body management etc.
- d) Finalize, approve, disseminate and create capacity for implementation of an Incident Management System.
- e) Procuring search and rescue equipment for earthquake and other disasters
- f) Use of space technology and IT based long lead time EWS at community on flood, flash flood, land slide, cyclone etc. Ensure dissemination of early warning through the use of volunteers and technology.
- g) Strengthen national space based observation & monitoring disaster management system (satellite)
- h) Develop National Volunteers organization
- i) Provide equipment, training programmes for CPP, Urban volunteers, scouts

certification & award programmes for volunteers, compensation programmes for dead or injured volunteers.

- j) Develop and implement the National Disaster Information Management Strategy.
- k) Approve and implement protocols for the implementation of Joint Needs Assessment and create nationwide capacity to implement it.
- k) Promote community level drills.
- l) Develop ICT based country wide earthquake seismic monitoring system
- m) Functionalize DMIC at DDM and all district and upazila level
- n) Mutual Aid-Agreements between Public-Private Partners for emergency Response
- o) Develop guidelines on co-ordination mechanism for GO-NGO and private sector for emergency response and strengthening GO-NGO and private sector co-ordination for emergency response
- p) Arrange Memo of Understanding (MoU) and bilateral agreements among the trans boundary natural hazards countries
- q) Guideline for International Assistance in Disaster Emergency

#### **4. Post-disaster Recovery, Reconstruction and Rehabilitation:**

- a) Fully operationalize Multi Risk Vulnerability Assessment Mapping (MRVA) cell and Damage and Needs Assessment Cell.
- b) Develop dedicated capacity within MoDMR and DDM to lead and coordinate post disaster recovery and reconstruction
- c) Develop and implement a strategy for the recovery of vulnerable groups.
- d) Integrate "build back better" principles into recovery and reconstruction policies, plans and financial projections.
- e) Establish a sustainable financing mechanism to support recovery with Build Bank Better principles
- f) Establish an effective targeting mechanism for proper utilization of safety nets.
- g) Establish an effective monitoring and support mechanism
- h) Integration of DRR CCA in safety net programmes
- h) Reduce vulnerability of the at risk communities through social safety nets
- i) Prepare monitoring and evaluation guideline
- j) Develop guidelines on multi sectoral co-ordination for post disaster recovery and development activities
- k) Protect & support the most vulnerable groups during disaster & post recovery stage especially women, children & disable groups and older people.

#### **Cross-cutting issues:**

- a) Design and implement a comprehensive communication strategy to enable proactive communication to vulnerable communities, across government and to the wider DM community to support awareness raising for effective disaster resilience.
- b) Review and reform business processes within relevant ministries and departments focusing on financial management, monitoring and evaluation, human resource management, incentive structures and coordination / collaboration skills. Build human resource capacity to manage reformed processes as needed.

### Mainstreaming DRR in sectoral plan: Infrastructure

#### **Introduction:**

The issues, approaches and strategies of mainstreaming DRR vary from one sector to another. These further vary in different subsectors within the same sector. They also vary from one country to another. However, the basic sector-specific components for mainstreaming may by and large be common to all countries<sup>21</sup>.

DRR primarily consists of structural and non-structural measures. Safer building codes, land use, and quality control through regular monitoring and inspection regimes are important amongst structural measures while creating DRR awareness, planning, training and capacity building of all stakeholders, specially the community and the government departments are important non-structural measures.

DRR must be an integral part of project selection and implementation. In order to set the design criteria for a risk reduction project, the hazards, the current risk and level of risk that is socially acceptable must be identified. A multi-hazard appraisal should be carried out at an early stage to identify the types of hazards, their likely severity and recurrence.

An evaluation of the current risk includes identifying locations most likely to become unsafe in the event of a natural hazard (e.g., areas prone to flooding, landslides or earthquake) and assessing their land use, as well as assessing the ability of local construction to resist the identified hazards.

If, for the identified hazards, the level of current risk is greater than that which is socially acceptable, then the need for hazard-proofing (and/or re-siting) is established, and the socially acceptable risk and identified hazards become the design criteria for the new construction or strengthening works.

Determine whether additional works are required to render the site viable for development or whether land use should be restricted to reduce vulnerability to natural hazards. Also consider whether re-siting to a location of reduced risk is an option. Topographical features and landscape can be used to reduce the impact of potential natural hazards (e.g., to minimize flood risk or modify wind-speed and wind direction).

A technique to strengthen constructions or make them hazard-safe should consider all potential hazards, not just the recent floods. In many cases, design features intended to enhance resilience to one type of natural hazard will augment resilience to others, for

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<sup>21</sup>Mainstreaming disaster risk reduction for sustainable development: A regional guidebook for the Asia-Pacific (2017), [https://www.unescap.org/sites/default/files/publication\\_WEBdrr02\\_Mainstreaming.pdf](https://www.unescap.org/sites/default/files/publication_WEBdrr02_Mainstreaming.pdf)

example, the provision of good connections between foundations, frames, walls and roofs of buildings. However, in certain cases, design features that help resist one type of hazard may be detrimental to the resistance of another. For example, heavy roofs help withstand strong winds due to cyclones, storms or typhoons, but will increase the forces on buildings subjected to earthquakes.

The sitting and design of critical facilities (e.g bridges) and infrastructure that are essential for relief and recovery purposes in the event of a disaster should be given special consideration.

The site for development will typically be defined by local government based on availability and economic criteria. The suitability of these sites needs to be assessed. This can be done by following. Any hazard assessments carried out in previous stages should also be considered

Develop building codes and guidelines, accounting for local hazard conditions, building material characteristics, construction skills and quality.

### Matrix of potential Negative DRR Impact and Proposed Mitigation Measures:

	Community Infrastructure	Potential Negative DRR Impact	Proposed Mitigation Measures
1.	Link roads and paths	<ul style="list-style-type: none"> <li>• Incorrect alignments can result in blocking the natural water courses and become potential flood hazard.</li> <li>• Substandard construction can result in different types of disaster risks.</li> <li>• Slope cutting for roads widening may trigger landslides.</li> <li>• Improper disposal of debris like dumping into rivers and streams.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid new alignments which can block natural water courses.</li> <li>• Adopt slop stabilization measures;</li> <li>• Ensure proper designing and quality control through monitoring and inspection regimes.</li> <li>• Identify proper debris dumping site away from streams and rivers probably in depressions that need filling;</li> </ul>
2.	Street pavement	<ul style="list-style-type: none"> <li>• Drainage system may be blocked, which may result in stagnant water;</li> <li>• Improper disposal of the debris;</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that proper designing and quality control of the street pavements;</li> <li>• Identify proper debris dumping preferably in depressions that need filling;</li> </ul>
3.	Bridges (wooden, suspension)	<ul style="list-style-type: none"> <li>• Selection of wrong site and design may cause obstruction to freshwater flow and hence movement of aquatic life;</li> <li>• Gradient of stream may be changed and thus may change the morphology of a stream and river;</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt safer designs and ensure quality control.</li> <li>• Give ample space for free movement of freshwater down the stream; do not obstruct water flow;</li> <li>• Do not give too much gradient to the river or stream beds so that movement of the aquatic fauna is obstructed;</li> <li>• Create DRR awareness among the community.</li> </ul>
4.	Culverts	<ul style="list-style-type: none"> <li>• Substandard construction can become a hazard rather than an aid to the community.</li> <li>• Lead to high risk of water obstruction and hence water</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure quality control through proper monitoring and inspection regimes.</li> <li>• Use standard designs and proper sites to allow free movement of water and avoid water logging. Create DRR awareness among the community/ all</li> </ul>

		logging, flooding and restricted movement of aquatic life;	stakeholders. Water.
6.	Water ponds	<ul style="list-style-type: none"> <li>• Improper design and structure may lead either to flash floods in case of breach or blockage of downstream flows in case heavy structure and less water availability.</li> <li>• Improper techniques may lead to excessive land and soil disturbance, which may lead to soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Create DRR awareness among the community/ all stakeholders.</li> <li>• Proper design according to the available slope and quantity and duration of rainfall should be ensured;</li> <li>• Steep slopes should be avoided;</li> <li>• Quality of construction should be ensured.</li> <li>• Create DRR awareness among the community/ all stakeholders.</li> </ul>
7.	Flood protection Embankments	<ul style="list-style-type: none"> <li>• Improper structures may obstruct water flows downstream;</li> <li>• Construction of flood protection spurs only on one side may redirect to water flow to the other side and thus may lead to banks cutting on the opposite side of the rivers and streams;</li> <li>• Substandard construction may become hazardous.</li> <li>• Breaches in the embankments can transform into major disaster for the people, livestock and agriculture.</li> </ul>	<ul style="list-style-type: none"> <li>• Proper designs should be adopted to ensure that water flows are not obstructed but only the banks are protected;</li> <li>• Flood protection spurs be constructed on both sides of the water ways.</li> <li>• Quality control must be ensured. Repair the existing breaches and create DRR awareness among the community/ all stakeholders.</li> <li>• Develop community awareness about risks of creating unauthorized breaches in the embankments.</li> </ul>

### Mainstreaming DRR in sectoral plan: Agriculture

#### **Introduction:**

It is extremely important that risks in agriculture sector are assessed and analysed in a comprehensive manner, that the potential losses and possible impacts on the economy are studied and then necessary steps are taken to reduce the risks, all in consultation with the active participation of stakeholders. Mainstreaming DRR in agriculture includes creating dynamic platforms for the scientific assessment of risks, providing early warning of disasters, facilitating training and capacity building, developing incentive structures for risk mitigation and risk transfer and integrating elements of risk reduction in all existing programmes, activities and projects.

During the early recovery phase, assistance is needed to rebuild the livelihoods of poor farmers who lack the inputs needed to clear and cultivate their fields. The farmers need to be provided support for seeds, fertilizers, tools and implements. Rehabilitation of tertiary channels and tube-wells is a priority need given the extensive damage to the irrigation systems in the affected areas. At the same time livestock herds that are vital for nutrition and income generation need to be conserved and restocked. Livestock productivity has been severely affected by the floods and

assistance is needed to preserve animal stock by supplying supplementary feed, vaccination and standard medication such as de-worming for cattle, sheep and goats.

The other challenges are:

- Ensuring timely and effective field level implementation with well-capacitated implementing partners, putting in place a fair distribution mechanism;
- Promoting coherent partnerships between other agencies and actors;
- Ensuring appropriate depiction and communication of the overall and specific intervention impacts;
- Ensuring timely procurement of food items leading to timely delivery of food baskets.

**1. Seed provision during Emergencies.** . Emergency seed provision should take place following a disaster only:

- If there is a strong expectation that a degree of 'normality' will have returned to the local farming system by the time of the next planting season.
- If there is evidence that families are committed to staying in the area, will have access to land and labor, and will be able to harvest their crops.
- If there is a clear indication that lack of seed is the key factor preventing communities from returning to 'self-help' mode.

### **2. Rehabilitation of Crop Production Infrastructure.**

While seeds should be promoted that best fit a realistic view of the climatic situation in an area, there are numerous examples of small scale irrigation projects that have maximized production of small plots of vegetable crops. These include:

- Provision of sand bags for weak river embankments as a preparedness measure towards flooding.
- Channeling water through irrigation canals for agriculture especially in non rain fed areas.
- Rental of pumps by organized farmers' associations through provision of vouchers and fuel.
- Tertiary and secondary canal excavation and rehabilitation through cash for work.
- Canal rehabilitation should be done after calculating the water demand for the crops to be grown.
- Primary canals should be rehabilitated by technical experts. Preferentially machines should be considered over cash for work in primary canal rehabilitation.
- Provision of pipes and ridging support for irrigation

### **3. Important Considerations for Rehabilitation of Production Infrastructure**

- Cost effectiveness - Returns after rehabilitation of identified infrastructure must be significant enough to improve or increase viability of agriculture.
- Operational costs must be analyzed and labor intensive activities utilize cash for work transfers targeting vulnerable people.
- There should exist local appropriate technology if needed to facilitate and complete rehabilitation work.
- Delivery mechanisms should be in place to ensure materials for rehabilitation can be transported in a short time to the work sites.
- Institutional capacity - expertise in water management should be present or

- involved during project implementation.
- Community participation (including gender and culture) - Approaches and strategies to be administered must factor inclusivity and peculiarities of needs of
  - Women, disabled and child headed households.
  - **Sector Specific Infrastructural Measures**
    - Raised seeds beds, dams, wind breaks, fire breaks.
    - Proofing of storage facilities and livestock shelters.
    - Erosion control structures, routine clearing of drainage system and canals.
    - Safe rescue places/platforms and strategic animal fodder reserves.
    - Drought resilient strategic water points.
    - Flood safe seed and fodder stocking infrastructure.
  - **Livestock.** The following livestock technical interventions should be considered during humanitarian emergencies:
    - Destocking
    - Emergency water provision.
    - Emergency feed provision.
    - Veterinary services.
  - Re-distribution of livestock.

**Matrix of Possible Shortfalls, their Impact and Mitigation Measures:**

	Shortfalls in the Facilities/Activities	Potential Negative DRR Impact	Proposed Mitigation Measures
1.	Non availability of seeds, fertilizers and pesticides	<ul style="list-style-type: none"> <li>• Poor crop cultivation and yield.</li> <li>• Exploitation of farmers by the traders.</li> <li>• Early recovery and restoration of livelihood badly affected.</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution of seeds, fertilizers and pesticides among the poor farmers especially with land holdings less than 5 acres.</li> <li>• Making enough seeds, fertilizers and pesticides available in the market by establishing agriculture input hubs.</li> <li>• Ensuring quality control in consultation with the local administration.</li> </ul>
2.	Uncontrolled and incorrect distribution of seeds.	<ul style="list-style-type: none"> <li>• Local seed market may be adversely affected.</li> <li>• Distribution of new and untried seeds can be extremely harmful for the farmers.</li> <li>• If seeds cannot be provided in time for cultivation, it</li> </ul>	<ul style="list-style-type: none"> <li>• A proper assessment be carried out prior to distributions of seeds to safeguard the interest of the seed traders.</li> <li>• Seed distribution should never be used to test a new variety of seed. Farmers should be familiar with the varieties provided, and families</li> </ul>



		may ultimately do more harm than good.	<p>must accept the variety, including taste and performance.</p> <ul style="list-style-type: none"> <li>Local varieties should be considered if available.</li> <li>Timing is critical. The seeds must be provided at the right time for timely cultivation and obtaining optimum yield.</li> </ul>
3.	Non availability of land for cultivation at due time	The farmers fail to cultivate the lands and leading to disruption of livelihood means.	Dewatering and clearing of cultivable lands at priority.
4.	Non availability of, tools and implements	Exploitation by those who are in possession of seeds, fertilizers and agriculture machinery	<ul style="list-style-type: none"> <li>The farmers need to be provided support tools and implements.</li> <li>Rehabilitation of tertiary channel and tube-wells should be given priority in the affected areas.</li> </ul>
5.	Exploitation due to non availability of cash for livelihood / sowing of crops	The farmers are forced to sell their livestock and property at throw away prices.	Provision of cash support / interest free loans for sowing of crops.
6.	Incorrect crop selection and management	<ul style="list-style-type: none"> <li>Low yield.</li> <li>Wastage due to poor storage and marketing.</li> <li>More prone to pest attacks.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate crop selection (testing and introducing new varieties, drought/saline/flood resistant crops, quick growing crops) and animal breeding.</li> <li>Improved cropping systems and cultivation methods (crop diversification, intercropping, adjustment of cropping calendars, soil conservation);</li> <li>post-harvest management (storage, food drying, food processing);</li> <li>pest control;</li> </ul>
7.	Loss of livestock due to non-availability of fodder, vaccination and medication	<ul style="list-style-type: none"> <li>Loss of livestock adversely affects livelihood.</li> <li>Return of normalcy affected both for the short term and the long term.</li> </ul>	<ul style="list-style-type: none"> <li>Preserve animal stock by supplying supplementary feed, vaccination and standard medication such as de-worming for cattle, sheep and goats.</li> </ul>
8.	Uncontrolled distribution of food.	<ul style="list-style-type: none"> <li>The poorest of the poor do not get the required support.</li> <li>Lead to hoarding by the undeserving and exploitation of the needy.</li> </ul>	<ul style="list-style-type: none"> <li>Well thought out distribution plan be prepared and implemented based of reliable data.</li> <li>Community leaders be taken on board for just and timely distribution of food.</li> <li>Minimum necessary sustainable food security for all should be the top priority.</li> </ul>
9.	Lack of coordination between the /stakeholders	Lack communication and coordination between the various national and international stakeholders can result in duplication of efforts in some areas and leaving gaps elsewhere.	<ul style="list-style-type: none"> <li>Improving the communication and coordination between the various stakeholders within the agriculture sector, as well as outside this sector.</li> <li>Establishment of a well defined and efficient coordination mechanism at union council level, district level, provincial level and national level.</li> </ul>

10.	Lack of CBDRM	<ul style="list-style-type: none"> <li>• Community which is first one to help itself may not be organized to react with resilience and prudence following a disaster.</li> <li>• Lot of avoidable losses suffered.</li> </ul>	<ul style="list-style-type: none"> <li>• Organizing the community at village and UC level to react resolutely.</li> <li>• Educating the community on desired agricultural practice in the face of a disaster</li> <li>• Create DRR agriculture and food security related awareness among the community.</li> </ul>
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### 1. Good Practices

- Undertaking hazard profiling and vulnerability assessments for the agriculture, forestry and fishery sectors or participating in national/local multi-sectoral disaster risk profiling exercises.
- Assessing and enhancing capacities for DRR within sectoral line departments and extension services;
- Integrating DRR in sectoral development plans or country programming exercises;
- Promoting sustainable natural resource management (for example on: land, water, watershed, forestry, or coastal areas);
- Identifying, documenting, adapting, and facilitating the exchange and replication of good agriculture, fishery and forestry practices for disaster risk reduction;
- Participating in inter-agency processes for enhancing emergency preparedness in the country;
- Providing emergency response, integrating the building back better principle in the design and implementation of post-emergency assistance.

### 2. Supporting Agriculture to Develop their Disaster Risk Reduction (DRR) Strategies

Identify the type, frequency and severity of potential disasters (disaster mapping). Community participation will ensure accuracy of local information.

- Ensure appropriate crop selection (test and introduce new varieties, encourage the planting of drought/saline/flood resistant crops and quick/growing crops and alternate farming with animal breeding. Agriculture
- Help in developing contingency crop planning (changing of cropping patterns to match late/early rains, availability of seed of drought, flood, salinity tolerant crop varieties, famine reserve crops etc. promoting none/farm activities.
- Promote post/harvest management (storage, food drying, food processing keeping in mind the disaster profile of the area. Community based and government/private sector supported initiatives such as grain banks, locally managed food/processing units and market linkages can help efficient preservation and distribution of farm products.
- Encourage the development of water control infrastructure /rainwater harvesting; water conservation techniques; forestation /reforestation and agro/forestry. Technical Institutions and NGOs may take initiatives with the community on water management.
- Assess the role of agriculture, livestock, fishery and forestry line departments in disaster risk preparedness and linkages with other relevant institutions.
- Hold trainings on developing specific infrastructural measures like raised seeds beds, check dams, wind breaks, fire breaks; proofing of storage facilities; soil erosion control structures, routine clearing of drainage system; seed and fodder reserves; drought resilient strategic water points and developing traditional coping mechanisms.

- Help farmers link with risk sharing and transfer instruments like crop/ livestock/ fishery insurance, compensation and calamity funds, micro/credit and cash transfers;
- Promote livelihood diversification. This can include small/scale enterprise development, introducing new farming activities (small/scale livestock, fish ponds, new crops of higher market value.\*
- Disseminate and demonstrate good practices for disaster risk reduction from sectoral and cross/sectoral perspectives to increase the resilience of existing farming systems.

### Mainstreaming DRR in sectoral plan: Water and Sanitation

#### **Introduction:**

During the emergency water and sanitation services are vital for provision of effective medical care to the victims, search and rescue activities (for the consumption and hygiene of the people who are rescued), cleaning the essential facilities such as hospitals and schools and well being of populations in shelters. Especially for victims who have lost their homes and are in overcrowded shelters, the provision of enough safe water for consumption and adequate sanitation facilities are fundamental for safeguarding their health.

Mainstreaming DRR into the Water and Sanitation sector involves the reconstruction and retrofitting of Water and Sanitation facilities so that they are hazard-resilient. The location, design and construction of these facilities must take all types of hazard risks into account. This needs to be given credence by clear policies on the development Water and Sanitation facilities, and supported by the training of staff on incorporating DRR into the construction / development of these facilities and coordination at all levels.

3. Three Pillars of Water and Sanitation Planning. A systematic process for sustainable development, allocation and monitoring of water resource use in the context of social, and economic and environmental objectives:

- Moving towards an enabling environment of policies, strategies and legislation for sustainable water resources management and development;
- Putting in place the institutional framework through which these policies, strategies and legislation can be implemented;
- Setting up the management tools required by these institutions to do their job.

4. The Basic Principles of Water-related Disaster Risk Reduction

- A holistic approach to managing the water cycle;
- Integration of land and water management;
- Adoption of a sound mix of structural and non-structural management strategies
- Ensuring participation;
- Adoption of integrated hazard management approaches;
- Breaking the poverty cycle through improved risk management.

5. Key Indicators of Effective Water Related Risk Reduction. Guidelines on reducing water-related disaster risks should be based on following key indicators of an effective national system for water-related disaster risk reduction:

- National risk assessments based on hazard data and vulnerability information are available and include risk assessment for key sectors
- Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities;
- Early warning systems in place and reaching and serving people at the community level;
- National public awareness strategy for water-related disaster risk reduction exists for all communities and people of all education levels;
- School curricula include water-related disaster risk reduction and instructors are trained in water-related disaster risk reduction at national through local levels;
- Land use development zoning and plans, building codes, and other national and local laws and regulations are in place;
- Water-related disaster risk reduction assessments are required for major infrastructure project proposals
- Water-related disaster risk reduction preparedness plans and contingency plans are in place at all administrative levels, and regular training and rehearsals are conducted to test and develop water-related disaster risk reduction response programmes;
- Capacity building and equipment exists for water-related disaster preparedness and response
- Financial reserves and contingency mechanisms are allocated to water-related disaster risk reduction.

### 1. Physical Measures for Mainstreaming DRR into Water and Sanitation Facilities

- Elevated concrete platform for tube-wells.
- Elevated level for sanitary latrines with the prevention of any kind of leaching.
- High wall or embankment all around the ponds.
- Women friendly and "comfortable" technology for "children, old people, and disabled people".

### 2. Common Practices Related to Water and sanitation

- Use of bleaching power, alum and water purification tablets.
- Slightly raised platform of tube-wells but the height or level of the platform were not built according to the last mentionable flood level
- There should be community awareness building programmes to understand the direct and indirect effects and costs of Water and Sanitation facilities due to disaster. Comprehensive and regular capacity building process of the community and other stakeholders is needed to increase and maintain their ability to face any future disaster.

- Due to lack of technological innovations, Water and Sanitation coverage in many places goes down during and after disaster. Therefore, it will be important to ensure the sustainability of the Water and Sanitation facilities in the study areas. An action research towards the innovation of a low cost and sustainable technology will be essential.
- Capacity building of the Local Government Institutes (LGIs) and Local Communities including civil society could be an opportunity to ensure sustainability of Water and Sanitation facilities during and after disaster.
- Local resource mobilization needs to be explored to reduce dependency on the external support agencies. Both community participation and local resource mobilization will be vital for sustainability of the Water and Sanitation projects.
- The role of community people will be vital in the advancement of a low-cost and disaster friendly Water and Sanitation facilities in the disaster prone areas. The respective authorities can maximize the efforts from community people for the installation and maintenance of the community Water and Sanitation facilities.
- It is highly recommended to have a provision of regular, active and effective pre- and post-disaster community consultation facilities with the community people in presence of the representatives from all related agencies.
- Dissemination of messages related to disaster preparedness in the disaster prone areas is essential. Simple and easy to understand communication materials should be developed for distribution. These materials can be used through different NGOs/GOs working in the disaster prone areas of the country.
- Institutionalization of the existing committees has to be ensured as they are the permanent actors of local community. This can be done by ensuring actual bottom-up rather than a top-down approach in the decision making process.
- A big push is needed to overcome the local and traditional beliefs and practices, such as women should collect the water and the absence of community participation in the decision making on Water and sanitation issues. Such mindset makes individual and community especially vulnerable.
- For taking any new initiatives in the form of piloting, gender, environment, poverty, governance and local culture must be included as cross cutting themes.
- The scope of DRR TWG is restricted to the early recovery phase. However, there will be some overlap as early recovery cannot be completely separated from the reconstruction phase.

**Possible Shortfalls, their Impact and Mitigation Measure:**

	Shortfalls in the Facilities/Activities	Potential Negative DRR Impact	Proposed Mitigation Measures
1	Absence of land use plans leading to siting of Water and Sanitation facilities at land vulnerable to	• Siting of these facilities at slopes/ land sliding areas can result in damage to these facilities and render the unusable in case of	• The Location should not be at the edge of a slope, near the foot of a mountain vulnerable to landslides, near creeks, rivers or bodies of water that could

## Training Manual on Mainstreaming DRR

<b>2</b>	Lack of building codes and standards for the infrastructure	<ul style="list-style-type: none"> <li>• Unsafe buildings codes can endanger both the staff and the facilities.</li> <li>• The designs may not suit the local environment and culture.</li> <li>• The facility may not be available for the service delivery during an emergency following a disaster.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and enforce safe building codes for multiple hazards like floods, earthquake and windstorms.</li> <li>• Develop designs suitable to local environment and customs.</li> </ul>
<b>3</b>	Additional engineering works for improving the safety of the buildings	<ul style="list-style-type: none"> <li>• A building needing retrofitting can be unsafe both the staff and the patients.</li> <li>• A Water and Sanitation building located in low lying area may be vulnerable to flooding unless an embankment is constructed around it.</li> <li>• A building located at slop will be vulnerable without the support of a retaining wall.</li> </ul>	<ul style="list-style-type: none"> <li>• There should be no major structural cracks on structural members. Minor or hairline cracks should be investigated by a qualified civil or structural engineer and determined to be localized and repairable.</li> <li>• Carry out proper retrofitting and ensure quality control through regular monitoring.</li> <li>• Construct an appropriate bund / embankment to make the building safe for use during an emergency.</li> <li>• Construct an appropriate retaining wall to provide required protection to the building.</li> </ul>
<b>4</b>	Coordination between the relevant sectors/ stakeholders	<ul style="list-style-type: none"> <li>• Lack communication and coordination between the</li> <li>• Various national and international stakeholders can result in duplication of efforts in some areas and leaving gaps elsewhere.</li> </ul>	<ul style="list-style-type: none"> <li>• Improving the communication and coordination between the various stakeholders within the Water and Sanitation sector, as well as outside the health sector.</li> <li>• Establishment of a well defined and efficient coordination mechanism at union council level, district level, provincial level and national level.</li> </ul>
<b>5</b>	Capacity building of the staff / Sanitation workers.	<ul style="list-style-type: none"> <li>• Lack of capacity/ incompetence of the staff can result in to a total failure of the services during a disaster situation.</li> <li>• Otherwise trained staff may not be trained to function efficiently during a natural disaster.</li> </ul>	<ul style="list-style-type: none"> <li>• Update knowledge and skills about hazards and risk reduction.</li> <li>• Train the Sanitation workers in operating efficiently under a disaster situation.</li> </ul>
<b>6</b>	Co-location of tap water lines with sewage lines.	<ul style="list-style-type: none"> <li>• Can result in mixing of the two and non availability of clean drinking water.</li> <li>• Water-borne illnesses can spread very quickly at IDP camps.</li> </ul>	<ul style="list-style-type: none"> <li>• Water and Sanitation pipelines should be at a safe distance from the sewage lines.</li> <li>• Water samples from outlets should be tested for contamination.</li> <li>• Continuous monitoring of drinking water at shelter/camps is mandatory to prevent breakout and spread of water-related diseases.</li> </ul>
<b>7</b>	Accessibility of Water and Sanitation facilities	<ul style="list-style-type: none"> <li>• Disasters can render Water and sanitation abilities</li> </ul>	<ul style="list-style-type: none"> <li>• Elderly, the disabled and injured.</li> <li>• Public-use Hand pumps and tube</li> </ul>

		<p>inaccessible.</p> <ul style="list-style-type: none"> <li>• Locating Water and Sanitation facilities without considering social and cultural aspects.</li> </ul>	<p>wells should be installed and strategically spaced out in disaster-prone areas. Provisional emergency shelters such as schools and hospitals should have groundwater access where possible.</p> <ul style="list-style-type: none"> <li>• Affected families should be supplied with water containers such as Jerry cans and buckets which should also be priority relief goods.</li> <li>• Maximum allowable distance between houses and water collection point: 500 meters.</li> </ul>
8	Neglect of gender issues	<ul style="list-style-type: none"> <li>• Local and traditional beliefs</li> <li>• Such as women should collect the water, women should not go out in public and only men should make important decisions can be a hindrance in providing assistance to women and to families headed by women.</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate location and appropriate technology for water and sanitation systems (design, type, cost and affordability), using appropriate facilitators where necessary and ensure convenient times and locations.</li> <li>• Ensure equitable and dignified access to distributions of hygiene-related materials; ensure materials are appropriate for users. Consult with women on appropriate menstrual cloths, smaller containers for children to collect water and appropriate shaving materials for men.</li> <li>• Security of the women should be ensured at both household and community level. As in many cases it was found that women face sexual harassment while going to latrine at night or at shelter houses. The latrines and water points should be in a safe place where there is enough light and air.</li> <li>• Separate toilet for every 10 males and females living in the shelter house has to be ensured.</li> </ul>
9	Neglect to address sanitation issues	<ul style="list-style-type: none"> <li>• Poor sanitation conditions can lead to outbreak of diseases.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of Latrines (Pit/Pore Flush)</li> <li>• Provision of latrine Slabs</li> </ul>

			<ul style="list-style-type: none"> <li>• Provision of Latrine construction tools</li> <li>• Paved streets and drainage particularly at camps</li> <li>• Washing / Bathing places in camps/Provision of Garbage Bins at camps, schools or public places</li> <li>• Provision of Wipers (<i>Jharoo</i>)</li> <li>• Polyethylene bags for disposal of excreta (<i>if latrines are not available</i>)</li> </ul>
10	Non adherence to routine hygiene measures	<ul style="list-style-type: none"> <li>• Though minor issues non adherence to the routine hygiene measures can also become serious challenge to maintenance of good health</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of Soaps (<i>Washing / Bathing</i>)</li> <li>• Provision of Combs, Nail Cutters, Tooth Brushes / Pastes, Prickly Heat Powders etc.</li> <li>• Hygiene Kit (<i>Particularly for Women - inclusive of menstruation pads</i>)</li> <li>• Hygiene Awareness - Communication (<i>Radio, Community sessions, school sessions etc</i>)</li> </ul>

### Mainstreaming DRR in sectoral plan: Education

#### **Basic concepts of DRR in Education sector<sup>22</sup>:**

##### **Child-centered approach to DRR**

The education sector, while planning DRR, must take a child-centered approach to DRR. While doing so it has to focus on specific risks faced by children. Obviously gender always importantly matters in disaster contexts, it is also the children and their education suffer a lot. Moreover disaster can exacerbate the pre-existing fragility. Young men may face forced recruitment into the military or armed groups. As economies are strained, for instance, children are frequently withdrawn from school to support the home. 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. It is always important that involving children in initiatives to reduce disaster risks pay better dividend. DRR as critical thread to connect humanitarian action to development programmes: enabling children to realize their right to education.

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<sup>22</sup>Mainstreaming DRR in the Education Sector, UNICEF (2016)



**Pillars of DRR in Education:**

It is understood that to promote DRR in education is fundamentally dependent upon three important pillars as follows:

- Promotion of DRR in teaching and learning
- Provision of safe school environments
- Promotion of school safety and disaster management

**Mainstreaming Approaches:**

<b>Safe Schools</b>	Unsafe school buildings constructed in areas prone to various hazards of nature have suffered extensive damages during earthquakes, landslides, cyclonic storms, etc., resulting in the death of many schoolchildren and teachers, which could have been prevented had the structures been built with disaster-resistant building designs. Schools, colleges and universities are important institutions that produce new generations of leaders and workers through education, awareness, knowledge and skills <sup>23</sup> .
<b>Curriculum integration Teacher training Policy development Educational continuity</b>	Education and awareness about disasters at the school level and advanced learning on various scientific, technical and professional aspects of DRM in universities and in engineering, medical and management schools can help to create a culture of disaster prevention and preparedness in a country and create a professional pool of experts. Hence, education is an important sector in which DRR can be mainstreamed in a significant way.

Essentially, the mainstreaming of DRR within education can be done through three strategic interventions:

1. First, disaster management education should be made compulsory in the curriculum of school education so that every child is aware of natural hazards and the measures that should be adopted in schools and at home to protect them from injuries during a disaster. Such education should be imparted in innovative ways through drills, exercises, film shows and other means so that students do not find them to be an additional burden. This would require revision of school curricula, the development of textbooks and teaching aides and the training of teachers.
2. Second, DRR requires advanced scientific, technical and professional skills on subjects like earthquake engineering, meteorology, hydrology, communication

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<sup>23</sup>Mainstreaming disaster risk reduction for sustainable development: A regional guidebook for the Asia-Pacific (2017)

technology, disaster medicine, psychosocial care and emergency management. Thus, colleges, universities and technical and professional institutes should design advanced courses that respond to the demand for human resources in all areas of DRM specialization.

3. Third, every school building must be made resistant to disasters by following earthquake- and other disaster-resistant building designs and technology. Similarly, disaster safety audits of all school buildings should be conducted; all unsafe schools must be retrofitted to make them resistant to disasters. This will be a relatively difficult task because the technical and financial resources necessary for such retrofitting may not be available. Education departments should put forward a strategy to prioritize a school-safety programme for high-risk schools in high-risk zones. The programme then can be extended to other areas in a phased manner.

### **Challenges:**

Following issues may pose challenges to the efficacy of Mainstreaming DRR in the Education Sector:

- Out-of-school youth; informal education
- Lack of dialogue among ministries of DM, education, public works, communication

### **Session: 3**

#### **DRR in Local Level Planning**

Session objectives:

The purpose of the session is to introduce the trainees with the importance of localising DRR and how to Integrate DRR into development planning at local regional and sectoral level.

Learning Objectives:

The session is designed as such that at the end of the session the participants will be able to understand:

- The importance of localizing DRR
- Integrating DRR into development planning at local regional and sectoral level
- Why awareness-raising from grass root level to national level should be the top most priority
- Integrating DRR into the Development Process in Bangladesh:

Lecture Format:

- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Handouts
- Group work/presentation
- Case studies

#### **Introduction:**

Disaster risk is context specific; It is experienced in particular places and times, in ways that shape 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 centrally 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 importance of localizing DRR:

- 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.
- The local level is where the basic environmental management and regulatory governance functions that are essential for effective DRR are concentrated.
- It is at the local level where governments and communities can best engage with each other and work together.
- Local DRR goes hand-in-hand with the promotion of local development management and local environmental management.
- Local actors are the first responders should a disaster occur, hence feedback and adjustments can be adopted and implemented more quickly and according to the specific context.

It is important to emphasize that local DRR and DRM are not limited to the municipal political- administrative boundaries. More and more, 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 between municipalities, cities and local governments. However, there are a few reasons that explain why the municipal scale (and the city/ municipal/local government) has such a strong relevance when referring to local DRR and DRM, namely:

- DRM requires relatively consolidated and sustainable organizational and institutional structures.
- Local governments are the “first port of call” for citizen concerns on risk and vulnerability and therefore can face intense pressure to act.
- Local governments bear the ultimate responsibility for the safety of their citizens and communities.
- Local governments are in charge of promoting local development, and therefore offer a real option for linking DRR with development.
- Local governments have normative and control responsibilities.

### **Integrating DRR into development planning at local regional and sectoral 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.

With a view to integrating DRR into development planning at local regional and sectoral level a series of activities has to be accomplished as follows:

**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 appropriately hazard-resilient infrastructure and targeting vulnerable groups. The hazardous mapping should be both at local, regional and national level.  
For example, for any development project undertaken in any locality of worth BDT 50 lacs to one crore, there must be a hazardous mapping with respect to DRR and mitigation measures to be approved by the competent authority upazilaparisha or LG Ministry. 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 to be place.
- Disaster losses with respect to disaster prone and vulnerability of DRR.  
Bangladesh has relatively good historical disaster loss data as compared with many other developing countries. However, there have been some significant shortcomings in the intensive damage assessment process. The most critically relating to the fact that the country has lacked comprehensive damage assessment guidelines or a standardized methodology for assessing damage in most sectors (except, apparently, crude estimate in the field of agriculture). Immediate attention needs to given for developing standardized methodology and damage assessment guidelines;
- 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.

### **Integrating DRR into the Development Process in Bangladesh:**

The circular on Development Project Proforma/Proposal (DPP), 2016 is the embodiment of government's legal/administrative framework on development planning process containing an elaborate process, underlying principles and required set of formats. Consisting of 24 annexures it detailed out the whole process of development planning exercises.

While the annexure 1 contains the Development Project Proforma/Proposal (DPP), the part A gives the outline as to how to prepare the project summary. The part B gives the conditionality of project details. The para 24 of part B is all about the effect/impact, adaptation and specific mitigation measures<sup>24</sup>:

#### **24.0 The effect/impact, adaptation and specific mitigation measures thereof, if any, on**

- 24.1 other projects/existing installations
- 24.2 environmental sustainability like land, water, air, bio-diversity, ecosystem services (If the project is 'Red Category' attach the EIA document)
- 24.3 future disaster management, climate change
- 24.4 gender, women, children, person with disability/excluded groups' needs
- 24.5 employments
- 24.6 poverty situation
- 24.7 organizational arrangement/setup
- 24.8 institutional productivity
- 24.9 regional disparities
- 24.10 population

### **DRR in Action: Case Study**

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

Principle 1: Empowerment of local authorities and communities through resources, incentives

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<sup>24</sup>The circular on Development Project Proforma/Proposal (DPP), 2016

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.

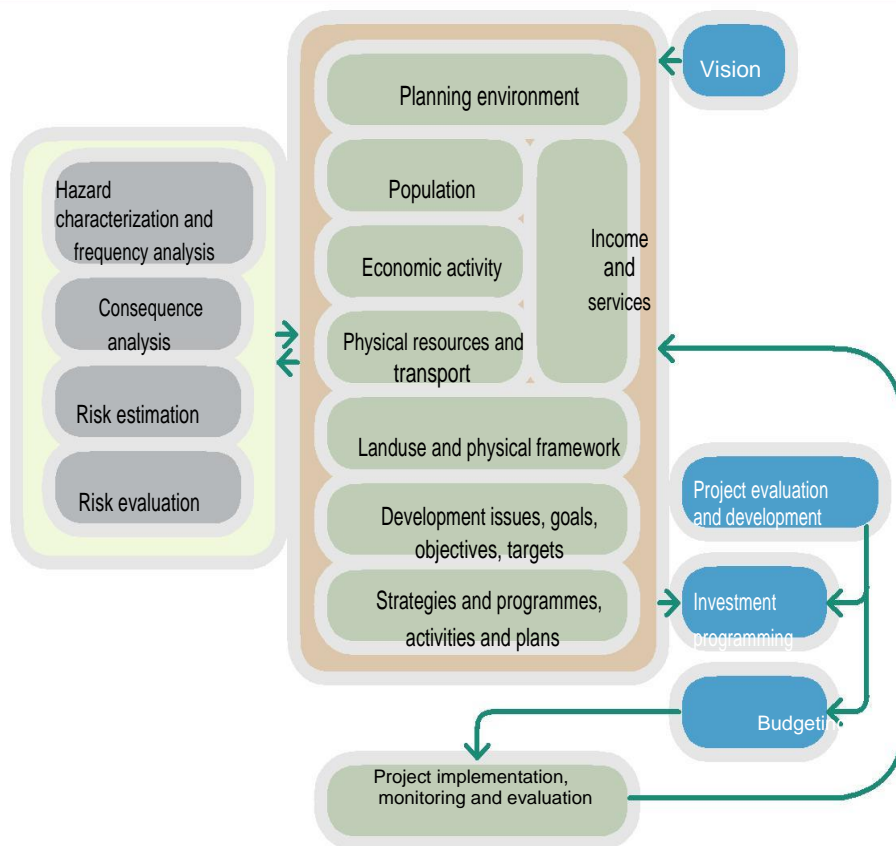
Principle 3: Primary responsibility of States to prevent and reduce disaster risk, including through Cooperation from all sectors and stakeholders.

**Case Studies**

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.<sup>25</sup>

**Philippine guidelines on mainstreaming disaster risk reduction within sub-national planning**



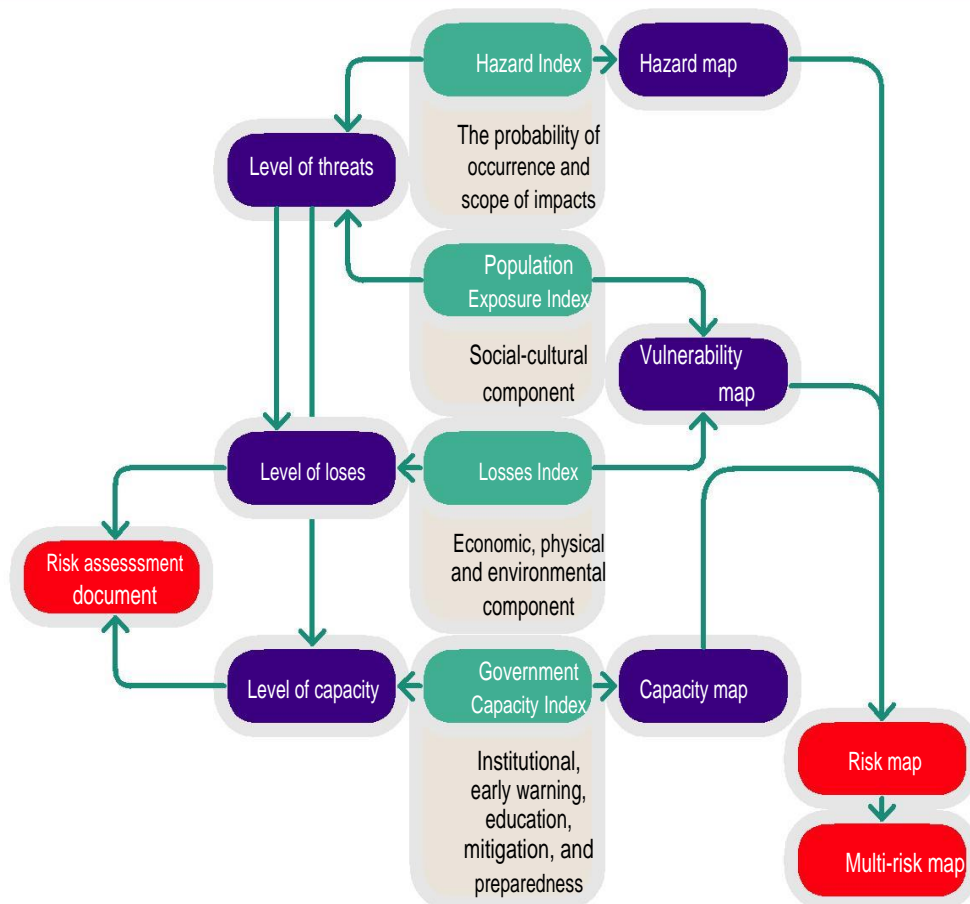
<sup>25</sup>Mainstreaming Disaster Risk Reduction for Sustainable Development: A Guidebook for the Asia-Pacific: [https://scholar.google.com/scholar?q=Mainstreaming+disaster+risk+reduction+for+sustainable+development:+A+regional+guidebook+for+the+Asia-Pacific+\(2017\)&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar](https://scholar.google.com/scholar?q=Mainstreaming+disaster+risk+reduction+for+sustainable+development:+A+regional+guidebook+for+the+Asia-Pacific+(2017)&hl=en&as_sdt=0&as_vis=1&oi=scholar)

The Philippine provincial governments guidelines may be replicated in case of Divisions/ District level DRR planning process. The criteria followed include;

- i. identifying areas that are highly prone to disaster risk;
- ii. selecting the indicators that identify and describe vulnerability and potential resilience including their integration within the national DRM framework;
- iii. undertaking different decisions with respect to land use pattern and the extent of risk assessment, for example, agricultural use of food-prone areas might be allowed, unlike the land used for settlements; and
- iv. developing disaster risk criteria in land-use planning and ecological zoning, particularly in urban areas.

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.

**Indonesian Example: Risk mapping and risk assessment in the Disaster Risk Index**





The legal mandates for the preparation of district and subdistrict disaster management plans in many countries has created opportunity for mainstreaming DRR within local development planning, but in the absence of systematic guidelines, the opportunities have hardly been utilized. The National Disaster Management Authority of India developed a model framework of a district disaster management plan.<sup>26</sup>

### Recent cases of integration of local communities in DRR

**Legal Initiatives in Vietnam:** Vietnam's made a new law name "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 program.

**Legal Initiatives in Mongolia:** The 2017 Law on Disaster Protection of Mongolia, made provisions for multi-stakeholder national and local platforms to be integrated into the new institutional structure, including establishing local disaster risk reduction and disaster protection councils. This Law illustrates a more inclusive and participatory approach to DRM Decision making.

These cases studies illustrate how DRM Governance frameworks can be made more inclusive and ensure involvement of people especially women, marginalized and vulnerable groups to protect - local communities. Scale-up Local Voices and Leadership, particularly amongst women and marginalised groups, in climate smart DRM decision-making, including in the development and implementation of laws, strategies and plans.

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<sup>26</sup> See the Model Framework for District Disaster Management Plans (NDMA, 2014). <https://ndma.gov.in/images/policyplan/dmplan/DDMP.pdf>

### **Session: 4**

#### **Global Framework for DRR**

Session objectives:

The purpose of the session is to introduce to the trainees with emerging global framework for DRR and how it evolved over time.

Learning Objectives:

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

- The changing landscape in disaster perception, the paradigm shift in disaster management concepts.
- To grasp the details of the Hyogo Framework for Action (HFA) 2005–2015
- The process of graduating from HFA to Sendai Framework for Disaster Risk Reduction (SFDDR).
- Global experiences on mainstreaming DRR
- How Bangladesh is responding to Sendai Framework

Lecture Format:

- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Handouts

#### **Introduction:**

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 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. Aimportant 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 and the World Bank, 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.

In 2009, UNISDR ARSG encouraged national assessments of the safety of existing education and health facilities by 2011, and the development and implementation of concrete action plans for safer schools and hospitals by 2015 as was agreed at the Global Platform (GP) in May 2009. In 2010, the UNISDR ARSG was particularly rich in capturing the impacts of disasters on health and hospitals. In 2011, the ARSG report noted that drought remains a hidden risk, poorly understood despite its impacts on human health, livelihoods, and multiple economic sectors as drought leads to stress and insecurity for rural and pastoral populations.

### A. The Global Platform (GP):

The GPs for DRR were held biennially from 2007 to 2013 and provided a forum for member states and other stakeholders including the scientific community and civil society organizations to assess progress on the implementation of the HFA by drawing on information from the relevant scientific and policy fora and the online Hyogo Framework Monitor.

### B. SFDRR: An All-Hazards Approach

Sendai Framework for Disaster Risk Reduction (SFDRR) 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 a clear outcome, goal, seven global targets, and four priorities for action. Five of the seven global targets are particularly relevant to health<sup>27</sup>:

- (a) Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020 and 2030 compared to 2005–2015;
- (b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020 and 2030 compared to 2005–2015;
- (c) 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;
- (d) Substantially increase the number of countries with national and local DRR strategies by 2020;
- (e) Substantially increase the availability of and access to multi-hazard early warning<sup>28</sup>.

### Seven Targets SENDAI FRAMEWORK to achieve by 2030

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<sup>27</sup>Amina et. al (2015)

<sup>28</sup>UNISDR 2015 (pp. 7–8), <https://www.unisdr.org/we/inform/publications/48588>

### **Substantially reduce:**

- a. Global Disaster Mortality
- b. Number of Affected People
- c. Economic Loss in relation to GDP
- d. Damage to Critical Infrastructure and Services Disruption

### **Substantially Increase:**

- a. Number of countries with National and local DRR strategies
- b. International Cooperation to developing countries
- c. Availability and access to early warning systems and DRR information

### **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
- 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

### 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
- Addressing 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

### Paris Agreement, 2015

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 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".<sup>29</sup> 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.

### Global experiences on mainstreaming DRR:

There has yet to be a robust body of action by most of the respective national Governments in the South Asian region, including Bangladesh, for mainstreaming DRR in the development processes. However, there are a few practices from other regions that showcase the inclusion of disaster risk reduction in development. In Costa Rica, for example, citizens and businesses are better able to protect their assets against disaster losses because of ground breaking legislation to change the regulatory environment of the insurance industry.

Another example which relates to the partnership between World Bank, UNDP and other development actors in Madagascar signifies how the country has given the highest possible profile to disaster risk management. A \$1.2 million GFDRR grant is helping the Government develop a National Disaster Risk Reduction and Climate Change Adaptation Plan, strengthen national and regional risk assessments, develop cyclone-proof standards for major infrastructure, establish a disaster contingency fund and expand emergency planning capacity.

Similarly, Republic of Yemen has emerged as a flagship country for institutional capacity and consensus building on the importance of disaster risk reduction. With GFDRR support, the Government is developing a national strategy for disaster risk management, new national risk reduction laws, a national risk assessment, disaster risk reduction awareness and education programmes and improved coordination between public and private partners, including civil society. Most of these initiatives are supported by multilateral and bilateral organisations through respective national Governments and there is absolutely negligible action by the Governments taken on their own.

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<sup>29</sup> 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](https://unfccc.int/sites/default/files/english_paris_agreement.pdf)



### **Session: 5**

#### **National Policy Framework and Action plan for DRR in Bangladesh**

##### Session objectives:

The purpose of the session is to acquaint the trainees with national policy framework of DRR and how Ministry of Disaster Management and Relief (MoDMR) is increasingly committing itself to face the challenge of these emerging issues.

##### Learning Objectives:

The session is designed for participants with no or little prior knowledge on the topic. At the end of the session, participants are expected to understand:

- The mandates of Ministry of Disaster Management and Relief (MODMR) in relation to national policy framework of DRR
- Disaster Management Act
- Standing Orders for Disaster (SOD0 and revised SOD
- Disaster Management Framework and Key Policies/Programmes
- National Plan for Disaster Management (NPDM)

##### Lecture Format:

- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Hand outs
- Group work/presentation

### **Introduction:**

The Ministry of Disaster Management and Relief is mandated<sup>30</sup> 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 summarised as:

- Formulation, review and execution of legislation, policies, plans, procedures, standing orders and guidelines in relation to overall disaster risk reduction

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<sup>30</sup> 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&aq=Allocation+of+Business+among+the+different+Ministries+and+Divisions&ags=chrome..69i57.1582i0j4&sourceid=chrome&ie=UTF-8>

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 line 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;
- b) The Millennium Declaration (MDG) to protect the vulnerable from the consequences of natural disasters
- c) The National Plan for Disaster Management 2010-2015 d) the Hyogo framework for action (HFA) 2005-2015 and e) the SAARC Framework for Action (SFA) 2006-2015.

This international guidance is included in national drivers like the SOD and the NPDM. In light of MDG and HFA expiring in 2015, DM issues in the 7<sup>th</sup> 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 disabled and other socially marginalized groups will be primary beneficiaries of all disaster management efforts.

**Disaster Management Act (DMA) 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.

The DM Act 2012 emphasizing 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.

**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 brought in Revised SOD in 2019

However 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:

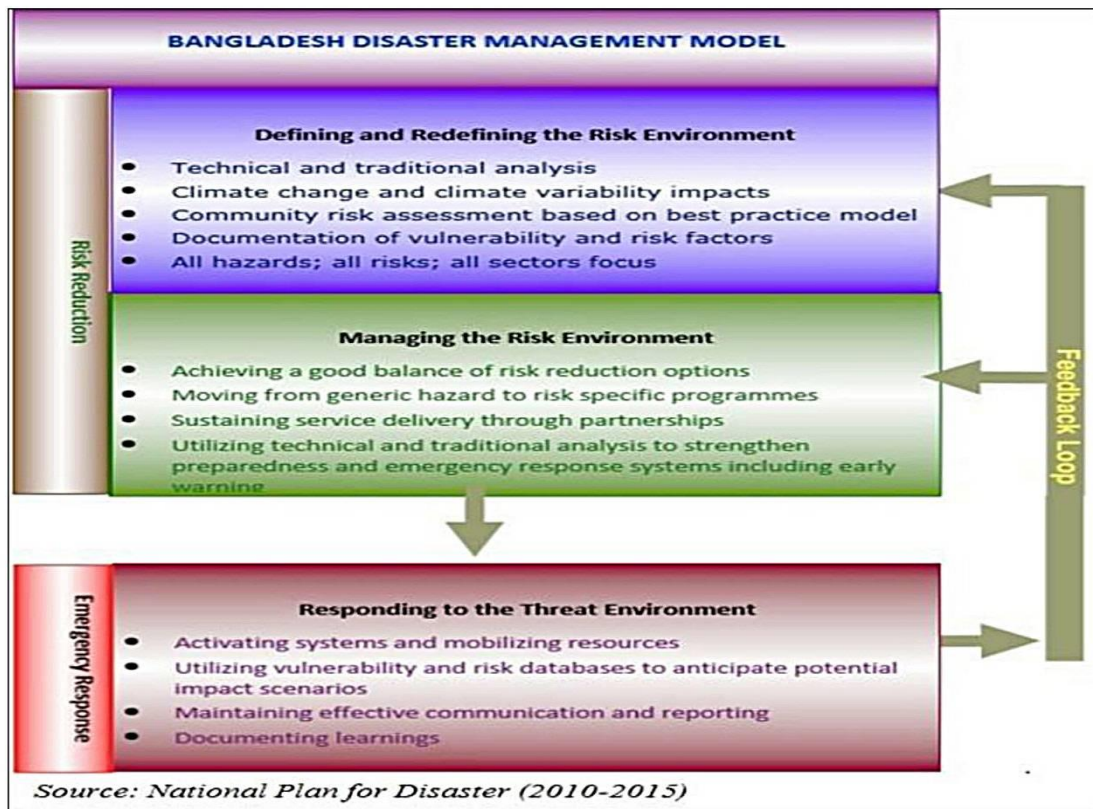
- Preamble: Inclusion of SFDRR 2016-30, SDGs -30 and Delta Plan 2100
- Definition: 23 new definition added, Total -61
- Policy and Framework: Policy and Framework in DRR has been revised and extended
- “Regulatory Framework” part has been renamed as “Policy and Framework in DM
- Committee Formation: 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 included in the national Committees
- New DM Committees formulated at WARD level in City, Poursava 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

**Disaster Management Policy:** The Disaster Management (DM) Policy has recently been approved by the Government of Bangladesh. 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.

**National Plan for Disaster Management (NPDM):** The National Plan for Disaster Management is an outcome of the HFA and of the process of regional cooperation in South Asia. The NPDM 2010-2015 envisages a group of broad-based strategies:

- Disaster management would involve the management of both risks and consequences of disasters that would include prevention emergency response and post-disaster recovery.
- Community involvement for preparedness programmes for protecting lives and properties would be a major focus. Involvement of local government bodies would be essential part of the strategy. Self-reliance should be the key for preparedness, response and recovery.
- Non-structural mitigation measures such as community disaster preparedness training advocacy and public awareness must be given a high priority; this would require an integration of structural mitigation with non-structural measures.

NPDM illustrated the Disaster Management Model<sup>31</sup>, which dictates disaster management activities in Bangladesh. It comprises of 2 main elements namely Disaster Risk Reduction (DRR) and Emergency Response. DRR includes defining and identifying the risk environment through rigorous analysis, and managing the risk environment. Responding to the threat environment falls under emergency response.



**Disaster Management Activities under implementation:**

The Government has expressed its commitment to reducing the harsh impacts of disasters and improves disaster management. During the 6<sup>th</sup> FYP, Bangladesh made good progress in moving towards resilience. Its accomplishments can be summarized under four broad categories:

**Mainstreaming DRR and CCA:** The Disaster Management Act (2012) has been implemented and a Disaster Management policy has been approved. The Disaster Management Policy will provide guidance, plan and help prepare for all types hazards and disaster. Department of Disaster Management was also established to implement DM Act 2012. DPP (Development Project Proforma) process has been amended to require climate and disaster risk analysis for new development projects prior to their approval.

Earlier, the Comprehensive Disaster Management Programme (CDMP) was launched to facilitate the reform of the disaster management approach by expanding its focus from

<sup>31</sup> <http://extwprlegs1.fao.org/docs/pdf/bgd146945.pdf>

reactive emergency responses to proactive risk reduction. The National Curriculum and Text Book Board (NCTB) has been supported to incorporate DRR and CCA into education.

**DRR Strategies:** A number of strategies have been pursued to better implement DRR. Seismic micro zonation atlases for 9 major cities have been prepared. Multi hazard vulnerability assessment cell has been established at DDM. Hundreds of structural and non-structural risk reduction projects at the local level have been implemented by a range of actors including the Government. These have benefited millions of people.

Massive efforts are underway to create shelters for disasters and to make communities more resilient. During sixth plan period a total of 107 cyclone shelters have been constructed in 13 districts of coastal area of Bangladesh. Besides, additional 400 shelters are targeted to be built by 2020 in all over the coastal belt. Besides, 10,103 resilient houses have been built in Alia affected areas of Chittagong, Barisal and Khulna Division during 2010-2014, out of which 7,938 have been constructed with the assistance of GoB contributed Climate Change Trust Fund. The Government has targeted to build 97,000 resilient houses with support of Asian Development Bank in year 2015-2020. The Government has initiated the Emergency Cyclone Recovery and Restoration Project (ECCRP) to build multipurpose cyclone shelters. During Cyclone *Mahasen*, an estimated 40,219 people and 4307 livestock used ECCRP's new and upgraded shelters. MoDMR is also constructing food shelters, procuring search and rescue equipment for earthquakes and other disasters.

**Disaster Preparedness, Warning and Response:** In order to promote awareness on disaster-related information, an Interactive Voice Response (IVR) system has been initiated. The IVR can be accessed through any mobile phone and provides information such as weather updates, cyclone warnings, and information for sea-going fishermen. Disaster Management Information Centre (DMIC) has also been established to disseminate disaster related information and early warning in a coordinated way. Initiatives have been taken to send disaster alert through SMS to Union Information Service Centre from DMIC.

An Emergency Response and Communication Centre (ERCC) and a National Disaster Management Research and Training Institute (NDMRTI) will be established under the Urban Resilience Project.

**Post-Disaster Recovery, Reconstruction, and Rehabilitation:** In the sixth plan period, spending on Social Safety Net (SSN) has been substantial. GoB runs Gratuitous Relief, Test Relief, Food for Work, Cash for Works and Employment Generation Programme for the Poorest (EGPP) with SSN allocation.

### **Case Study: Rana Plaza Building Collapse**

Rana Plaza Building Collapse event of 2013 demonstrated the limitations of the disaster management preparedness and taught 4 types of actions needed as immediate response:

1. Search and Rescue: Fire Service and Civil Defence (FSCD), Army, Police, Volunteers (Trained and Not-trained)
2. Sending injured persons to hospitals for treatment; Ensuring Medicine, Cash, etc.- DDM through DC Dhaka
3. Disposal of dead bodies to the relatives with transport and other (funeral) cost- DDM through DC Dhaka
4. DNA test of unclaimed dead bodies and Funeral – DDM/ Hospital

### **Session: 6**

#### **Inclusiveness in DRR**

##### Session objectives:

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

##### Learning Objectives:

The session is designed for participants with no or little prior knowledge on the topic. At the end of the session, participants are expected to understand:

- The Global Mandate for Disability: Inclusive DRR
- Importance of Inclusive DRR
- The salient features of Dhaka Declaration
- The Gaibandha Model for disaster risk reduction: Case Study for Local Level Planning.

##### Methodology of the session:

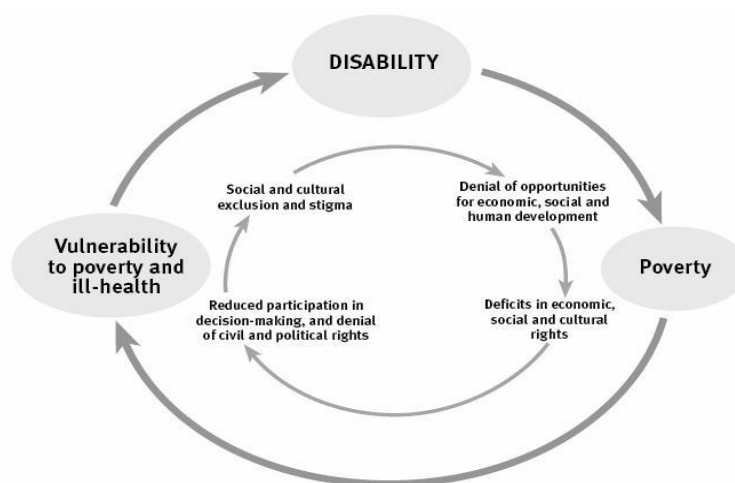
- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Hand outs
- Group work/presentation

#### **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-sectionality 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 comes with disabilities 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.<sup>32</sup>

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<sup>32</sup> Disability inclusion in disaster risk management;  
[https://www.gfdr.org/sites/default/files/GFDRR%20Disability%20inclusion%20in%20DRM%20Report\\_F.PDF](https://www.gfdr.org/sites/default/files/GFDRR%20Disability%20inclusion%20in%20DRM%20Report_F.PDF)



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. In order to bring these disabled people in the mainstream of development and in their way of life; Bangladesh has made a lot of effort for the country. There are many global and international obligations to comply with as well. The major instruments are summarized below:

Numerous international policy frameworks are available in order to guide effective implementation of disability-inclusive DRR. These include Among them are the Agenda for Sustainable Development (SDG, 2030), the Convention on the Rights of Persons with Disabilities (CRPD), the World Humanitarian Summit (2016), Paris Climate Change Agreement (2015), and Habitat III and the New Urban Agenda (October 2016). Several policy frameworks are especially relevant to disability-inclusive DRR, these are briefly described below. The Sendai Framework for Disaster Risk Reduction 2015–2030 adopted by United Nations Member States in 2015 sets four priorities for action to guide the development and implementation of policies on disaster risk reduction (DRR) from 2015–2030. Those priorities include: (i) understanding disaster risk; (ii) strengthening disaster risk governance to manage disaster risk; (iii) investing in DRR for resilience; and (iv) enhancing disaster preparedness for effective response and to “build back better” in recovery, rehabilitation and reconstruction. 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).

The international community recognises the inclusion as a guiding principle of DRR. This is reflected in the Sendai Framework for Disaster Risk Reduction (2015-30), which was endorsed by the UN General Assembly. It acknowledges that DRR requires an all-of-society engagement and partnership, which promotes the empowerment and inclusive, accessible and non-discriminatory participation of all people disproportionately affected by disasters, especially the poorest. Effective DRR thus requires a gender, age, disability and cultural perspective in all policies and practices. With this obligation to leave no one behind, it is now the responsibility of all actors in DRR to commit to inclusion and translate their commitment into action!

### **Importance of Inclusive DRR**

For the purpose to make the DRR inclusive, the participation of women is very important. It seen that the women, children, elderly people and persons with disability are more vulnerable than the 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 their 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 can't 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 cyclon) and cyclone Gorki (1991), and even less strong cyclones that death rate of women is much more than the men. Women and girls have less access to resources in order to cope with disasters as they are lagging behind 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 wash room and other emergency facilities for the women. In Cyclone Preparedness Programme (CPP) selection of one-third women

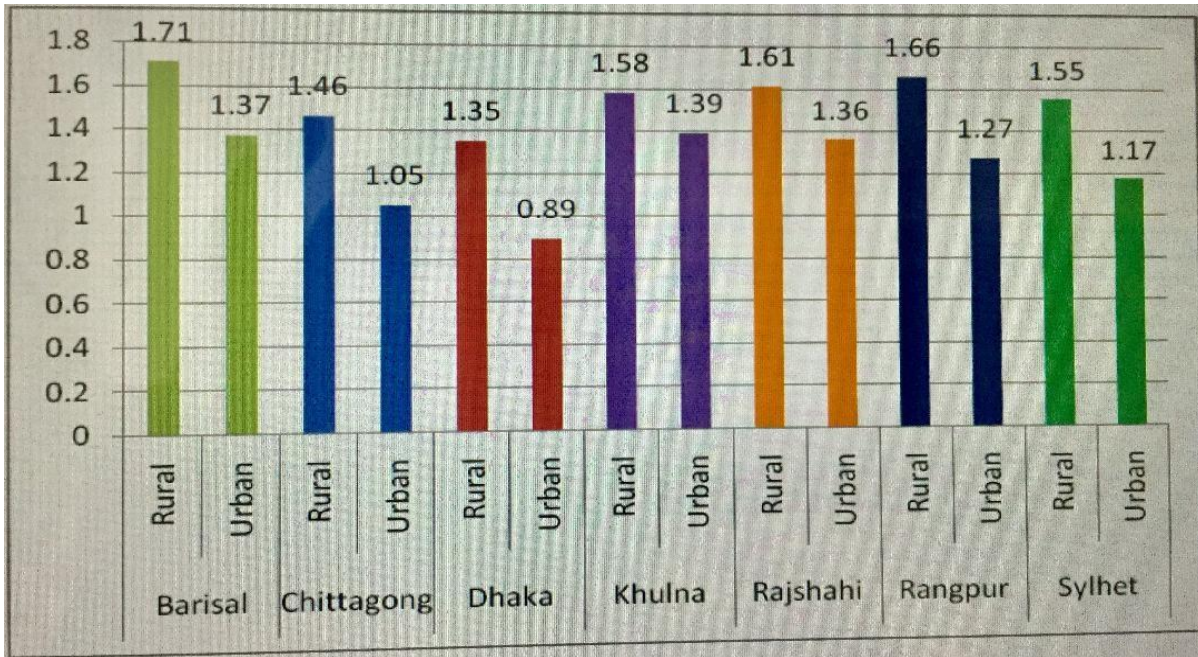
volunteers is mandatory. Women should be given scope in designing early warnings and translating the BMD and FFWC warnings into community language, building of shelters and awareness building. So, women's active role in climate change and disaster-related decision making process of resilience planning 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 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	
<b>Male</b>	0.21	0.26	0.12	0.63	0.19	0.09	3,607,174
<b>Female</b>	0.17	0.29	0.14	0.47	0.16	0.08	3,597,485
<b>Total</b>	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 urban. 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. The Act 2013 not will ensure their dignity in the society but also gives scope for participation in social 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.

### Dhaka Declaration

The Dhaka Declaration on Disability and Disaster Risk Management was adopted at the Dhaka Conference on Disability and Disaster Risk Management, which included participants from 18 countries, including representatives of governments, UNISDR, regional and international NGOs, academics, DPOs, bi-lateral and multi-lateral development agencies, and other development sector representatives. 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 concrete, 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.

### **The Gaibandha Model for disaster risk reduction: Case Study for Local Level Planning.**

Disaster risk management (DRM) envisions an inclusive world in which all people with disabilities enjoy their human rights and achieve their full potential. It is recognised that DRR goes beyond disaster preparedness; it is about building inclusive and resilient communities which can cope with and adapt to the impact of natural hazards, conflict and other causes of insecurity to protect lives and assets and safeguard development gains. To reach this goal, CBM works with local Disabled People's Organizations (DPOs). Enabling people with disabilities and their representative groups to become active agents of change is both the starting point for realising equal access and participation and the guarantor for lasting change. The Gaibandha model suggests five interlinked interventions, all of which are needed to build resilient and inclusive communities:

- i. Strengthen people with disabilities and their representative groups,
- ii. Advocate with the local government for inclusive DRM,
- iii. Build accessible DRM infrastructure and capacity for inclusive DRM at community level,
- iv. Strengthen household level disaster risk awareness and preparedness, in collaboration with schools and
- v. Promote and support sustainable, resilient livelihoods.<sup>33</sup>

The interventions need to be adapted to the local context, which begins with an assessment of the local DRM system and of the situation of people with disabilities. In the case of Gaibandha, DRM committees existed at municipal (Union) level. They had been

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<sup>33</sup> Saving lives and leaving no one behind;

[https://www.cbm.org/fileadmin/user\\_upload/DRR\\_Booklet\\_FINAL\\_-\\_Online\\_10MB.pdf](https://www.cbm.org/fileadmin/user_upload/DRR_Booklet_FINAL_-_Online_10MB.pdf)

established not long before the program started. Some flood shelters were available, but they were limited in number and inaccessible for people with disabilities. There were no DPOs in Gaibandha and most people with disabilities lived in isolation and rarely participated in community life. Within this context, the interventions were implemented at three levels: At the household level, people with disabilities were identified and supported individually with rehabilitation measures and livelihood support. Disaster awareness and preparedness of all households were strengthened. At the community level, Self-help Groups of people with disabilities and community-based Ward Disaster Management Committees (WDMC) were established. Representatives of the Self-help Groups participate in these committees. The committees collaborate with the municipal-level governmental Union DRM committees to implement DRM in the communities. At municipal level, formal DPOs, the Apex Bodies, were established, consisting of representatives from all Self-help Groups. The Apex Bodies advocate for inclusion with the Union government.

## **Session: 7**

### **Gender-Sensitive Risk Reduction and Resilience**

#### Session objectives:

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

#### Learning Objectives:

The session is designed for participants with no or little prior knowledge on the topic. At the end of the session, participants are expected to understand:

- How and why gender matters for risk informed development planning and programming.
- Gender addressed through global and National policy framework : SDG, Paris Agreement, Sendai Framework of Action, 7<sup>th</sup> Five year plan, Disaster Management Act, SOD etc
- Mainstream gender responsive resilience and DRR in the project cycle and Introduction of Gender Responsive Resilience Analysis tools/checklist
- Sex, age and disability inclusive data for in program/project;

#### Methodology of the session:

- Video on women's vulnerability and capacity in DRR context. Then have discussion on why and how gender matters followed by Video. List down different vulnerabilities and capacities between men and women from this discussion.
- Make 4/5 group, each group select one paper that relates to one policy framework. Group will tell others what gender commitment from that policy framework are. Sum up with key gender issues from policy framework. Stock taking of current practice to identify where gender commitments of policy framework works well and what are challenges to address those gender commitments.
- Power Point Presentations on Mainstreaming of gender responsive resilience/ gender responsive DRR and Analytical tools/checklist for it
- Power Point presentation on SADDD.

#### Supporting training materials

- **Readiness of relevant Video on Women's Vulnerability and capacity. One might be <https://www.youtube.com/watch?v=-88CwktEwd>** it's title is when women take charges

- **Readiness of Paper on Gender Commitment related to disaster from various global and national policy documents (Sendai Framework of Action, UNFCCC, National Women Development policy, National Disaster Management Policy 2015t, etc)**
- **Mainstreaming of Gender Responsive resilience/ Gender Responsive DRR and analytical checklist**
- **Readiness of Power Point Presentation on SADDD**
- **Multi media with screen and sound**
- **White Board**
- Handouts

### **Introduction: The shift from gender-sensitive to gender-responsive action**

Globally, women's heavy dependence on natural resources and its associated products also means that they often have more at stake than men when these resource bases are challenged, degraded or access to them is withheld/denied.

When it comes to solving complex problems through innovative solutions, such as for adapting to and mitigating climate change, a diverse group of competent performers almost always outperforms a homogenous group by quite a large margin. The more diverse stakeholders are, the more likely they will still succeed in the face of uncertainty and ambiguity because each person puts things into categories based on his or her background and experience. For example, in the context of climate change forest related initiatives, it can mean the difference between a woman as vulnerable and immobilized or as an empowered agent of change. Therefore, we need to move towards being not only gender-sensitive, but gender-***responsive***<sup>34</sup>.

Being gender-responsive means that rather than only identify gender issues or work under the "the do not do harm" principle, a process will substantially help to overcome historical gender biases—to "do better," so to speak—in order for women to truly engage and benefit from these actions. In addition, gender-responsive planned actions should integrate measures for promoting gender equality and women's empowerment, foster women's inclusion and provide equal opportunities for women and men to derive social and economic benefits. With this approach, women and men's concerns and experiences equally become fundamental elements in the design, implementation, and monitoring and evaluation of natural resource-related projects and policies.

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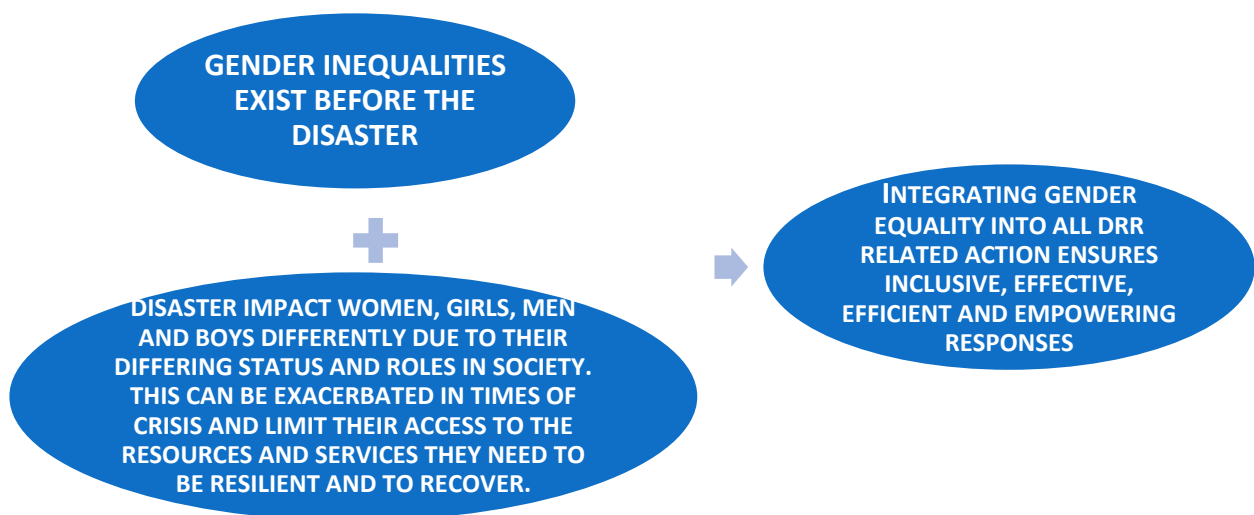
<sup>34</sup>IUCN, Gender and Environment Research Centre (2019), <https://www.iucn.org/theme/gender>

**A. What is Gender<sup>35</sup>?**

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.

**B. Why gender is equality essential to Disaster Risk Reduction?**



<sup>35</sup>Inter Agency Standing Committee (IASC), TheGenderHandbook for Humanitarian Action (2017), <https://interagencystandingcommittee.org/gender-and-humanitarian-action/content/iasc-gender-handbook-humanitarian-action-2017>



### **1. GENDER INEQUALITIES EXIST BEFORE A DISASTER**

Cultural practices regarding gender provide 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.

### **2. DISASTER 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 child care, 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.

### **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.

### C. GENDER IN POLICY FRAMEWORK

#### 1. Gender in Sendai Framework of Action:

When examining the instances where these terms are used, focussing particularly on the areas of the text where targets, indicators and recommendations are discussed, gender-related search terms total just three entries, 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, nonsensitive 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.

### 2. Gender and UNFCCC:

In step 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<sup>36</sup>:

- 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;
- 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 creating, developing and strengthening 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.

### 3. Bangladesh National Women's Policy 2011

#### **Pre-disaster, During Disaster and Post-disaster Protection of Women and Children**

- To take special measures for overall safety and security of the women and children in pre-disaster situations and to arrange for making them prepared through widespread awareness training and programs to deal the upcoming disaster.
- To rehabilitate the women and children affected by river erosion and natural calamities. To take appropriate steps for ensuring security of the women on priority basis in preparation of dealing the disaster and post-disaster rehabilitation. And to have special consideration in this case for the disabled women.

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<sup>36</sup> UNFCCC website, "Gender and Climate Change", [unfccc.int/gender\\_and\\_climate\\_change/items/7516.php](http://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)

- To take appropriate actions aimed at security of the female children during emergencies like natural disaster. To take appropriate measures to ensure availability of health materials and effective sewerage system.
- To extend needed psycho-social support along side material assistance to them by stressing the women's capability to overcome disaster emergency.
- To make social security prom more women friendly and to introduce safety work strategy.
- To take initiative to ensure the need of women in food distribution activity during the time of disaster. To put special emphases on the health of women along side food during post disaster emergency.
- To make special arrangement for the expectant mothers, post natal woman and the new born like maintaining a breast feeding corner.
- To involve in the program for distressed women welfare of the community in which the women live during and after the disaster.

### 4.National Disaster Management Policy 2015

Para 10 of the policy outlines the ways and means as how to integrate marginal and socially deprived group with disaster management<sup>37</sup>, 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 women members in all levels of disaster management committee-from village and local to national, 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.

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<sup>37</sup>National Disaster Management Policy 2015 has originally been circulated in Bengali (Bangladesh Gazette, 14 September 2015), the author has translated this part for the user.

- To include more old, widow, pregnant women and woman-headed family in all government social safety net programmes e.g. FFW, TR, VGF, EGPP, etc.

### **D. Mainstreaming of Gender Responsive Resilience**

#### **1. What is Resilience**

- "Ability to anticipate, avoid, plan for, cope with, recover from and adapt to (climate related) shocks and stresses" – DFID, 2014
- "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 an agent 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 organisations and institutions that are critical to them and what are the gendered power dynamics there?

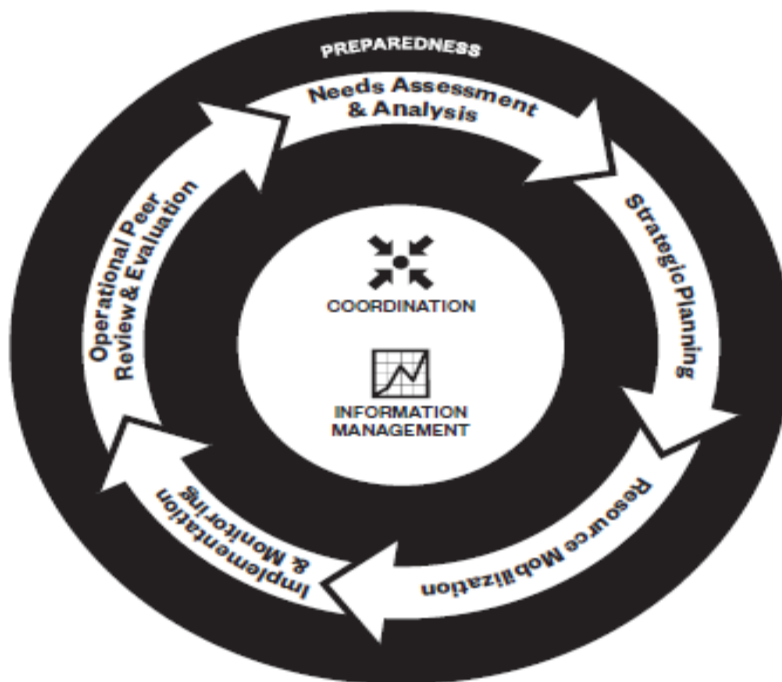
Zooming out

- 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 are the long term risk 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?

**Gender mainstreaming:**

UNISDR<sup>38</sup> 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.

**The Humanitarian Programme Cycle**



Source: <https://www.humanitarianresponse.info/en/programme-cycle/space>

<sup>38</sup> International Strategy for Disaster Reduction(2002), Gender Mainstreaming in Gender Reduction, UNISDR, [https://www.un.org/library/Gender%20Mainstreaming\\_DRR\\_eng.pdf](https://www.un.org/library/Gender%20Mainstreaming_DRR_eng.pdf)

It is suggested that the following basic principles should be set up for mainstreaming gender:

- Adequate accountability mechanisms for monitoring progress need to be established.
- The initial identification of issues and problems across all area(s) of activity should be such that gender differences and disparities can be diagnosed.
- Assumptions that issues or problems are neutral from a gender-equality perspective should never be made.
- Gender analysis should always be carried out.
- Clear political will and allocation of adequate resources for mainstreaming, including additional financial and human resources if necessary, are important for translation of the concept into practice.
- Efforts to broaden women's equitable participation at all levels of decision-making should be taken.

### Checklist for Integrating Gender in each stage of Humanitarian Programme Cycle

OBJECTIVE INDICATOR	MEANS OF VERIFICATION RATIONALE
<b>Promoting awareness of gender equality and women's rights</b>	Percentage of catchment population with improved knowledge of gender equality and women's rights  The general trend among participants in the interventions is improved awareness overtime
<b>Promoting gender equality in participation and leadership</b>	<p><b>LEADERSHIP ASPECTS</b></p> Percentage and ratio of women to men participating in assistance/distribution/management committees Percentage and ratio of women to men in leadership positions in assistance/distribution/management committees <p><b>PARTICIPATION ASPECTS (BENEFICIARIES)</b></p> At least 60 per cent of beneficiaries of relief activities are females (girls, women) Beneficiary counts disaggregated by sex and age Because women and girls tend to be overlooked in programme implementation, setting significant targets at the planning stage encourages the adoption of proper mobilization to ensure their participation. Number of interventions in relief activities that are gender-sensitive or/and gender-specific (only targeting female needs) Project budget lines and narrative reports highlighting gender-sensitive/gender specific interventions Acknowledging that inequalities exist between women and girls and men and boys requires measures that are gender-specific to assist in narrowing the gap prior to enhancing equality measures. Percentage of women

	<p>consulted who report that their participation in programme activities has improved at least two aspects of their lives meaningfully (e.g., actively take part in decision-making, feel free to speak up, feel safe when speaking up take on managerial and/or income-generating roles)</p> <p>Success stories of women beneficiaries</p>
<b>MEANS OF VERIFICATION</b>	<b>RATIONALE</b>
<p><b>Pre/post-intervention knowledge surveys</b></p> <p><b>Follow-up form (interviews or focus group discussions) on progress of awareness development</b></p>	<p>Greater awareness of rights is one step in the process of empowerment and in promoting gender equality.</p> <p>Awareness by itself is not sufficient to lead to change. This is why it is important to track progress over time as the concepts become more concrete in people's minds.</p>
<p><b>Committee records of participants with roles and responsibilities</b></p> <p><b>Beneficiary counts disaggregated by sex and age</b></p>	<p>Participation and leadership of women and men are important means to promote gender equality. Presented as ratios rather than absolute numbers, they can be tracked to show trends over time.</p> <p>Because women and girls tend to be overlooked in programme implementation, setting significant targets at the planning stage encourages the adoption of proper mobilization to ensure their participation</p>
<p><b>Project budget lines and narrative reports highlighting gender-sensitive/gender specific interventions</b></p> <p><b>Follow-up interviews with female participants in interventions at various time interventions — 2/6/12 months</b></p>	<p>Acknowledging that inequalities exist between women and girls and men and boys requires measures that are gender-specific to assist in narrowing the gap prior to enhancing equality measures.</p> <p>Acknowledging that inequalities exist between women and girls and men and boys requires measures that are gender-specific to assist in narrowing the gap prior to enhancing equality measures.</p>
<b>OBJECTIVE</b>	<b>INDICATOR</b>
<p><b>Equality and equity in access to resources</b></p>	<p>Percentage and ratio of women to men as recipients of assistance (i.e., person directly receiving the assistance)</p> <p>Ratio of aid resources (monetary value of material, food, cash, vouchers, etc.) distributed to women, girls, men and boys</p> <p>Number of gender-sensitive or/and gender-specific interventions targeting females in humanitarian response (sanitary services, maternal and reproductive health, protection, etc.)</p> <p>Percentage of women, girls, men and boys consulted report they feel equal and safe while accessing programme information, services and facilities (e.g., latrines, wash points, NFI distributions, information about entitlements)</p>
<p><b>Promoting gender equality in secondary education</b></p>	<p>Number of initiatives promoting girls' access to secondary education (segregated sanitation facilities, community</p>



	<p>mobilization, transportation)</p> <p>Percentage and ratio of girls' to boys' enrolment in secondary education</p> <p>Number of girls and boys resuming education after dropping out, extended absenteeism or abstinence</p> <p>Percentage of girls and boys who manage to attain age appropriate educational level</p> <p>Retention ratio of girls to boys in aid-assisted secondary schools</p> <p>Percentage and ratio of girls' to boys' absenteeism and reasons behind them</p> <p>Decrease in rates of early marriage among girls in targeted populations</p> <p>Decrease in rates of child enrolment in labour market among boys and girls</p>
<b>Means of Verification</b>	<b>Rationale</b>
<b>Distribution database</b>	This promotes women's increased access to and control over resources, acknowledging that men usually have primary control over most resources.
<b>Programme reports on interventions with budget lines assigned to gender-sensitive or/and gender-specific interventions</b>	This indicator allows monitoring of benefits to women and girls relative to those received by men and boys. This is useful particularly when the assistance is tailored.
<b>Post-intervention satisfaction survey with beneficiaries</b>	This indicator allows monitoring of benefits to women and girls relative to those received by men and boys. This is useful particularly when the assistance is tailored.
<b>Programme reports and budget lines on gender-sensitive or/and gender-specific interventions promoting access to education</b>	Because older girls do not always experience favourable conditions that encourage enrolment in secondary education due to various factors (household chores, early marriage, safety concerns), introducing initiatives that promote enrolment is necessary.
<b>School enrolment records</b>	Secondary education for girls and boys is life-changing through poverty reduction, creating benefits across generations, such as delaying marriage and improving nutritional and health outcomes for future children.
<b>School enrolment records Focus group discussions in target populations to identify reasons for drop out, absenteeism or abstinence from education</b>	Frequent and extended absenteeism affect the learning process and discourage girls and boys from pursuing their educations. Therefore it is important to monitor and understand the underlying reasons for such absenteeism.
<b>Focus group discussions with mothers, fathers, girls and boys in the supported community</b>	Girls and boys who do not attend secondary education join the labour market to generate income for their families, usually via low-income jobs, or girls face early marriage.

Pre-/post-intervention knowledge surveys Greater awareness of rights is one step in the



process of empowerment and in promoting gender equality. The general trend among participants in the interventions is improved awareness overtime.

**Checklist for integrating gender into each stage of the Humanitarian Programme Cycle (HPC<sup>39</sup>)**

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
<b>Preparedness</b>	<ul style="list-style-type: none"> <li>• Incorporate gender into all preparedness activities.</li> <li>• Learn and network by sharing exercises and information with targeted groups and humanitarian actors.</li> <li>• Ensure that SADD and gender analysis are integrated robustly into baseline data collection, assessments, information systems, communications and advocacy.</li> <li>• Participate in the creation and implementation of minimum gender equality standards in preparedness for sectors.</li> <li>• Ensure that monitoring facilitates retracking to effectively address gender, age and diversity issues.</li> <li>• Identify and coordinate with local organizations representing women and girls, including those with disabilities and other marginalized groups.</li> </ul>
<b>Needs assessment</b>	<p><b>INITIAL RAPID ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• Collect and analyse sex-, age- and disability-disaggregated data.</li> <li>• Consult with women, girls, men<sup>18</sup> and boys from diverse groups to ensure that their</li> </ul>

<sup>39</sup>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, <https://reliefweb.int/sites/reliefweb.int/files/resources/ml-gender-leadership-in-humanitarian-action-160317-en.pdf>)

<p><b>and analysis</b></p>	<p>particular circumstances, needs, priorities and capabilities are fully understood.</p> <ul style="list-style-type: none"> <li>• Ensure an equal balance of men and women on the assessment team.</li> <li>• 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.</li> <li>• Map the existing services available for women, girls, men and boys and trace referral pathways for specific services like GBV interventions.</li> </ul> <p><b>IN-DEPTH JOINT ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• Secure the involvement of women, girls, men and boys in assessments and where feasible and appropriate.</li> <li>• Analyse the specific priorities, capacities and needs of women, girls, men and boys.</li> <li>• Be aware of possible biases in information collection and analysis.</li> <li>• Be aware of information gaps, especially in instances where responses and information vary.</li> <li>• Trace or cross-check data from a variety of sources and multiple perspectives to arrive at consistent information and validate findings.</li> <li>• Engage local women's organizations and women's leaders.</li> </ul>
<p><b>Strategic planning</b></p>	<p><b>PREPARATORY PROCESS</b></p> <ul style="list-style-type: none"> <li>• Check that the level of analysis and SADD available for the strategic planning process are as thorough as feasible.</li> <li>• Consider primary and secondary data on risk analysis.</li> <li>• It is mandatory to include and use the IASC Gender Marker and other gender markers required by the organization and/or donors.</li> <li>• Ensure adequate participation of, and consultation with, gender-focused inter-agency and other coordinating mechanisms to provide technical support and guidance on gender analyses.</li> <li>• Use participatory approaches involving women, girls, men and boys in the decision-making and planning processes for programmes.</li> <li>• Consult preparedness information, such as existing secondary data and analysis on gender roles and inequalities as well as GBV.</li> </ul> <p><b>FORMULATION OF THE HUMANITARIAN NEEDS OVERVIEW</b></p> <ul style="list-style-type: none"> <li>• Break down population figures by sex, age and other relevant forms of diversity and compare data with pre-crisis information.</li> <li>• Conduct a gender analysis of the situation of women, girls, men and boys.</li> <li>• Identify key gender inequalities and protection risks across sectors.</li> </ul> <p><b>FORMULATION OF THE HUMANITARIAN RESPONSE PLAN</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Address both the immediate practical needs of women, girls, men and boys and strategic interests regarding underlying causes and contributing factors to gender inequality.</li> <li>• Prioritize prevention and response to GBV.</li> <li>• Apply the IASC Gender Marker and review plans to improve gender equality programming.</li> <li>• 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</li> </ul>

	<p>Response Plan.</p> <ul style="list-style-type: none"> <li>• Ensure a demonstrable and logical link between the needs identified, programme activities and tracked outcomes.</li> </ul>
<b>Resource Mobilisation</b>	<ul style="list-style-type: none"> <li>• Include gender analysis results in the initial assessment reports to influence funding priorities for the overall response.</li> <li>• Refer to gender audit results and look at resources already available and prioritize accordingly.</li> <li>• 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.</li> <li>• Apply and track the IASC Gender Marker project codes to demonstrate gender equality programming and programming coherence.</li> <li>• Report regularly to donors and other humanitarian stakeholders on resource gaps.</li> </ul>
<b>Implementation and monitoring</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Engage affected women and men in the delivery of the programme as much as possible as decision makers and implementers as well as recipients.</li> <li>• Inform women, girls, men and boys of the available resources as well as about the agency itself and how to influence the programme.</li> <li>• 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.</li> <li>• 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.</li> <li>• Apply the IASC Gender Marker to assess and improve gender equality programming.</li> </ul>
<b>Gender and operational peer review and evaluation</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Share the IASC Gender Marker (monitoring phase) codings with the sector and collectively plan how to share good practices and address gaps.</li> </ul>

### WHY ARE SEX- AND AGE-DISAGGREGATED DATA (SADD) IMPORTANT IN CRISIS SITUATIONS?

SADD should be collected and analyzed routinely to understand the impact of the humanitarian response on the total population.

Until we understand precisely which people are affected in a crisis, the services we provide may would be off target. Data on the population affected by the crisis should always be broken down by age, sex and other relevant factors such as ethnicity or religion, when appropriate and safe for both humanitarian workers and communities. The collection of

disaggregated data enables actors to adjust programming to meet the needs of women, girls, men and boys.

SADD data, showing the distribution of the impacted population by age and sex, including single-headed households, should be routinely collected. In addition, SADD on at-risk populations including people with disabilities, orphans and victims of violence to be gathered to ensure that their gender-specific needs are being addressed. For instance, while reporting on training or food-for-work activities, the sex and age of the participants should always be reported. Without this break down is impossible to ascertain who actually benefits or assistance is reaching the population proportionately. Good data and analysis are key to identifying which groups are being marginalized and for what reasons

Such data collection will not only entail a thorough review of humanitarian needs, but also sends a powerful signal that each individual is recognized and their rights respected. Humanitarian actors face challenges in collecting SADD which are compounded in the immediate aftermath of a crisis. The unavailability of updated statistics, concern with the reliability of existing data and widespread neglects of the collection of SADD by other humanitarian actors operating in the field are only a few of such challenges

To boost practice it is recommended that surveys count the sex and disaggregate by age the numbers of adults, children, persons with disabilities and the elderly to develop a beneficiary listing in partnership with the government authorities, NGOs and United Nations bodies present in the field. In cases where this is not feasible it is worth considering the option of statistically deriving an estimate of women girls, men and boys affected on the basis of available data such as the household number.

**Collection of Sex-disaggregated data by sector:**

Following matrix has captured the required data/information of core parameters to support gender mainstreaming:

Collection of sex disintegrated data by Sector		
Core Area	Data for DRM	Information required to support gender mainstreaming
Demography	Population Age structure Ethnicity and other vulnerable groups	Women base data
Family	Marital status Family size Family structure Dependency ratio Decision making role Control of Finance/Budgeting	Detail of family information
Education Level	School/ college Skill/unskilled Literacy/Illiterate	Detailed education information
Housing/Landownership	Household structure/ownership pattern	Fixed assets ownership statistics

## Training Manual on Mainstreaming DRR

	Inheritance	
Livelihood	Employment status Types of employment Workers Association/ Union Formal/ informal	Detailed information
Health	Morbidity/Mortality Health services Maternal health Family planning	Detailed information
Social services	Money landing Child care	
Gender based violence	Threat /challenges	Available legal actions Can they get help Legal support Other support groups

## **Session: 8**

### **Community Based Disaster Risk Reduction (CBDDR)**

#### Session objectives:

The purpose of the session is to acquaint the trainees with changing landscape of Community Based Disaster Risk Reduction (CBDDR) and its evolution and efficacy.

#### Learning Objectives:

The session is designed for participants with no or little prior knowledge on the topic. At the end of the session, participants are expected to understand:

- To understand the importance of women led CBDRM in a changing climate or any extreme
- To discuss the context of CBDDR in a changing climate or any extreme events;
- To design and conduct climate-inclusive community risk assessments;
- To identify measures for climate-inclusive disaster risk reduction through vulnerability reduction and community capacity development;
- Analysing issues and challenges in the implementation of community-based risk reduction and climate change adaptation programs;
- To build commitment and value systems to promote community empowerment for climate-inclusive community risk reduction specially the vulnerable community.
- To understand the importance of CBDRM from Bangladesh perspective
- Community-Based Disaster Risk Reduction Approaches
- Disaster Profile in Bangladesh
- Characteristics of CBDDR
- Sustainability of Community-Based Approaches

#### Lecture Format:

- Theory of Solving Problem Format
- Power Point Presentations
- White Board
- Handouts
- Group work

### **Introduction:**

Community-based disaster preparedness (CBDP) approaches are increasingly important elements of vulnerability reduction and disaster management strategies. They are associated with a policy trend that values the knowledge and capacities of local people and builds on local resources, including social capital. CBDP may be instrumental not only in formulating local coping and adaptation strategies, but also in situating them within wider development planning and debates. In theory, local people can be mobilised to resist unsustainable (vulnerability increasing) forms of development or livelihood practices and to raise local concerns more effectively with political representatives. This paper focuses on the potential of CBDP initiatives to alleviate vulnerability in the context of climate change, and their limitations. It presents evidence from the Philippines that, in the limited forms in which they are currently employed, CBDP initiatives have the potential both to empower and disempower, and warns against treating CBDP as a panacea to disaster management problems.

The fundamental principle of community-based disaster risk reduction (CBDRR) involves the development of bottom-up processes arising from the communities themselves with the special emphasis on the vulnerable communities.

Community Based Disaster Management (CBDRM) is an integral part of sustainable development, which places Women led community based organization for adaptation and sharing knowledge for vulnerable communities are at the center for decision making vis-à-vis identification, assessment evaluation and management of disaster risks at the local level. Although disasters affect large areas, the effects are severe at the local level.

An indicator of the best form of good local disaster governance is to empower Women led community organization to formulate their plans to safeguard themselves from potential hazards before they turn into disasters and devastation. In addition to this, umbrella support has to be provided by national, regional or local government in terms of a legal and operational framework. Through women led CBDRM, Communities tend to enhance their resilience to natural and human induced disaster by proactively designing and implementing locally viable measures.



**Two important aspects to be taken into account:**

a. Method of participatory community risk assessment (MPCRA) and Stakeholders analysis and partnerships for community risk reduction inclusive planning and implementation and advocacy for women led CBDRR:

1. Selection of the Community
2. Rapport Building and Understanding the Community
3. Participatory Disaster Risk Assessment (PDRA)
4. Participatory Disaster Risk Management Planning
5. Building and training a community disaster risk management organization
6. Community-Managed Implementation
7. Participatory Monitoring and Evaluation

a. Tools of Hazard, Vulnerability and Capacity Assessment (HVCA) and their applications for risk assessment including monitoring and evaluation indicators:

The HVCA consists of three components:

**Hazard assessment:** community members analyze the nature and behavior of hazards or threats that are likely to hit the community

**Vulnerability assessment:** community members identify elements at risk per hazard type and analyze 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.

**Importance of CBDRR:**

Communities are the frontier to respond to disaster. They use coping and survival strategies to face and respond to the situation long before any 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 environmental resource depletion and degradation. Therefore, the goal of CBDRR is building safer, disaster-resilient and developed communities. Following are the characteristics of CBDRR<sup>40</sup>:

Characteristics of CBDRR	
1. <b>Participatory</b>	Community is the key actor and primary beneficiary
2. <b>Responsive</b>	<ul style="list-style-type: none"> <li>• Considers the community's perception and prioritization of DRRO</li> <li>• Community empowerment through ownership creation</li> </ul>
3. <b>Proactive</b>	<ul style="list-style-type: none"> <li>• Prepares the communities to face disasters beforehand</li> </ul>
4. <b>Comprehensive</b>	<ul style="list-style-type: none"> <li>• Structural mitigation (dam construction, early warning centers)</li> <li>• Non-structural mitigation (education and training, public awareness)</li> </ul>
5. <b>Integrated</b>	<ul style="list-style-type: none"> <li>• Involves all the stakeholders in DRRO</li> <li>• Pre-, during and post-disaster measures are planned and implemented as necessary by the community</li> </ul>
6. <b>Multi-sectoral and multi-disciplinary</b>	<ul style="list-style-type: none"> <li>• Combines indigenous/local knowledge with sciences and new technologies</li> <li>• Builds capacity within while bringing resources externally</li> </ul>
7. <b>Empowering</b>	<ul style="list-style-type: none"> <li>• People's options and capacities increased</li> <li>• More access to and control of resources and basic services</li> <li>• Meaningful participation in decision-making</li> </ul>
8. <b>Developmental</b>	<ul style="list-style-type: none"> <li>• Contributes in poverty reduction</li> <li>• Correlated to developmental activities</li> </ul>

### Community-Based Disaster Risk Reduction Approaches:

Bangladesh has an enterprising local communities on the frontline of both the immediate impact of a disaster and the initial emergency response, are more awarded about climate change impacts and more prepared to cope with these because of intensified information and increased their capacities to respond to disaster. 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:

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<sup>40</sup> R. Shaw et al. (eds.), Disaster Risk Reduction Approaches in Bangladesh, Disaster Risk Reduction (2013)

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 choice 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 also 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)	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 coastal people residing in the coastal areas. So that they can move to safe sites including the cyclone shelters and building. 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 and tightly knots organization which is 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.
Rain water harvesting	Rain water harvesting refers to the collection and storage of rain water 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 rain water harvesting in rural areas gives as an alternate water source especially in the arsenic, salinity and drought affected area. The number of rain water 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 Rain water harvesting and its judicious utilization for agriculture and municipal use would be essential in our future life

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 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.

**Sustainability of Community-Based Approaches:**

It has been observed that CBDRR has mostly been taken up on a project mode and has

not been integrated within the existing governance and development programs for their long term sustainability. From the sustainability point of view, it is very important to involve the community from the very beginning of any development as well as disaster risk reduction initiatives.

Sustainability is the end goal for every community. It provides an infrastructure to identify and address community challenges in the long run and helps a community make the best use of the resources and makes it possible to leverage resources for future activity. Despite many setbacks progress has been achieved in disaster risk reduction, but in terms of community based approach, improvements are still beyond the requirement. Therefore, it is necessary to identify and impart essential skills of community that can translate risk awareness into concrete practices of sustained risk management.

On the other hand, institutionalization of CBDRR must need legislation that support CBDRR activities and must be incorporated into government framework and plan of action of all development stakeholders. Government must need to mention the role of NGOs and other organizations for CBDRR and recognize the need for involving communities and community groups in disaster risk reduction work into their development plans and policies. In addition, local governments need to institutionalize CBDRR in investment programming and project design, budgeting and revenue generation. At the same time, it needs to take pragmatic steps to address the lack of activities between national, sub-national level and community level. Therefore, institutionalization of CBDRR requires the following as its precondition:

- A guideline for disaster risk reduction
- Integrate into National Disaster Management Framework
- Strong policy support
- Institutionalized budget
- Definite role of stakeholder
- Transparency and accountability of the framework

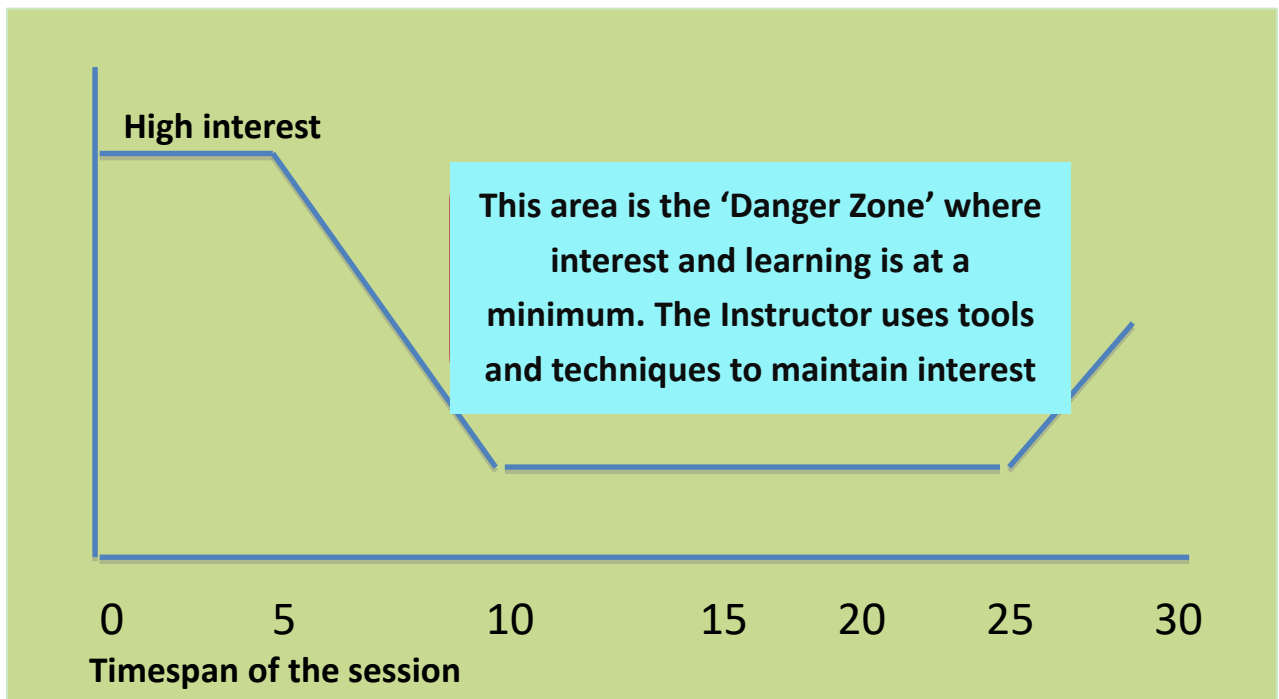
**Annexure A**

**A. The basic theory of adult learning:**

Training and for that matter developing training material has to be examined from the perspective of adult learning. The basic theory of adult education (theory of Andragogy) is the approach to education and learning that recognizes the unique nature and motivation of adult learners, as well as important characteristics of mature adults, in the methods and strategies for training. It is noted that adults tend to learn differently than children, that the characteristics of adult learners is different than those of adolescent learners, and the motivation – the reasons for learning – are substantially different between adults and children. Thus developing training materials always remained

On the other hand, conducting training has its own limitations. Firstly, it is critically argued that attention span of adult in groups are prone to quick lapse to a very low danger zone and needs appropriate attention as in Figure 1.

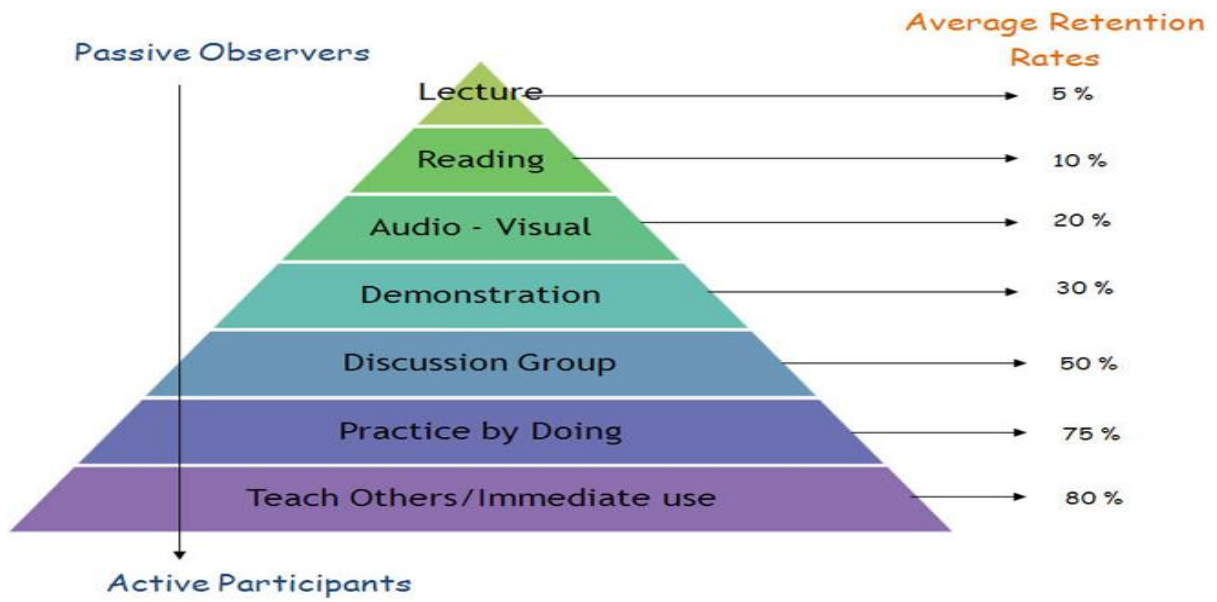
**Figure 1: Correlation between High Interest and timespan of session**



Secondly it is argued that the average retention rate varies greatly with the application of training methods (Figure 2). When the typical lecture methods are applied, it is theorised that, the average retention rate is merely 5% and with reading it slightly rises to 10%. The highest rate of retention occurs (80%) when one is assigned with teaching others.

Thus, it is argued, while developing training material the theories of adult education should be rigorously applied for an effective training strategy.

Figure 2: Correlation between average rate of retention and various training methods



**B. Monitoring and Evaluation (M&E) strategy:**

Every training programme should have its own in-built monitoring and evaluation (M&E) strategy. Recognizing the importance of proper evaluation of training, the much celebrated M&E strategy has been developed by Donald Kirkpatrick, which is best known as 'Four Level' model for training course evaluation. The four levels are sequential and each level has subsequent effect on the next level.

Specific objectives of the evaluation strategy include:

- a. To identify potential weaknesses of the training programme that may inhibit learning or application of what was learned, as a basis for revising and strengthening the course;
- b. To assess the degree of learning that has resulted from the training programme;
- c. To measure the extent to which learning have been added value to the learners and enabled them to improve their performance.

**Figure 3: The Kirkpatrick Model at a glance**

What Can be Measured?	
Level 1 Reaction	Evaluates participants' opinion, feeling and level of satisfaction about the training. Data at this level addresses the appropriateness and usefulness of the course according to the participants at the completion of the course.
Level 2 Learning	Evaluates whether the training course has increased the knowledge or capability, skills and attitude of the participants. Data to assess learning is collected by pre and post learning tests or conducting end-of course examination focusing on knowledge gains or skills development.
Level 3 Behavior	Measures behavioral change on the job, application/ implementation of knowledge and skills gained from the training course and indicates transfer of knowledge of the participants to the work place. Data at this level is collected via post-course questionnaires from participants and their supervisors.
Level 4 Results	Also called 'Impact' level evaluation, assesses the degree to which the training has resulted in an overall change in the organization.

All four levels of evaluations are applicable. The first two levels are to be conducted during or at the end of the course and the other two will be conducted after the participants join their workplace and have substantial time to utilize their knowledge and skills there. To execute level-1 and Level-2 evaluations, which are relevant in the short term, a reaction sheet will be filled-up by the participants and module-wise examinations will be held for them after completion of each module.

## Annexure C

### **Building a disaster-resilient, prosperous Bangladesh: Challenges and opportunities<sup>41</sup>**

Today Bangladesh stands at a vital crossroads in its development path. Having averaged a 6 percent economic growth in the past decade, the country attained lower-middle income country status in 2015 and achieved five out of eight Millennium Development Goals by the same year. The number of now widely adopted practices of development, which were first tested in Bangladesh, has given the country a global reputation of development innovation and leadership. As the world moves into the new era of the Sustainable Development Goals, Bangladesh is ideally positioned to sustain this impressive trend of poverty reduction and economic growth—if it can manage the threat of natural disasters.

#### **Disasters: Disrupting economic growth and poverty reduction**

Among the key factors enabling Bangladesh's strong development trajectory has been the growing economy. Households in the country are becoming more prosperous, industry is expanding, and government capital investments are growing larger. Remittances by workers abroad are steadily growing, and in 2015, the value of net foreign direct investment in Bangladesh exceeded USD 2 billion. The national budget for the fiscal year 2016/17—at BDT 3 trillion (USD 43 billion)—is the largest so far in the country's history, with one-fourth of the Annual Development portion going to megaprojects intended to boost economic growth. As a new middle income country, Bangladesh has entered a new development era.

Large-scale public and private investment is stimulating private sector growth and rapid improvement in the living standards of families across the nation. At the same time, disaster mortality is lower than ever before. The financial cost of disasters, however, has steadily grown in the past decades. Disaster damage and loss in Bangladesh is 10 times higher today than it was in the 1970s, with annual losses ranging between 0.8 percent and 1.1 percent of the country's GDP. In sum, the country reported over USD 180.3 million in economic losses from natural disasters between 1971 and 2013.

Experience from other countries in similar development situations shows that if public and private investment and assets continue to grow without being risk-informed, their vulnerability will only compound. At the national level, the frequency of disasters in Bangladesh has resulted in significant

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<sup>41</sup>Robert D Watkins (The Daily Star, February 26, 2017), the writer is the UN Resident Coordinator and UNDP Resident Representative in Bangladesh.



increases in expenditure and reduction of revenue. At the local level, exposure to recurrent disasters and repeated economic loss suffered by the most vulnerable people is directly contributing to the persistence of pockets of extreme poverty. In the traditionally disaster-prone areas of the country, 44 percent of households have been affected by disasters more than once, and development outcomes in health, education, and access to electricity lag behind. The people living in these areas are not moving out of poverty, but are held back by the recurring need to rebuild and recover.

### **Urban risks**

With climate change predicted to cause changes in the intensity, patterns, and frequency of cyclones, storm surges and floods, the number of people in rural areas exposed to these hazards is likely to grow in coming years. In addition, the rapid urbanisation and concentration of industry in urban areas is also creating significant additional risk in cities. Poor construction quality, overcrowding, and inadequate infrastructure make rapidly growing cities vulnerable to the impact of natural hazards. This is true not just for major growth centres such as Dhaka or Chittagong, but also for the medium and small-sized cities where over half of the growth in urban population is taking place. Not only does this disproportionately expose the urban poor to disaster impacts, but it affects the larger economy. During the 2004 floods, employee absence due to waterborne illnesses and flooded transport paths was estimated to have cost the readymade garment sector USD 3 million per day.

Should a major earthquake affect Bangladesh, the country may not only have to recover from devastating trauma and loss of human lives, but also a potentially permanent disruption to its export industries. A 2009 study showed that in the event of a major earthquake, 376,000 structures in Dhaka, Chittagong, and Sylhet would be seriously affected, producing 96 tonnes of debris. With factories and roads likely to be damaged or blocked by debris, disruption of services and businesses would be extensive. In a global economy which does not wait for countries to recover from shocks, this would represent a significant threat to the income of the 4.2 million people currently employed in the readymade garment sector, as well as the well-being of families and communities dependent on them.

### **Bangladesh: Facing disasters together**

The risks created by the interplay between the changing disaster landscape, settlement patterns, and economic growth centres pose a major challenge to sustainable development and poverty reduction. Consequently, new courses must be staked out for building resilience to natural disasters. To prevent a major cyclone or earthquake from permanently arresting the country's

economic growth, or seasonal floods from washing away the housing and assets of a family, development processes must remain stronger than disaster shocks.

The country's capacity for anticipating disaster risk, absorbing disaster shock, and reshaping development, must be strengthened. Fortunately, Bangladesh's robust disaster management capacity, supported by professional practitioners, engaged communities, and expanded disaster risk governance, provides a strong foundation for building national resilience.

The volunteer Cyclone Preparedness Programme supports early warning and mass evacuation when cyclones steer towards coastal areas, while local disaster risk reduction funds have enabled communities across the nation to manage risks in their community. 18 million students have disaster management lessons integrated in their curriculum, while more than a dozen universities offer disaster management programmes. Significant technical advances in forecasting ability are making it possible to track high-risk storms in the Bay of Bengal and warn against flooding in the major river basins five days in advance, while mobile phone services are enabling more than 100 million users to easily access warning information.

Bangladesh has shown remarkable solidarity of mutual support in times of crisis. This has been central in allowing the country to rebound after major disasters. These national characteristics must be nurtured, recognising that the will to volunteer is social capital for strengthening resilience in human development. Bangladesh must find ways to continue to support collective action and community risk management—in urban settings, as well as in the villages. While planners and rescue services play vital roles in managing disaster risk, empowering community members to respond to disaster and to demand resilient services will be key to building capacity for absorbing disaster shocks in cities.

There is also considerable promise in using the government's extensive social protection programmes instrumentally: to help families and communities plan and prepare for disasters, provide a safety net to meet basic needs during shock events, and build adaptive capacity through promotion of sustainable, resilient livelihoods. If applied to the large social protection programmes implemented by the government, this approach has the potential to transform these programmes to deliver resilience benefits to those most vulnerable on a national scale.

### **Thinking outside the box about disaster risk management**

While the past decade has seen an increase in spending on disaster risk reduction and climate change adaptation in Bangladesh, resilience to natural disasters cannot be achieved by through “business-as-usual” disaster management alone. Practices of successful disaster risk management

and good development must be combined, with a willingness to find innovative solutions and include new partners in this crucial work.

Firstly, it is crucial that development becomes consistently risk-informed. This means taking into account the likely impact of disaster and building in mitigating features from the very beginning. The considerable base of disaster risk information which already exists in the country must be enhanced so as to be understandable and useful for planners at the local and national levels. Tools for risk assessment and guidance on how to mitigate risks within projects and plans must be made available and well-known. And most crucially, decision-makers' awareness of the cost of disaster loss and disruption to development programmes must be raised to ensure that there is demand for risk-informed planning.

Secondly, the country must find ways of including the booming private sector in its disaster risk management. Urban disasters present a complex challenge for business growth and sustainability, and business leaders and investors must be supported with the right knowledge and incentives to take on the cost of choosing more resilient options within a project or business model. Building the capacity of companies to assess risk and plan for business continuity in the event of disasters will be crucial in securing the resilience of national economic growth.

Thirdly, investing in socially inclusive, resilient recovery not only helps keep development progress on track in the face of disasters, but it can also help identify better, more resilient pathways. The recovery and reconstruction phase following a disaster presents a window of opportunity for building it back better than before, through incorporating disaster risk reduction measures in the rehabilitation of buildings, systems and institutions. As disaster recovery takes place within all sectors, building the capacity of line ministries, local government, and NGOs in planning how they may support recovery will be crucial. Only then can the country emerge stronger after disasters, and ensure that those hardest hit, those most chronically vulnerable, receive the assistance which will reduce their risk and build resilience in the long term.

### **Choosing the resilient path**

Economic growth and poverty reduction cannot be sustainable if they are not also disaster-resilient; lasting achievement of the Sustainable Development Goals can only be made possible by reducing the impact of disaster and climate shocks and stresses. The pursuit of “a sustainable development pathway that is resilient to disaster and climate change”, as set out in the country's 7th Five Year Plan, needs to be prioritised in coming years.

Building national resilience to future disasters will require all—whether in the development, government, or private sectors—to consider disaster risk management as an integral part of

projects, businesses, and programmes, and in order to unlock the transformative potentials within. By making disaster resilience a key element of the 7th Five Year Plan, the Government of Bangladesh is already emphasising the crucial role of risk-informed planning and disaster management to sustain and safeguard development gains.

This commitment must now be put into action by enabling all of society to contribute. This means, on the one hand, putting in place the structures for involving new professions and sectors: applying disaster and risk information to public planning, providing incentives to support risk-informed private investment, and allocating adequate resources for disaster preparedness, management, and recovery. But as importantly, it means facilitating the participation of the people—men and women, able and disabled, Bengalis and ethnic minorities, farmers and garment workers—in disaster risk management. Their experience, knowledge, and leadership will be crucial in ensuring that the development and resilience agenda serves those most vulnerable to disasters and climate change.

**Annexure D****Glossary of definitions**<sup>42</sup>

**Acceptable risk:** The level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions. In engineering terms, acceptable risk is also used to assess and define the structural and non-structural measures that are needed in order to reduce possible harm to people, property, services and systems to a chosen tolerated level, according to codes or “accepted practice” which are based on known probabilities of hazards and other factors.

**Adaptation:** The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. This definition addresses the concerns of climate change and is sourced from the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The broader concept of adaptation also applies to non-climatic factors such as soil erosion or surface subsidence. Adaptation can occur in autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation.

**Building code:** A set of ordinances or regulations and associated standards intended to control aspects of the design, construction, materials, alteration and occupancy of structures that are necessary to ensure human safety and welfare, including resistance to collapse and damage. Building codes can include both technical and functional standards. They should incorporate the lessons of international experience and should be tailored to national and local circumstances. A systematic regime of enforcement is a critical supporting requirement for effective implementation of building codes.

**Capacity Development:** The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions.

Capacity development is a concept that extends the term of capacity building to encompass all aspects of creating and sustaining capacity growth over time. It involves learning and various types of training, but also continuous efforts to develop institutions, political awareness, financial resources, technology systems, and the wider social and cultural enabling environment.

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<sup>42</sup> The definitions applied here are taken from UNISDR (2009): *Terminology on Disaster Risk Reduction*. Geneva, Switzerland. <https://www.unisdr.org/we/inform/publications/7817>

**Climate change:**

(a) The Inter-governmental Panel on Climate Change (IPCC) defines climate change as: “a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use”.

(b) The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.

For disaster risk reduction purposes, either of these definitions may be suitable, depending on the particular context. The UNFCCC definition is the more restricted one as it excludes climate changes attributable to natural causes. The IPCC definition can be paraphrased for popular communications as “A change in the climate that persists for decades or longer, arising from either natural causes or human activity.”

**Disaster:** A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

**Disaster risk:** The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period. The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socio-economic development, disaster risks can be assessed and mapped, in broad terms at least.

**Disaster risk management:** The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

This term is an extension of the more general term “risk management” to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness.

**Disaster risk reduction:** The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

A comprehensive approach to reduce disaster risks is set out in the United Nations-endorsed Hyogo Framework for Action, adopted in 2005, whose expected outcome is “The substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries.” The International Strategy for Disaster Reduction (ISDR) system provides a vehicle for cooperation among Governments, organisations and civil society actors to assist in the implementation of the Framework. Note that while the term “disaster reduction” is sometimes used, the term “disaster risk reduction” provides a better recognition of the ongoing nature of disaster risks and the ongoing potential to reduce these risks.

**Disaster risk reduction plan:** A document prepared by an authority, sector, organization or enterprise that sets out goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives.

Disaster risk reduction plans should be guided by the Hyogo Framework and considered and coordinated within relevant development plans, resource allocations and programme activities. National level plans need to be specific to each level of administrative responsibility and adapted to the different social and geographical circumstances that are present. The time frame and responsibilities for implementation and the sources of funding should be specified in the plan. Linkages to climate change adaptation plans should be made where possible.

**Environmental impact assessment:** Process by which the environmental consequences of a proposed project or programme are evaluated, undertaken as an integral part of planning and decision making processes with a view to limiting or reducing the adverse impacts of the project or programme. Environmental impact assessment is a policy tool that provides evidence and analysis of environmental impacts of activities from conception to decision-making. It is utilized extensively in national programming and project approval processes and for international development assistance projects. Environmental impact assessments should include detailed risk assessments and provide alternatives, solutions or options to deal with identified problems.

**Hazard:** A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are “... hazards of natural origin and related environmental and technological hazards and risks.” Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of

different intensities for different areas, as determined from historical data or scientific analysis.

**Mitigation:** The lessening or limitation of the adverse impacts of hazards and related disasters. The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, “mitigation” is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.

**National platform for disaster risk reduction:** A generic term for national mechanisms for coordination and policy guidance on disaster risk reduction that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country.

This definition is derived from footnote 10 of the Hyogo Framework. Disaster risk reduction requires the knowledge, capacities and inputs of a wide range of sectors and organisations, including United Nations agencies present at the national level, as appropriate. Most sectors are affected directly or indirectly by disasters and many have specific responsibilities that impinge upon disaster risks. National platforms provide a means to enhance national action to reduce disaster risks, and they represent the national mechanism for the International Strategy for Disaster Reduction.

**Preparedness:** The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term “readiness” describes the ability to quickly and appropriately respond when required.

**Residual risk:** The risk that remains in unmanaged form, even when effective disaster risk reduction measures are in place, and for which emergency response and recovery capacities must be maintained. The presence of residual risk implies a continuing need to develop and support effective capacities for emergency services, preparedness, response and recovery together with socio-economic policies such as safety nets and risk transfer mechanisms.



**Resilience:** The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to 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. Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

**Risk:** The combination of the probability of an event and its negative consequences. This definition closely follows the definition of the ISO/IEC Guide 73. 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 assessment:** A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.

Risk assessments (and associated risk mapping) include: a review of the technical characteristics of hazards such as their location, intensity, frequency and probability; the analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions; and the evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios. This series of activities is sometimes known as a risk analysis process.

**Risk management:** The systematic approach and practice of managing uncertainty to minimize potential harm and loss. Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. Risk management is a core issue for sectors such as water supply, energy and agriculture whose production is directly affected by extremes of weather and climate.

**Sustainable development:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

This definition coined by the 1987 Brundtland Commission is very succinct but it leaves unanswered many questions regarding the meaning of the word development and the social, economic and environmental processes involved. Disaster risk is associated with unsustainable elements of development such as environmental degradation, while conversely disaster risk reduction can contribute to the achievement of sustainable development, through reduced losses and improved development practices.

**Vulnerability:** The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.

Annexure E

**Pre Evaluation questionnaire**

(The purpose of this evaluation, to be conducted at the beginning of the course, is mainly to adjudge the current level of participants' understanding, skill and knowledge on the broad themes offered in the course. Question 1-7 are based on 7 topics to be taught in the training programme while number 8 is to understand their expectations)

**Please provide your feedback about the following statements by putting √ on the following scale:**

1. How you grade your current level of knowledge on the basic concepts of disaster risk reduction (DRR) and mainstreaming of DRR?

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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2. How you grade your current level of understanding about the Disaster and Development Nexus

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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3. What is your current level of knowledge about the application DRR in Local Level Planning

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 – Excellent</b>
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4. What is your current level of knowledge about the issues of Global Framework for DRR

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 – Excellent</b>
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5. How you grade your current level of understanding about the Inclusiveness in DRR

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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6. What is your current level of knowledge and understanding about the underlying principles of Gender Responsive Resilience

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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7. What is your level of familiarity about the priority issues and their challenges of Community Based Disaster Risk Reduction in Bangladesh?

<b>1 – Very Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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8. Describe your expectation from the course (in maximum 100 words)

- .....
- .....
- .....
- .....

**Annexure F**

**Post Evaluation questionnaire**

(The purpose of this evaluation, to be conducted at the conclusion of the course, is mainly to judge whether there is any change took place in participants’ level of understanding, skill and knowledge on the broad themes offered in the course. Question 1-7 are based on the topics taught in the training programme while Number 8 is to capture the level of fulfilment of their expectations)

**Please provide your feedback about the following statements by putting (√) on the following scale:**

1. Do you think you are sufficiently equipped with the concepts of disaster risk reduction (DRR) and mainstreaming of DRR?

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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2. How you grade your present level of understanding about the Disaster and Development Nexus

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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3. Are you sure that your current level of knowledge about the application DRR in Local Level Planning is sufficient

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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4. What is your current level of knowledge about the issues of Global Framework for DRR

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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5. How you grade your current level of understanding about the Inclusiveness in DRR

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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6. What is your current level of knowledge and understanding about the underlying principles of Gender Responsive Resilience

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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7. What is your level of familiarity about the priority issues and their challenges of Community Based Disaster Risk Reduction in Bangladesh?

<b>1 – V. Poor</b>	<b>2 – Poor</b>	<b>3 – Average</b>	<b>4 – Good</b>	<b>5 - Excellent</b>
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8. Whether the course met your expectation and to what extent (within 150 words)?

- .....
- .....

## **TEN GOLDEN RULES**

(The comprehensive training management policy to adhere to)

- 1. Please keep your mobile silent in the class**
- 2. Please be on time.....Always!**
- 3. Please be friendly and courteous to others**
- 4. Don't interrupt when others speak, one speaker at a time! Kindly wait for your turn**
- 5. Be considerate to fellow participants while using facilities (Telephone, Toilet etc.)**
- 6. Visitors are not allowed during classes**
- 7. Your active participation in the class and in discussions is highly appreciated**
- 8. Don't hesitate to contact training management team members if any help is required**
- 9. Contribute in the learning process with your insights and experiences**
- 10. We are a team here. Let's learn and grow as team players**

**Thanks for your cooperation**