

**Assessing the Achievement
in Disaster Management in line with 7th FYP
And
Developing Result Indicators
for 8th FYP**

Submitted
By
Mohammad Abdul Wazed
National Consultant (IC)

**National Resilience Programme (NRP)
Programming Division Part**



UNDP Bangladesh

Contents

<i>Acronyms</i>	iii
<i>Executive Summary</i>	iv
Chapter I	1
1. Introductory background	1
1.1 <i>National Resilience Programme (NRP)</i>	1
1.2 <i>Clarification of few important targets of NRP</i>	1
1.2.1 <i>Sustain resilience of human and economic development:</i>	1
1.2.2 <i>Inclusive DRR:</i>	2
1.2.3 <i>Risk informed development:</i>	4
1.2.4 <i>DRR Information to be translated into actions.</i>	7
1.2.5 <i>Mainstreaming of disaster risk reduction</i>	7
1.3 <i>Scope of the Study</i>	8
1.4 <i>Methodology</i>	9
1.4.1 <i>Desk Review</i>	9
1.4.2 <i>KIIs</i>	9
1.4.3 <i>Consultative Meeting with MoDMR and Porgramming Division</i>	10
1.5 <i>Limitations</i>	10
2. Concept of Disaster Risk reduction as reflected in the 7th FYP	10
2.1 <i>Growth is the main target in 7th FYP</i>	10
2.2 <i>Disaster Management Context in 7th FYP and Key Policies /Programmes highlighted in the Plan</i>	11
2.3 <i>How much of a priority is DRR in 7th Five Year Plan?</i>	11
2.4 <i>Four categories of Goals and One cross-cutting issue</i>	12
2.5 <i>Monitoring Mechanism and Financing systems:</i>	14
2.6 <i>Issues and challenges of DRR as reflected in 7th FYP</i>	15
2.7 <i>Further Challenge of long-term planning and substantial public investment</i>	16
2.8 <i>Goals, Plans and strategies of the MoDMR as reflected in 7th FYP</i>	16
2.9 <i>"Underlying Risk" needs to be understood</i>	16
2.10 <i>Targets of MoDMR as highlighted in the Plan and their achievement by ministry</i>	17
3. DRR thematic areas and issues in the 7th FYP	19
3.1 <i>DRR thematic areas and issue has not been given proper space in the Plan book</i>	19
3.2 <i>Mitigation and Adaptation need to be addressed in relevant platform</i>	20
3.3 <i>Country's Paradigm shift from Response to more Comprehensive culture and Food Security issues under MoDMR's Mission statement has not properly capture in the Plan book</i>	20
3.4 <i>Food Security and MoDMR's Initiatives</i>	21
3.5 <i>Why food security is importance for DRR?</i>	21
3.6 <i>Dimensions of Food Security</i>	23
3.7 <i>Only 2 Result Indicators related to shelters are not sufficient to measure the performance of MoDMR in 5 years term</i>	24
3.8 <i>What is actually meant by resilience in DRR?</i>	24

Chapter II	26
4. Results indicators in 7th FYP to measure the performance of MoDMR	26
4.1 Two Development Result Indicators adopted in 7th FYP.....	26
4.2 Cyclone Shelter - a place of faith and trust of the people of coastal strips to save their lives from devastating cyclones and storm-surges.....	26
4.2.1 Reconstruction of old cyclone shelters	27
4.3 Achievement of MoDMR in respect of DRIs in 7FYP	28
4.4 Projects Implemented by MoDMR / DDM during 7 th FY Plan period (Source: MoDMR)	29
4.4.1 Projects undertaken and implemented (ADP 94% and foreign aided projects 28%) in FY 2018-19	30
4.4.2 Projects undertaken for FY 2019-2020, the last FY of 7th FYP, are shown in Table 13 below.	31
4.5 Habitat and Resilient Housing being constructed by MoDMR.....	32
4.6 A General Criticism of Resilient Housing Design.....	32
4.6.1 Is Resilient Housing of MoDMR really resilient to disasters?.....	32
4.6.2 Who are entitled to get a house?	33
4.6.3 Experience of post-Sidr housing	34
4.6.4 Guideline on Resilient Housing with design needs to prepared.....	36
4.6.4.1 Experience of Nepal in post-earthquake Of 2015	37
4.6.5 Construction of Flood Shelters	37
Chapter III	39
5. Development Result Indicators (DRI) for 8th FYP	39
5.1 Backdrop on development indicators for measuring performance of MoDMR.....	39
5.2 General Targets of 7th FYP	39
5.3 Disasters and climate change impact	40
5.4 Types of disaster Bangladesh faced and human death toll	43
5.5 Vision and Mission of MoDMR.....	43
5.6 Government's Legal Framework on DRR and International Drivers.....	44
5.7 Standing Orders on Disaster (SOD)	44
5.7.1 Guidelines for DRR as referred in SOD	45
5.8 Annual Performance Agreement of MoDMR.....	45
5.9 Disaster Management Policy 2015	46
5.10 National Plan for Disaster Management	46
5.10.1 The Goals and Core Targets of NPDM 2016-2020.....	46
5.10.2 The Strategy Directions of the NPDM.....	47
5.11 Mainstreaming risk reduction, one of the best way to risk informed DRR	47
5.12 SFDRR- International driver	48
5.13 MoDMR's responsibility as Lead for some SDGs 2016-30	50
5.14 Few Priority Areas of MoDMR.....	502
5.15 Lessons and Constraints	533
Chapter IV	55
6. Draft Indicators for MoDMR in the 8th FYP	55
7. Strategy and Action Plan	57
8. Conclusion.....	588
8. Persons interviewed/ participated in the discussion table	599

Acronyms

AFD	Arms Forces Division
BBS	Bangladesh Bureau of Statistics
BMD	Bangladesh Meteorological Department
CCA	Climate Change Adaptation
CDMP	Comprehensive Disaster Management Programme
CPP	Cyclone Preparedness Programme
DDM	Department of Disaster Management
DM	Disaster Management
DRR	Disaster Risk Reduction
EGPP	Employment Generation Programme
EWS	Early Warning System
FFW	Food for Work
FFWC	Flood forecast and Warning Centre
FYP	Five Year Plan
GoB	Government of Bangladesh
IPCC	Inter-Governmental Panel for Climate Change
LGED	Local Government Engineering Department
LCG-DER	Local Consultative Group for Disaster Emergency Response/ Relief
MoDMR	Ministry of Disaster Management and Relief
MRVA	Multi-hazard Risks and Vulnerability Assessment
NDMRTI	National Disaster Management Research and Training Institute
NEOC	National Emergency Operations Centre
NPDM	National Plan for Disaster Management
NRP	National Resilience Programme
SDGs	Sustainable Development Goals 2016-2030
SFDRR	Sendai Framework for Disaster Risk Reduction
UNDRR	United Nations Office for Disaster Risk Reduction
WB	World Bank

Executive Summary

Assessing the Achievement in Disaster Management in line with 7th FYP and Proposed Result Indicators for 8th FYP

Introductory background

National Resilience Programme (NRP) has been working to sustain the resilience of human and economic development in Bangladesh through inclusive growth, gender responsive disaster management and risk informed development. This sub-project (NRP) is supporting capacity development for disaster and climate risk informed planning and project development, targeting planning officials and policy makers at the macro level, and supporting at project appraisal stage, and project formulation stage in key sectors. Three priority areas includes – Understanding Disaster Risks, Strengthening Disaster Risk Governance and Investing in Disaster Risk Reduction for Resilience.

Objectives of the study

The present study is the outcome of NRP- Programming Division of Planning Commission led initiative ***to assess the achievement*** of Ministry of Disaster Management and Relief (MoDMR) over a five year period in line with 7th Five Year Plan ***and develop result indicators for the 8th Five Year Plan***. The ***specific objectives*** are i) to identify and gain a better understanding of the contribution of 7th Five Year Plan result framework for disaster risk-informed development in Bangladesh, ii) to assess the gaps and challenges of integrating/implementing disaster risk-informed indicators in the 7th FYP and iii) to identify opportunities and develop strategies to mainstream disaster risk-informed indicators into the 8th FYP (2020-2025) result framework.

Methodology

Desk Review: Detailed study carried out on progress of the MoDMR/ DDM against the planned activities in first three years of the planned period of 7th FYP. A list of projects implemented by MoDMR/DDM during 2016-2018 and remaining works planned to implement in the following years (2019-2020) of 7th FYP had been discussed.

KII

KIIs was done in the MoDMR/ DDM and other relevant ministries and GoB agencies, Programming Division and General Economic Division of Planning Commission for capturing the success achieved by MoDMR in line with 7th FYP implementation. Persons working in INGO sector were interviewed too.

Consultative Meetings at MoDMR and Programming Division

Two consultative meetings were held in the programming Division arranged by the NRP sub-project. Another meeting was also arranged at MoDMR by Planning Wing of the ministry. In these meetings thread-bear discussions were taken place on the tasks and challenges of the consultant as per the ToR, performance of MoDMR in line with 7th FYP, issues of DRR and CCA, inclusive development and gender sensitiveness in DRR, coordination and mainstreaming, etc.

Limitations

Time given for the assignment was very short - only 22 working days; but the study requires a very intensive work in the concerned ministries and departments, meetings and in-depth interviews at the policy level including DRR actors working in the I/ NGOs.

Concept of Disaster Risk reduction as reflected in the 7th FYP

The goals and targets of the 7th FYP have been formulated according to priority on sectoral development with the vision of "accelerating growth and empowerment of every citizen". The goals and targets of MoDMR have been discussed under "***Social protection***" in Chapter 14. The chapter is based on the conception of poverty alleviation through social protection programmes (including food and cash schemes conducted by the ministry) which ultimately would enhance the capacity of the poor and disadvantage people to combat natural and other disasters, and climate change impacts. However, the disaster management context and key policies and programmes have been well captured in the 7th FYP. It covers MoDMR's vision, mission, strategies, policy and National Plan for Disaster Management (2010-2015). The Plan reiterates the Government's programmes to address climate change and disaster prevention as a part of its broader development effort. Agricultural research, embankment and reforestation programmes, disaster preparedness etc. are its priority areas which, the Plan says, are already making important inroads in lowering the vulnerability of the population to climate change and natural disasters.

How much of a priority is DRR in 7th Five Year Plan?

The previous FYPs, before 6th one, response to disasters was the issue as the paradigm shift from relief to comprehensive disaster management has not been formally taken place in the ministry's activities. It was the 6th Plan (2010-2015) that considered the notion DRR seriously as reflected in the review of it in following Plan (7th FYP) that notes further efforts in building the ***resilience*** of the people and minimizing the adverse impacts of natural disasters on people's livelihood. Similarly the 7th FYP has given priority on mainstreaming DRR and CCA, disaster risk reduction strategies, preparedness, warning and response, and post-disaster recovery, rehabilitation and reconstruction, the ***four category of goals***. The Plan also pointed out the ***cross-cutting issues***, such as, designing and implementation of comprehensive communication strategy to enable proactive communication to vulnerable communities, across government and DM communities for effective disaster resilience and reform business processes within relevant ministries and departments focusing on financial management, monitoring and evaluation. The 7th FYP also highlights the necessity to establish ***monitoring and financing system for DRR***. The Plan says that to facilitate the institutional mechanism for monitoring, a ***vulnerability index*** will be developed which will help channelize equitable resources to the targeted districts. The 7th FYP highlights **two important challenges**: *i) management of river system and ii) managing the climate change agenda*. The Plan also observes that "***long-term planning and substantial public investment will be necessary***" for DRR and resilient nation, and sustainable development. The formulation of the **Bangladesh Delta Plan-2100** and its timely implementation during the 7th FYP "*will be a major long-term policy and institutional initiative for building resilience and reducing the effects of disaster*", the Plan observes.

7th FYP has focussed some targets to be achieved by MoDMR in the plan period. Those are: i) upgrade the disaster management regulative framework; ii) risk reduction and climate change

adaptation principles (with sustainability) are mainstreamed within all development plans, programmes and policies; iii) Create a national training capacity to sustain and progressively expand the training efforts; iv) Strengthen community and household level capacity to withstand the disastrous situation; v) Establishment of DM fund the National Emergency Operations Centre (NEOC); vi) Strengthen national capacity for response management support to local disaster management committees; vii) ICT based Multi-hazard EWS at community level; viii) Establish Go- NGO and private sector coordination for disaster risk reduction; ix) Establish multi sectoral coordination system; x) Reduce vulnerability of the at risk communities through effective, targeted social safety nets; xi) Establish & strengthen the regional networks; xii) Strengthen the use of space based technology and xiii) Develop a monitoring and evaluation system to enable the effectiveness of the capacity building strategy to be measured. MoDMR has achieved some of these targets. Some initiatives and activities are on-going.

However, the 7th FYP is not beyond criticisms from the perspective of DRR and making the country a resilient nation. *Firstly*, DRF does not conceive all these targets to measure the performance of the ministry. There are only 2 indicators, such as, number of cyclone shelter and number of resilient housing. *Secondly*, DRR thematic areas and issues have not been given proper attention in the Plan book. DRR issues have been placed under “***Social Protection- social protection, social welfare and social inclusion***” as if social safety net programmes are the main functions of MoDMR. *Thirdly*, country's paradigm shift from response to more comprehensive culture and food security issue under MoDMR's mission statement has not properly been captured in the Plan book. With the start of new millennium Bangladesh, with the adoption of SOD in 1997, has started its journey towards preparedness and comprehensive risk reduction programmes to reduce the risk of disasters. Food and cash delivered to the disaster affected people are beyond response only. These are now targeted to early recovery. The workfare programmes (FFW/ EGPP, etc.) are conducted during agricultural slack seasons are targeted to help the unskilled marginalised workers to overcome economic or disaster shocks. So, the MoDMR schemes are targeted to reduce vulnerability, to provide rapid relief response, to sustain timely recovery, and to protect most vulnerable people. *Fourthly*, only 2 RIs are there in the Plan to measure the performance of MoDMR in five years period. More indicators should be there according to the challenges of DRR and Climate Change issues. *Fifthly*, the DRR should be with climate change issues and challenges as the impact of climate change are the disasters and at risk communities at the ground need support to both DRR/ CCA.

Achievement of MoDMR in line with 7th FYP is shown in Table 1 below.

Table 1

Sl	Development Result Indicators	Baseline	Target	Achievement till March 2019
1	Number of Usable Cyclone Shelters	3847 (2014)	4847 (2020)	220 cyclone shelters are under construction. 100 completed during 2011-2015. However, 423 Flood Shelters are under construction during 2016- 2019. LGED is also constructing 500 cyclone shelters under WB fund. However, in FY 2019-20 150 cyclone shelters will be constructed. (Ref. Budget Speech).

2	Number of Rural Communities with Disaster resilient Habitats and Communities Assets	18000 (2013)	25000 (2020)	No progress achieved during first 3 years of 7 th FYP. But a programme to construct 11,600 "resilient houses" has been taken all over the country in FY 2018-19.
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Source: MoDMR

Projects Implemented by MoDMR / DDM during 7th FY Plan period (Source: MoDMR)
MoDMR / DDM implemented the following projects during FY 2015-2016 to 2017-2018.

Table 2

<i>Sl</i>	<i>Title of the project</i>	<i>Number/ Length</i>	<i>Source of fund</i>
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	12,783	GoB
2	Construction of Multi-purpose Cyclone Shelters	220	-do-
3	Construction of Flood Shelters in Flood-prone Zone and River Erosion Areas	423	-do-
4	Construction of HBB Roads in the villages	2078 Km	-do-
5	Strengthening of the Ministry of Disaster Management and Relief (SoMDMRPA) project to aid the implementation of Social Safety Net Program	-	World Bank: Budget support

Besides the above mentioned projects, MoDMR organised following programmes successfully:

- Organised 2 International Conference on Disability and DRR in 2015 and 2018.
- Disaster Response and Exercise (DREE) with support from AFD and US Army
- Plantation of Palmyra tree seed to protect lives from lightning (Total 31 lac).

Projects undertaken and implemented (ADP 94% and foreign aided projects 28%) in FY 2018-19 are shown in Table 3.

Table 3

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	-Reduce water-logging -Develop rural infrastructure -Reduce risk	01/2016 – 06/2019	GoB
2	Multipurpose Cyclone shelter construction project in coastal and cyclone prone areas (2 nd phase)	-Reduce death toll -Empower the coastal people -Reduce economic loss	07/2016– 06/2019	GoB
3	Strengthening of the Ministry of Disaster Management and Relief (SoMDMRPA) project to aid the implementation of Social	- To aid the implementation of Social Safety Net Program -Enhance capacity of DDM programme supervision and monitoring	01/07/2013– 30/06/2019	World Bank: Budget support

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
	Safety Net Program			
4	Urban Resilient Project	-Enhance the capacity to combat urban disasters including earthquake	01/07/2015–30/06/2020	World Bank
5	Construction of HBB road project to improve durability of Rural roads	-Improve rural kaccha roads - Improve cyclone shelter approach roads	07/2016–06/2019	GoB
6	Construction of Flood Shelters prone and river corroding areas (3 rd stage) (01/2018 – 06/2022)	- Protect the vulnerable people at flood-prone and river eroding areas	01/2018–06/2022	GoB
7	The disasters and risk management enhancement project	-Reduce the risk of the people -DRR & CCA	07/2016–06/2021	JICA
8	National Resilience Programme (DDM Part)	-Reduce disaster risk -Building resilient nation -Inclusive DRR and CCA	01/01/2018–31/03/2021	GoB & UNDP
9	Construction of Mujib Killa, Reform and Development	-To create shelters for livestock during cyclone -Reconstruction of existing but old Killas	01/07/2018–31/12/2021	GoB

Source: Department of Disaster Management (DDM)

Projects undertaken for FY 2019-2020, the last FY of 7th FYP, are shown in Table 4 below.

Table 4

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	-Reduce water-logging -Develop rural infrastructure -Reduce risk	01/01/2018 – 30/06/2022	GoB
2	Multipurpose Cyclone shelter construction project in coastal and cyclone prone areas (2 nd phase)	-Reduce death toll -Empower the coastal people -Reduce economic loss	07/2016–06/2019?	GoB
3	The disasters and risk management enhancement project (Component 2 and component 3)	-Reduce the risk of the people -DRR & CCA	01/04/2017–30/06/2022	JICA
4	Construction flood Shelters (3 rd stage) (01/01/2018 – 30/06/2022)	- Protect the vulnerable people at flood-prone and river eroding areas	01/01/2018–30/06/2022	GoB

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
5	Construction of District Relief Warehouse & Disaster Management Information Centre	-Create Storage capacity for relief goods at the district level -Information Hub -Inspection Bungalow	01/01/2018– 31/12/2020	GoB
6	Construction of HBB road project to improve durability of Rural roads 92 nd Phase)	-Improve rural kaccha roads - Improve cyclone shelter approach roads	01/07/2018– 30/06/2022	GoB
7	Construction of Mujib Killa, Reform and development	-Create shelters for livestock during cyclone -Reconstruction of existing but old Killas	01/07/201– 31/12/2021	GoB
8	Emergency Multi sector Rohingya Crisis Response Project (01/09/2019 – 31/08/2021)	Humanitarian support to the Myanmar citizen took shelter in Cox's Bazar.	01/09/2019– 31/08/2021	GoB

Source: Programming Division, Planning Commission

From the above Tables (2,3 &4), it is evident that there are some common projects, specially infrastructure development, are being implemented by the ministry. So, it is also implied that these are the priority projects of the ministry. Hence, in the next 8th FYP these type of projects will come up. This is important to note that the proposed Development Result Indicators (DRIs) for 8th FYP shouldn't forget these types of projects.

Priority Areas of MoDMR

Considering the Vision, Mission, Allocation of Business, Disaster Management Act 2012, Disaster Management Policy 2015, Standing Orders on Disaster, National Plan for Disaster Management (2016-2020), and international frameworks, such as, SFDRR and SDGs, the following areas will be the focus and priority agenda of the MoDMR for next some years:

1. Preparedness for Risk Reduction- activation of National Emergency Operation Centre and developing communication for early warning.
2. Mainstreaming DRR and CCA at the policy level and the field level.
3. Inclusive DRR including women's leadership.
4. Creating space for persons with disabilities following Dhaka Declarations of 2015 and 2018 on disability and disaster risk reduction.
5. Insurance to cover Disaster Risk.
6. Resilient Housing for the poor and marginalised people.
7. Programmes for urban risk reduction.
8. Construction of cyclone / flood shelters till reaching the target.
9. Synchronization of DM Act 2012, DM Policy 2015, NPDM 2016-20, Delta Plan 2100 with SFDRR and SDG.

Therefore, Result Indicators for 8th FYP should cover these focus areas. And thus the following RIs have been proposed. It may be mentioned that activities undertaken in some DRR areas are not measurable; and hence they are excluded in proposed RIs. It may also be mentioned that Bangladesh's DRR is mainly public funded. But private investment is to solicited following the

**Ministry: Ministry of Disaster Management and Relief (MoDMR)
Executing Agency: Department of Disaster Management (DDM)**

Performance Indicators	Data Source	Baseline (Year)	Target (2021)	Target (2022)	Target (2023)	Target (2024)	Target (2025)	Comment
1	2	3	4	5	6	7	8	9
1. Preparation of Contingency Plans / Guidelines for different GoB Agencies	DDM	DM Act, DM Policy & some Guidelines adopted (2012-2017)	Contingency Plans for Different Agencies Hazard Specific Risk Assessment Guidelines	Contd.	Contd.	Contd.	Guidelines for all agencies prepared, adopted and published	
2. Number of Guidelines Prepared as referred in the SOD (Total-15)	DDM	Only 3 Guidelines prepared	3	3	3	3	15	
3. Number of officials trained on professional skills and on disaster risk management and climate change risk management	NDMRTI/ MoDMR	1000 (2020)	800	800	800	800	5000	Training Centre has been developed at DDM office and trainings are being provided
4. Number of Resilient Housing built	DDM	29600 (2019)	2080	2080	2080	2080	40000	Policy Guideline is needed
5. KM of Cyclone Shelter approach road and HBB road in Disaster-prone area	DDM	100 km (2019)	200 km	200 km	200 km	200 km	900 km	May be the mandate of HBB rural road project
6. Number of Cyclone Shelters constructed. [MoDMR fixes new target]	DDM	4000 (2020)	400	400	400	400	6000	5000 was mentioned in Multi-purpose cyclone shelter Guidelines.
7. Number of CPP and Urban Volunteers Trained for Search and Rescue with Database	DDM in coordination with CPP / BDRCS and FSCD	CPP- 56,000 & Urban- 30,000	CPP- 6000 Urban- 6000	CPP- 6000 Urban- 6000	CPP- 6000 Urban- 6000	CPP- 6000 Urban- 6000	CPP- 86,000 Urban- 60,000	
8. Use of space technology for multi-hazard EWs.	DDM under PPP	Assessment Complete	PPP program under-	Officials trained	Equipment Procure	Trial & Test started	Space Technology is used	UNSPIDER has done the assessment.

Performance Indicators	Data Source	Baseline (Year)	Target (2021)	Target (2022)	Target (2023)	Target (2024)	Target (2025)	Comment
1	2	3	4	5	6	7	8	9
MRVA cell in DDM needs to be activated.		d (2013)	taken		d		for multi-hazard EWs	The cell & NEOC will increase the availability of and access to multi-hazard early warning systems and disaster risk information
9. Activate MRVA Cell in DDM. and NEOC in MoDMR	DDM under PPP	Cell established in 2016	program undertaken	Officials trained	Equipment Procured	Trial & Test started	MRVA Cell in DDM is activated	
10. Number of MoDMR & DDM officials trained on results based monitoring and evaluation system	NDMRTI	00 (2020)	20	20	20	20	100	
11. Number of unused cyclone shelters re-constructed	DDM	500 (2009)	100	100	100	100	100	

Strategy and Action Plan

It is observed that the literature part of the FYP discusses vision, mission and most of the policy strategy and activities of the ministry. But this part is seldom read and action plan is prepared. The ministry is not accountable to perform these activities. Rather, the achievement of the ministry is measured by the RIs inserted in the Plan book. Hence, a Strategy and Action Plan may be suggested and the ministry may be asked to report on the actions mentioned in the Plan book. The 7th FYP discusses four category of goals and one cross-cutting issue. These goals are still valid and important as they are related to inclusive DRR and CCA, gender responsive and risk informed development of the country. Such strategy and action plan may be developed in line with the SFDRR target of preparing national and local risk reduction strategies. The proposed DRR Strategy and Action Plan may be based on the following Thematic areas:

1. Strengthening Institutional Mechanism
2. Mainstreaming DRR and CCA across ministries and departments
3. Risk informed development with understanding of underlying risk of development
4. Inclusive development with emphasis on gender and equity, gender and development and disability and DRR.
5. Sustain the resilience of human and economic development, resilient post disaster response and reconstruction based on the theme of "Build Back Better".
6. Social protection for ensuring food security and capacity development
7. Multi-hazard early warning and Emergency Operation system.

Conclusion

Disaster and climate change risks are still not at the quantification level. Hence, some of the result indicators proposed above may be difficult to estimate and this may bring difficulties in

assessing the progress performance. However, there is scope to develop a monitoring system to disaster and combat climate change. In addition to DRIs a Strategy and Action Plan may work well to assess the performance of the ministry.

Chapter I

Assessing the Achievement of MoDMR as mentioned in the 7th FYP

1. Introductory background

1.1 National Resilience Programme (NRP)

NRP is working to sustain the resilience of human and economic development in Bangladesh through inclusive, gender responsive disaster management and risk informed development. NRP is a joint programme being implemented by four GoB agencies- Department of Disaster Management, Programming Division of Bangladesh Planning Commission, Department of Women Affairs and Local Government Engineering Department. Overall objectives of the NRP Programming Division part is to improve capacities for gender responsive, risk informed development planning. This NRP sub-project is supporting capacity development for disaster and climate risk informed planning and project development, targeting planning officials and policy makers at the macro level, project appraisal stage, and project formulation stage in key sectors. Three priority areas of this sub-project includes – Understanding Disaster Risks, Strengthening Disaster Risk Governance and Investing in Disaster Risk Reduction for Resilience. In 7th Five Year Plan the Ministry of Disaster Management and Relief has set four (4) broad areas of goals and one cross cutting category of strategy to make the country disaster resilient and ensure economic development through sustainable growth. The present study is the outcome of NRP- Programming Division of Planning Commission led initiative to assess the achievement of Ministry of Disaster management and Relief (MoDMR) over a five year period as mentioned in the 7th Five Year Plan and develop result indicators for the 8th Five Year Plan.

1.2 Clarification of few important targets of NRP

1.2.1 Sustain resilience of human and economic development:

It is important to note that NRP is aimed at an economic development of the country with commitment for disaster risk reduction where ***resilience already shown by the communities at risk to be made sustainable***. Bangladesh's DRR activities have been welcomed by with commendable remarks by the world community. The country has successfully reduced the death toll (the first target incorporated in the Sendai Framework for DRR (SFDRR 2016-2030 adopted in World Platform in Sendai, Japan) of its citizens from hundred thousand (500,000¹ during Bhola cyclone of 1970 and 138,866² during Gorki cyclone of 1991) to only 3,406 human death during SIDR of 2007, having similar velocity of wind and devastating in character with the cyclone Bhola and Gorki. In the following years the death toll has come down to 2 digit only, e.g., only 18³ recorded in cyclone Mahasen of 2013 and 24⁴ during cyclone Roanu of 2016. Thus Bangladesh has created a history of avoiding of loss and damage from cyclone disasters. This has

¹ https://en.wikipedia.org/wiki/1970_Bhola_cyclone.

² https://en.wikipedia.org/wiki/1991_Bangladesh_cyclone.

³ Department of Disaster management (DDM). <https://www.ddm.gov.bd>

⁴ Ministry of Disaster Management and Relief (MoDMR). <https://www.modmr.gov.gov.bd>

been possible only because of Early Warning, preparedness including construction of good number of cyclone shelters and *Mujib Killas*, elevated land for shelter of livestock near the cyclone shelters, engagement of trained volunteers under Cyclone Preparedness Programme (CPP), a joint venture of Bangladesh Government and Bangladesh Red Crescent Society, awareness building in the communities, functioning of the disaster management committees from central to different levels of field administration and tiers local government, prepositioning of humanitarian assistance, and, of course, resiliency created among the citizens, among both men and women, in the disaster-prone areas to whom disaster like flood is a normal event, comes every year, and cyclones to combat with unity and courage. However, constant vigilance and support (financial and technical) targeted to enhance the capacity of the people of disaster-prone areas as well as mainstreaming DRR among the functionary ministries and government agencies including non-government organizations (NGOs) are required to make the resilience power of the people sustained and everlasting.

1.2.2 Inclusive DRR:

Inclusive DRR is also important as well. The participation of women in DRR is important too. 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. Table 1 below shows the prevalence and type of disability in Bangladesh based on Census 2011.

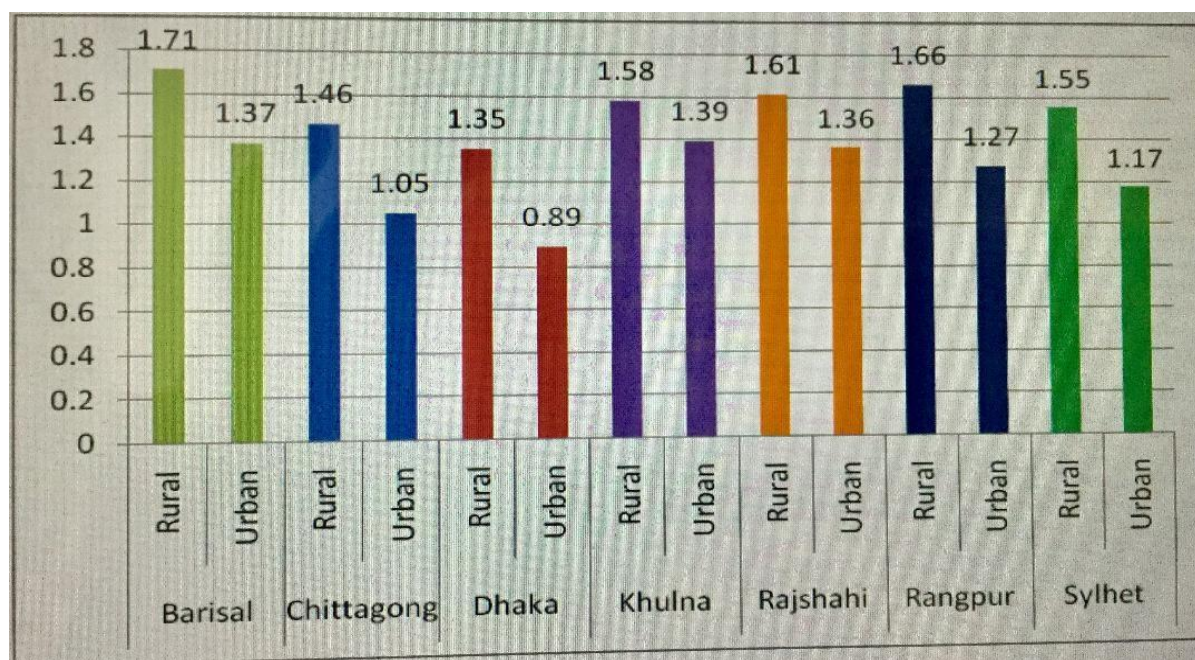
Table 1

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

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

Distribution status of persons with disability division wise and urban and rural basis in the figure 1 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.

Figure 1



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.

1.2.3 Risk informed development:

Similarly, *risk informed development* including underlying risk of development needs to be understood clearly to stop import of further risk and disaster/s from desired development programmes. As usually a country's development programmes are targeted for economic growth and to provide ease, facilities and peace to its citizens. But for achieving the intended economic growth and creation of more facilities of the citizens sometimes "little compromise" is made knowingly between and among the development programmes and "temporary" loss. Sometimes these happen without the proper knowledge of the planners and implementers. But such type of compromised or unintended activities may bring large scale disaster/s that may ruin the success of development and growth. Any unwise intervention to nature is harmful. It is observed that nature takes retaliation in course of time, and may bring disastrous situations causing heavy and sometimes long lasting or slow-onset sufferings to the human kind. Sometimes the development programmes of developed countries may bring disasters to another country. As it is said that Bangladesh is the innocent victim of climate change at the moment. The emission created by the industrially development countries⁵ the frequency of disasters has been increased in hot spots of the globe. Nature's behaviour is being irritating. Impacts of disasters have also been intensified in different parts of the world including Bangladesh. Number of floods and cyclone events have been increased in Bangladesh and loss and damage including economic loss have been increased.

Floods in Bangladesh

Flood is very common. It occurs almost every year. Sometimes big floods cause huge economic loss and human death. Table 2 below shows the number of floods occurred in the country after its independence year.

Table 2

Year	Flooded Area	Percentage of Total Area	Number of Death
1971	36475	24	120
1974	52720	35	1987
1984	28314	19	513
1987	57491	38	1657
1988	77700	52	2379
1998	100000	68	1050
1971	36475	24	120
1974	52720	35	1987
1984	28314	19	513
1987	57491	38	1657
1988	77700	52	2379
1998	100000	68	1050

Source: *Floods in Bangladesh - Wikipedia.html*

⁵ UNFCCC: Annex 1 and Annex 2 countries identified in COP meeting. <https://unfccc.int/parties-observers>

Bangladesh is an agricultural country. So, flood causes heavy damage in this sector. The country faced severe floods in 1988 and 1998. The 1998 flood was lasted for more than 60 days when 68 percent of the country was flooded. The following table (table 3) shows the crop loss and total economic loss in Bangladesh due to flood from 1974.

Table 3

Year	Crop Damage (Million Tons)	Total Financial loss (Million Taka)
1974	1.4	20000
1980	0.4	4000
1984	0.7	4500
1987	1.5	35000
1988	3.2	40000
1998	4.5	142160

Source: *Floods in Bangladesh - Wikipedia.html*

During 2007 flood 38 people died with number of people missing. A population of 4,54 million were affected and some 2, 65,185 people were displaced and took shelters in 589 camps in 36 (out of 64) districts⁶. During August 2014 flood more than 2.8 million people were affected. More than 57,000 households (275,000 people) were displaced. Death toll was very low - only 9, but houses of more than 31,000 families had been inundated and totally damaged⁷.

Cyclone in Bangladesh

The coastal strips of Bangladesh is frequently hit by cyclones and storm-surge. The following table 4 shows the occurrence of cyclones in the country with human death.

Table 4

Year	Name of Cyclone	Human death
1970	Bhola Cyclone	300,000 (with large number of people missing)
1988	Cyclone and storm-surge (in Urir Char and other islands)	5704
1991	Gorki	138,868
1997	Cyclonic Storm	550
2007	Sidr	3,406
2009	Aila	190
2013	Mahasen	18
2017	Ruano	24

Source: *MoDMR/ DDM*

⁶ <https://reliefweb.int/report/bangladesh/bangladesh-flood-2007-sitrep-no-9>

⁷ <https://reliefweb.int/disaster/fl-2014-000117-bgd>

The above table reveals that human death has been reduced tremendously. Bangladesh has successfully translated early warning into community language, created awareness among the people, engaged the volunteers under Cyclone Preparedness Programme (CPP) and thus reduced the death toll to two digit.

Earthquake in Bangladesh

Bangladesh is also at the juncture of several tectonic plate boundaries and active faults. History of earthquakes in Bangladesh tells that there were there occurred earthquake in Northern India, Southern Bangladesh/ Myanmar and North East India. Three “mega-quakes” occurred along the northern boundary of the Indian plate (in 1125, 1400, and 1505). In each of these earthquakes, the Himalayan Mountains pushed several meters over the India Plate. A huge earthquake and tsunami occurred in 1762 along the Burma Arc plate boundary. This earthquake changed the landscape and uplifted many islands. In North-East India In 1897, a massive earthquake occurred at Dauki fault along the Shillong Plateau. This earthquake is known as Great Indian Earthquake. The force pushed up the northern edge of the plateau several meters. About 125 miles (200 km) away, many buildings in Dhaka were destroyed⁸. Bangladesh faces small scale earthquake shaking almost every year and most of these shaking have taken place in Nepal, North-East India and Myanmar region. The country doesn't have recent experience of earthquake. The last one (The Great Indian Earthquake in North -East India) was occurred more than 100 year ago. The strength of that earthquake was 8+ in Richter Scale and its intensity was 8. At the time Bangladesh was like a village. There were no buildings except few in Dhaka city. Now there are high rise buildings in the city and Sylhet city very close to Dauki fault. Since no earthquake hit this land for more than 100 years scientists and researchers often say that a severe earthquake may occur at any time. But the preparation of the government to face an earthquake and activities to reduce the damage and human death is not satisfactory. Procurement of equipment's, few irregular drill in the school, limited awareness building activities are not sufficient. The following table (table 5) shows an estimate (prepared in 2009) of loss and damage due to earthquake of 7.5 Richter scale in three populated cities of Bangladesh fall in earthquake zone.

Table 5

City	Severe damage of buildings	Estimated building related loss (US \$ in million)	Probable number of death (2 am)	Probable number of death (2 pm)
Dhaka	73%	15,603	260,788	183,450
Chattagram	78%	3,112	95,183	73,213
Sylhet	98%	1,105	20,708	14,276

Source: CDM, MoDMR

Bangladesh National Building Code was formulated in 1993, however, the Code could not been implemented. Recently the Code has been revised, but needs to be implemented. We know Japan faces earthquake every so often. They are committed to revise their laws and rules after every big shock as evident from following table 6.

⁸ American Museum of Natural History

Table 6

Enactment and Revision of Laws and Rules in Japan	Year
Reinforced concrete construction after Kanto, Tokyo EQ	1924
Urban building Law after World war damage	1945
Building code revision after Tokachi -0ki EQ (1968)	1971
Amendment of BSL (new seismic codes), After miyagi offshore EQ	1981
Building code after Kobe EQ	1996
Amendment of BSL -	1998
Amendment of the Act , promotion of retrofitting after Fukuoka EQ	2006

Bangladesh has been trying hard to attain a sustainable economic development with a target to be placed itself as a developed country by 2041. This means huge investment in infrastructures including energy and communication will be done. So, if the *concept of underlying risk* (underlying risk has been discussed further in paragraph 2.5) is undermined and not considered properly the country's targets may not be achieved in time due to import of new risks and disasters. The solution here is the *concept of risk informed development*. During the process of planning up to implementation the flow of information on certain and uncertain risks should be there. Now -a- days Disaster Impact Assessment (DIA) like that of Environmental Impact Assessment (EIA) is being suggested to be carried out before taking any development project. DIA is a methodology to assess development projects from the viewpoint of disaster risk reduction by identifying the underlying risk of the implementation project and taking measures to address those risks in the project implementation. Main characteristics of DIA are (i) to minimize impact of disasters and (ii) to identify mitigation measures. This is done when designing the project to reduce the loss and damage where disasters cannot be prevented; and during under design to ensure design counter measures so that new disaster are not generated.

1.2.4 DRR Information to be translated into actions.

However, *information and knowledge can't alone help DRR unless they are translated into actions*. For example, vulnerability maps may be developed for sustainable development, risk maps may be developed for DRR, or predictive climate models may be there for climate change, but they will not bring fruitful results unless such knowledge and information are used in a coherent and holistic manner or made readily accessible. Here comes the point of use of technology properly, and transfer of know-how including technology to the left-behind nations, which always a very difficult however for many reasons.

1.2.5 Mainstreaming of disaster risk reduction

At the same time *mainstreaming of disaster risk reduction*, scope of risk reduction, sharing of knowledge on impacts of climate change, adaptation and risk reduction practices and sharing good practices being carried out elsewhere in the world to be done by the focal ministry/ department on disaster management. Mainstreaming of DRR is not a new concept, but very often forgotten. It is important to sharing knowledge on overcoming disaster risks. The priority 02 (Strengthening disaster risk governance to manage disaster risk) of the Sendai Framework for

Disaster Risk Reduction (DRR) 2015-2030 emphasizes on integrating DRR within all sectors at the national level in order to manage disaster risks.

The very term mainstreaming derives from the metaphor of a small, isolated flow of water being drawn into the mainstream of a river where it will expand to flow smoothly without loss or diversion. Mainstreaming risk reduction describes a process to fully incorporate disaster risk reduction into humanitarian assistance and development policy and practice. It means radically expanding and enhancing disaster risk reduction so that it becomes normal practice, fully institutionalized within an agency's into humanitarian assistance and development agenda. There are six areas where mainstreaming of DRR can be done. They are: (i) Policy & Plan, (ii) Strategy & Action, (iii) Targeting: Inclusion & Exclusion including geographical targeting, (iv) Project cycle management, (v) Institutional capacity and (vi) External relation / Cooperation.

There are three purposes of mainstreaming DRR. *Firstly*, to make certain that all the development programmes and projects that originate from or are funded by an agency are designed with evident consideration for potential disaster risks and to resist hazard impact.

Secondly, to make certain that all the development programmes and projects that originate from or are funded by an agency do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment.

Thirdly, to make certain that all the disaster relief and rehabilitation programmes and projects that originate from or are funded by an agency are designed to contribute to developmental aims and to reduce future disaster risk.

On 8th October 2008 a decision was taken in the ECNEC that DRR to be taken into consideration of all development projects or programmes. If Mainstreaming of DRR is done the country will be benefitted by implementation of SFDRR and SDGs, and there will be development in infrastructure, livelihood, economy, investment, environment, sustainable development, people's empowerment through mainstreaming marginalised communities and poverty reduction.

1.3 Scope of the Study

The overall objective of this study is to evaluate the achievement in disaster management initiatives incorporated in 7th FYP and propose Result Indicators for 8th FYP. The specific objectives are i) to identify and gain a better understanding of the contribution of 7th Five Year Plan result framework for disaster risk-informed development in Bangladesh, ii) to assess the gaps and challenges of integrating/implementing disaster risk-informed indicators in the 7th FYP Development Result Framework (DRF) and to identify opportunities and develop strategies to mainstream disaster risk-informed indicators into the 8th FYP (2020-2025) result framework.

1.4 Methodology

1.4.1 Desk Review

Detailed study carried out on progress of the MoDMR/ DDM against the planned activities in first three years of the planned period of 7th FYP for disaster management in four broad areas and one cross cutting strategy areas as mentioned in the Plan. A list of projects implemented by the MODMR/DDM during 2016-2018 and remaining works planned to implement in the following years (2019-2020) of 7th FYP had been discussed. In doing this work review was done on country's existing legal framework, e.g., Disaster Management Act 2012, Disaster management Policy 2015, Standing Orders on Disaster (SOD) as revised in 2019, Adaptation to Climate Change into the National and Local Development Planning (ACCLNDP), GED, Planning Commission, Bangladesh Delta Plan 2100 (GED), Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 and National Adaptation Programme of Action (NAPA) 2009 (Revised) for Bangladesh, etc. Besides regional and international drivers on DRR policy and frameworks specially SAARC Framework on Comprehensive Disaster management, Bangladesh's achievements in implementing Hyogo Framework for Action (HFA 2005-2015), Sendai Framework for Disaster Risk Reduction (SFDRR) 2016-2030, New Delhi Declaration, Asian Regional Plan for Implementation of the Sendai Framework adopted at AMCDRR 2016 and its linkages with Sustainable Development Goals (SDGs) 2016-2030, Dhaka Declaration on Disability and Disaster Risk Management, etc., were reviewed in country context. Moreover, much consideration was given on other cross-cutting issues, for example, activities should be undertaken in line with a sustainable and resilient human and economic development through inclusive, gender responsive and risked informed development.

1.4.2 KIIs

KIIs was done in the MoDMR/ DDM and other relevant ministries and GoB agencies, Programming Division and General Economic Division of Planning Commission for capturing the success achieved by the MoDMR in line with 7th FYP implementation that also covers the four broad areas and one cross cutting strategy mentioned in the Plan, priority areas of the MoDMR expected to be done in remaining two years of 7th FYP implementation period 2018-19 and 2019-20), and to understand views on inclusive development, gender responsiveness, mainstreaming DRR and risk informed development, and, not the least, the broader and specific expectations in the forthcoming 8th FYP. In the MoDMR senior officers working in the Development Wing and Planning Cell had been selected for in-depth interviewed to understand the projects undertaken and implementation status. Senior level official working in Disaster management was also interviewed to understand the ministry's future plan. Well-known actors in the field of DRR working in the I/NGOs in the country were also interviewed.

1.4.3 Consultative Meeting with MoDMR and Programming Division

At the beginning an introductory meeting was organised by the project management at Programming Division. One consultative meetings⁹ were arranged by NRP- Programming Division Sub-Project in the Programming Division. Chief of the Division chaired the meeting. The purpose of the meeting was to understand the ToR of the assignment, methodology and planning process offered by the consultant, Scoping of the assignment and areas would be covered. Officials from related ministries, divisions, department were present and took part on the initial presentation/ inception report submitted by the consultant. The meeting was very fruitful. A third meeting¹⁰ was convened by the Ministry of Disaster management and Relief (MoDMR) chaired by the Additional Secretary (Planning and Development) on 6th May 2019. The senior level officials of the ministry and Directors from DDM joined the consultation. Those meetings were fruitful and useful discussions were taken place on the performance of the MoDMR and the ministry's focus areas in line with prioritization risk prevention and risk reduction activities, etc., that helped the consultant in shaping the report.

1.5 *Limitations*

Time given for the assignment was very short - only 22 working days; but the study required a very intensive work in the ministry (MoDMR) and the department (DDM), Programming Division of the Planning Commission and NRP project office. It was observed that MoDMR and DDM had been implementing a large number of projects/ programmes, however, not reflected in result framework of 7th FYP.

2. **Concept of Disaster Risk reduction as reflected in the 7th FYP**

2.1 *Growth is the main target in 7th FYP*

Seventh Five Year Plan 2016-2020 has been adopted with the vision of "accelerating growth and empowerment of every citizen". The goals and targets of the 7th FYP have been formulated according to government priority on sectoral development. The first and foremost target is to attain average real GDP growth 7.4 % per year over the plan period. The growth target is followed by poverty reduction. The reduction of head-count poverty by about 6.2 percentage point and reduction in extreme poverty by about 4.0 percentage point. Economic growth and reduction of poverty have impacts on risk reduction no doubt, as because, poor people are the most vulnerable to climate change and natural disasters. It is expected in the 7th FYP that once these people come out of poverty cycle they can use their own resources to risk reduction activities at the household level and more can be engaged in innovation and climate change adaptation programmes. The plan also focuses on increase of contribution of manufacturing sector in GDP which means more production, more jobs and more internal consumption. This will also help the nation to combat disasters and climate change impacts. Other areas of the 7th Five Year Plan are human resource development through education, health and population, water and sanitation, energy and infrastructure. Emphasis is also given on gender equity, income inequity and social protection. Environmental sustainability is one of the goals and targets too.

⁹ Please see: Annex 1

¹⁰ Please see: Annex 2

The goals and targets of Ministry of Disaster Management and Relief (MoDMR) have been discussed under "**Chapter 14: Social protection**", the last chapter of the plan book. It is based on the conception of poverty alleviation through social safety net programmes which ultimately would enhance the capacity of the poor and disadvantage people to combat with natural and other disasters, and climate change impacts.

2.2 Disaster Management Context in 7th FYP and Key Policies /Programmes highlighted in the Plan

The overall objective of disaster management in the 7th Five Year Plan (2016-2020) is to reduce the exposure and vulnerability of the people specially the poor and disadvantage to geo-hydro-metrological hazards, environmental impacts and climate extreme events, man-made disasters, chemical hazards and to make the poor and vulnerable people resilient to all sorts of hazards and disasters through resilient human habitat, safe resources, constant economic growth and sustainable development. The Plan emphasizes on equity and justice, inclusive growth with special reference to women's advancement as self- human beings, reducing discriminatory barriers by taking both developmental and institutional measures. Regarding risks, vulnerability from climate change, environmental degradation and disaster preparedness the Plan reiterates the Bangladesh Government's programmes to address climate change and disaster prevention as a part of its broader development effort. *Agricultural research, embankment and reforestation programmes, disaster preparedness etc. are its priority areas which, the Plan says, are already making important inroads in lowering the vulnerability of the population to climate change and natural disasters.* Longer-term programmes such as the planned **Delta Region Development** (Delta Plan 2021) can be of further benefit in this regard. It is praiseworthy to say that the 7th FYP (2016-2020) captures MoDMR's vision, mission, strategies, policy and five year National Plan for Disaster Management (2010-2015).

2.3 How much of a priority is DRR in 7th Five Year Plan?

The previous FYPs, except 6th FYP and 7th FYP, mentioned mainly on post disaster response and relief operations of the then Ministry of Food and Relief, and safety net schemes conducted by the ministry as poverty reduction programmes. From 6th FYP (2010-2015) disaster risk reduction has got an importance in plan books. The 7th FYP (2016-2020) looks back the progress of disaster management attained during the five year period of previous such plan- the 6th FYP, and observes that "the disaster management programmes have generally performed well in the recent years and the progress continued under the Sixth Plan. The ability to sharply reduce the loss of lives and injuries based on a combination of early warning system, construction and availability of shelters and timely provision of relief and support measures are indicative of the good progress here."¹¹ The review also notes that further efforts are needed

- to build the **resilience** of the people
- minimize the adverse impacts of natural disasters on people's livelihood.

Thus in a way the Planning Commission has captured the notion of **paradigm shift** of the MoDMR from initial response and relief culture to a comprehensive risk reduction culture.

¹¹ Bangladesh Planning Commission, Seventh Five Year Plan (2016-2010), page 19.

2.4 Four categories of Goals and One cross-cutting issue¹²

It is expected in the 7th FYP that following the Disaster Management Act 2012 MoDMR would be able to establish decentralized DRR mechanism through the committee system infrastructure. The Plan identifies four categories of goals and one cross-cutting category for the MoDMR and details out the activities need to be implemented for disaster risk reduction of this deltaic plain. The goals are as follows:

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.

¹² Bangladesh Planning Commission, Seventh Five Year Plan (2016-2010), page 633.

- 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

Two Cross-cutting issues have been discussed in the Plan. Those are:

- 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.

2.5 Monitoring Mechanism and Financing systems:

The 7th FYP also highlights the necessity to establish monitoring and financing system for DRR. The Plan says that to facilitate the institutional mechanism for monitoring, a vulnerability index will be developed which will help channelize equitable resources to the targeted districts. The vulnerability index will also help to monitor the outcome level results of plans and programmes. Overall performance of the various plans, programmes and projects will be tracked by developing focused and specific DRR-CCA indicators. A financial management reform in MoDMR and DDM will help improve the implementation capacity to deliver services in a transparent, accountable and cost-effective manner. GoB will consider developing a policy on DRR financing, considering different financing models, and allocate sufficient national budget to initiate action whilst welcoming international contributions in support of national efforts, as well as Public-Private Partnerships and the support of civil society and volunteer organisations, to deliver sustainable enhancement of disaster resilience.

2.6 Issues and challenges of DRR as reflected in 7th FYP

The two issues and challenges to reduce disaster risks and their impacts on the livelihood of the people have been mentioned in the 7th FY Plan. They are:

- i) a major challenge is the *management of the river system*.
- ii) the other challenges relate to *managing the climate change agenda*.

Bangladesh is a country abounding in rivers. There are about 300 rivers in Bangladesh. Out of these rivers 57 are Trans-boundary. These rivers have travelled one or two countries before entering Bangladesh. The concept of Trans-boundary Rivers should be understood for DRR. The Sixth Asian Ministerial Conference on Disaster Risk Reduction (6th AMCDRR) on a proposal raised by Bangladesh the following paragraph has inserted in its input document: "The complex, trans-boundary nature of disaster risks also needs to be well understood. This requires regional and global cooperation to facilitate improved information generation and sharing on topics such as real time data for forecasting of flood and drought patterns of trans-boundary rivers, management of river basins, and climate regions. Regional cooperation should also provide space for local government as well as community-to-community collaboration in disaster risk reduction."¹³ The Joint River Commission of Bangladesh and India has been working on the sharing of water of such common rivers and on other issues. But there are some rivers before entering into Bangladesh have travelled different countries in the region. Since Bangladesh is a lower riparian country so real time data of the flow of water in the upper stream is necessary to prepare the early warning for flood. But such real time data are not being shared by neighbouring country. As a result some sudden flood happens in the country. Therefore, in line with the decision of the Sixth AMCDRR regional level cooperation for 57 Trans-boundary Rivers is needed to cope with floods in the country and the region.

Managing the climate change agenda is now a hot issue. According to IPCC 17 percent of the coastal area of Bangladesh will go under sea water within 2100 because of sea level rise due to global warming. Mami Mizutori, Special Representative of the Secretary-General for Disaster Risk Reduction, said: "No part of the globe was spared from the impact of extreme weather events last year. Examined floods, droughts, storms and wildfires affected 57.3 million people, underlining once more that if we want to reduce disaster losses, then we must improve how we manage disaster risk." He further said, "Time is running out for limiting global warming to 1.5°C or 2°C. We have to be equally active about climate change adaptation which means reducing disaster risk in our cities, avoiding the creation of new risk by better land use, stronger planning regulations and building codes, safeguarding protective eco-systems, reducing poverty, and taking active measures to reduce exposure to rising sea levels."¹⁴

Bangladesh is the innocent victim of climate change. Bangladesh's emission is very much negligible. But Climate change has become threat to food security, water security, health security, energy security, smooth development, migration/IDP and poverty of the country.

¹³ Sixth AMCDRR, June 2014, Bangkok: Asia-Pacific Input Document for the Post-2015 Framework for Disaster Risk Reduction (HFA2)/ https://www.preventionweb.net/files/38055_hfa2inputfinal.pdf

¹⁴ Source: Centre for Research on the Epidemiology of Disasters: 2018: Extreme weather events affected 60 million people.

Modelling suggests that 1 million people will be directly affected by sea level rise in 2050 in the region of the Bangladesh Ganges-Brahmaputra-Meghna mega-delta. Moreover, Bangladesh's coastal areas will continue to suffer from saline water intrusion, coastal land degradation, storm surges and drainage congestion due to high water flow and sedimentation in the flood plain. Moreover **Ecosystems and biodiversity**: Increased salinity/ salt water intrusion is likely to adversely effect the ecosystems and biodiversity of the coastal areas of the country. It will effect the trees of the sunderban, whilst lower river and ground water flows may lead to desertification in some areas of the costal zone. It is estimated that a 45cm rise in sea level would inundate 75% of the sunderban.¹⁵

2.7 Further Challenge of long-term planning and substantial public investment

In order to manage the river system of the country, implement the climate change agenda to carry out the disaster risk reduction activities and climate change adaptation programmes the 7th FYP observes that "**long-term planning and substantial public investment will be necessary**. The formulation of the **Bangladesh Delta Plan-2100** and its timely implementation during the 7th FYP "**will be a major long-term policy and institutional initiative for building resilience and reducing the effects of disaster**."¹⁶

2.8 Goals, Plans and strategies of the MoDMR as reflected in 7th FYP

The sub-head of "Activities under the 7th FYP for MoDMR"¹⁷ the Plan presents the goal, overall targets, strategies including MoDMR's 4 broad categories of goals and one cross-cutting category issue to make the country more disaster resilient as follows: **Goal: Overall goal is to reduce and mitigate the effects of the underlying risk**. Here the point needs to be understood by the development planner is: *what is really meant by "underlying risk?"*

2.9 "Underlying Risk" needs to be understood

Underlying risk is often related to development and is defined as," processes or conditions, often development-related, that influence the level of disaster **risk** by increasing levels of exposure and vulnerability or reducing capacity."¹⁸

Underlying disaster risk factors are also termed as underlying disaster risk drivers. They include poverty situation in the country, justice and inequality status, climate change and variability, unplanned rapid urbanization and development, lack of knowledge and proper understanding on land zoning and land management, reckless interventions in nature and environment, improper use of natural resources. There are other factors like demographic change, non-disaster risk - informed policies, lack of proper legal framework on disaster management, poor private investment in disaster education, complex supply chain, failure to understand the dimensions of food security, lack of or limited use of technology, failure to preserve echo-system and bio-diversity, pandemics and epidemics. These factors are to be understood properly and while any

¹⁵ Policy Briefing on Climate Change in Bangladesh produced by Practical Action in 2008.

¹⁶ Bangladesh Planning Commission, Seventh Five Year Plan (2016-2020)

¹⁷ Bangladesh Planning Commission, Seventh Five Year Plan (2016-2020), page- 632.

¹⁸ UNDRR: Terminology as cited by Prevention Web: <https://www.preventionweb.net/terminology/view/51762>

development work these factors are to be considered first. Unless good development initiative can bring disaster and sufferings to the communities.

2.10 Targets of MoDMR as highlighted in the Plan and their achievement by ministry

The 7th FYP highlights as many as 13 (overall) targets of MoDMR. In the following Table 7 the targets as well as achievements of the ministry are discussed.

Table 7

SI No	Targets focused in the Plan	Achievement by MoDMR	Comment: Gaps and Issues
1.	Upgrade the disaster management regulative framework	Disaster management Act2012 and Disaster Management Policy 2015 have been formulated by the ministry during 6th FYP period in response to HFA (2005-2015). However, During 7th FYP period DM Act has been updated, Besides NPDM 2016-20, Dead Body Management and organisational structure and operational process of NEOC have been formulated. SOD has been revised in 2019. The Rules for formation of National disaster Volunteers, Guidelines for Debris Management, Rules for DM Fund are under review. Plan of Action to Implement Sendai Framework for Disaster Risk Reduction 2015-2030 has been prepared. SDG Action Plan for MoDMR has been prepared too.	As per Standing Orders on Disaster 18 Guidelines need to be formulated for risk reduction and adaptation and better coordination at the national and field levels. So far 3 guidelines have been prepared. A guideline for Disaster Impact Assessment (DIA) is under process at Programming Division of Planning Commission following a decision of the National Disaster management Council headed by the Prime Minister recently.
2.	Risk reduction and climate change adaptation principles (with sustainability) are mainstreamed within all development programmes, plans and policies.	The Planning Commission has to take the lead here. MODMR has already approached the Planning Commission and submitted a Guideline prepared under CDMP in 2009- " Development Project proforma/ Proposa (DPP) Mannual; ¹⁹ but the guideline has yet to be approved by the Planning Commission.	
3.	Create a national training capacity to sustain and progressively expand the training efforts	Training Institute has been established at the upper floors (newly constructed) of the DDM. Training programme has been started there.	

¹⁹ General Economic Division: Development Project Performa / Proposal Manual (Instructions for Preparing Development Project Proposal), Part-1 and 2, March 2014.

SI No	Targets focused in the Plan	Achievement by MoDMR	Comment: Gaps and Issues
		The GoB and local government officials are receiving training there.	
4.	Strengthen community and household level capacity to withstand the disastrous situation	Community Risk Assessment (CRA) prepared during 6th FYP period needs to be activated. Programme for awareness and capacity building is going. Close collaboration with DPs and I/NGOs has been established.	
5.	Establishment of DM fund the National Emergency Operations Centre (NEOC)	Steps taken to create DM Fund. Draft Rules prepared. Now pending for the approval of Ministry of Finance. The organisational structure and operational process of the National Emergency Operations Centre (NEOC) has been approved by the government recently including the Terms of Reference (TOR), activation process and Standard Operation Procedure (SOP).	
6.	Strengthen national capacity for response management support to local disaster management committees	Revision of SOD: Formation of new committees including WARD Committee below union level. Such committee will work closely with the communities, as expected.	
7.	ICT based Multi-hazard EWS at community level	Ministry is working to translate the EWs issued by BMD and FFWC into community language. Volunteers are being trained.	Inundation Map / Risk Map for Storm-surges 5to br updated. Micro-zonation Map has been developed for 6 citiesonly. Othher urban areas fall within earthquake zone to be prepared. MRVA Cell at DDM need to be activated. To use space-based technology cooperation with JAXA, UNSPIDER and other organisations to be developed. Besides, Damage and Needs Assessment (DNA) Cell needs to be upgraded . Proper Technical HR is required.
8.	Establish Go- NGO and private sector coordination for disaster	Several platforms are there, such as, Coordination Committees for the NGOs at Upazila, District and	Ministry should organise consultation meetings on regular interval.

SI No	Targets focused in the Plan	Achievement by MoDMR	Comment: Gaps and Issues
	risk reduction	National level at the DDM. LCG-DER is also a platform with participation of DPs and I/NGO representatives.	
9.	Establish multi sectoral coordination system	National Platform for DRR is there.	Regular meeting to be organised.
10.	Reduce vulnerability of the at risk communities through effective, targeted social safety nets	Several food based and cash based programmes are there and are being conducted as per respective guidelines. "Resilient Housing" programme has been undertaken. 11,500 houses have been constructed and distributed among the poor on grant.	
11.	Establish & strengthen the regional networks	Good initiative taken during 7th FY Plan period. 2 International Conferences on Disability and Disaster Risk Reduction have been organised and "Dhaka Declaration" was adopted. Laudable participation was taken place in WCDRR, Geneva by the Ministry.	
12.	Strengthen the use of space based technology	No exemplary development found.	Cooperation with JAXA, UNSPIDER and other organisations to be developed. Tech. HR is needed.
13.	Develop a monitoring and evaluation system to enable the effectiveness of the capacity building strategy to be measured	DNA Cell has been developed but needs to be activated. At present Joint Needs Assessment is done during post-disaster period under Local Consultative Group- Disaster Emergency Response (LCG-DER), a platform of the Ministry and DPs.	

3. DRR thematic areas and issues in the 7th FYP

3.1 DRR thematic areas and issue has not been given proper space in the Plan book

The **Sixth Five Year Plan (6th FYP)** discussed the activities of MoDMR and DRR issues under ***National Priority: Environment, Climate Change and Disaster Management***" where outcome statement was mentioned as follows: *The environment is prepared and prevented from degradation and a disaster management strategy exists as well as ensuring climate change adaptation and mitigation.*"²⁰ While the 7th Five Year Plan has been adopted with the vision of *"accelerating growth and empowerment of every citizen"* and placed disaster management or

²⁰ Bangladesh Planning Commission, Sixth Five Year Plan (2010-2015).

DRR issues under sector 14- ***Social Protection- social protection, social welfare and social inclusion*** as if social safety net programmes are the main functions of MoDMR and through such programmes the ministry would achieve its vision and mission of disaster risk reduction and climate change adaptation, and the new challenges of natural and environmental risks.

3.2 Mitigation and Adaptation need to be addressed in relevant platform

Secondly, DRR issues have not been properly addressed and placed in the Plan book. Some issues has been discussed under Environment and Climate Change chapter. There is no question that the impacts of climate change are natural or environmental disasters. In the following paragraph we shall discuss on extreme climate events Bangladesh is facing or will face in near future. It is rightly said that emission level of Bangladesh is negligible, but the country is innocent victim of climate change. Mitigation activities are not done as per recommendations by the Industrialized and developed countries identified as Annex 1 and Annex 2 parties in the Conference of Parties (COP).²¹ The option for Bangladesh here is to do some mitigation and broadly adaptation. This mitigation and adaptation programmes need to be carried out jointly by the Ministry of Environment and Forest (MEF) and Ministry of Disaster management and Relief (MoDMR). The MoDMR normally works with the recommendations of National level, e.g., Disaster management Council headed by honourable Prime Minister of the country, National Disaster Management Coordination Committee headed by the Minister of MoDMR and Disaster Management Advisory Committee headed by an civil expert where 8 Members of the Parliament and renowned scholars and researchers are the members. These committees use to give proper directives and guides to combat climate change impacts and disasters. Hence, mitigation and adaptation issues can easily be discussed in these committees and platforms. So these issues and other actions suggested for MoDMR should be placed in one chapter.

3.3 Country's Paradigm shift from Response to more Comprehensive culture and Food Security issues under MoDMR's Mission statement has not properly capture in the Plan book ***Thirdly***

With the adoption of Standing Orders on Disaster (SOD), first formulated in 1997, Bangladesh has started its journey towards a comprehensive disaster management programmes to reduce the loss and damage from natural disasters. Earlier the ministry and the concerned government agencies were busy with response and relief activities. By introducing risk reduction programmes Bangladesh has successfully reduced the death toll from hundreds of thousands (500,000 in Bhola cyclone, 1970) to few thousands (3,406 during cyclone SIDR, 2007) in similar type or category of cyclone, whilst in lower category cyclone the death toll has been reduced to 2 digits only (18 during cyclone Mahasen, 2013 and 24 during cyclone Ruano, 2017). Evaluation of disaster management system of the country may be shown in the following table.

²¹ UNFCCC: Annex 1 and Annex 2 countries identified in COP meeting. <https://unfccc.int/parties-observers>

Table 8

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

3.4 Food Security and MoDMR's Initiatives

Fourthly, the *food security* issue mentioned in the Mission Statement of MoDMR is not addressed properly. MoDMR has some important schemes to ensure food security. Some of these schemes are response items (cash and food based programmes) delivered to the beneficiaries just after the disasters as humanitarian assistance, and some schemes are conducted as workfare programmes to create employment during two agricultural slack seasons when the unskilled agro-based labourers become jobless. Since the market mechanism in the country is still fragmented and prices of food and other essentials rises without proper reasons, creation of employment for the unskilled labourers help them to have access to market and feed their families. The food security issues has been discussed separately in following paragraph.

3.5 Why food security is importance for DRR?

It is to be understood that the concept of "food security" and items or activities/ programmes conducted by MoDMR are much more related to DRR of the people/ communities affected by disaster events than general idea of poverty reduction activities under social protection programmes of the government. The MoDMR conducts the following safety net programmes (Table 9) :

Table 9

SI No	Name of Scheme	Programme Type	Time of Implementation	Comment
1.	GR Rice / GR Cash	Humanitarian Assistance /Relief (Grant)	Just after disaster event	10 to 30 Kg rice and Tk 500 to Tk 20,000/-as deemed fit by local administration.
2.	Vulnerable Group Feeding (VGF)	Humanitarian Assistance /Relief (Grant)	Food Grain support during post disaster period when the communities lost their crops	In post Aila Cyclone 48,000 H/Hs received 30 Kg rice per H/H for 14 months. During flash flood in Sunamgonj and other Haor districts affected H/Hs received both rice and cash for 4 months.
3.	Test Relief (TR)	Small scale work for agro-based unskilled laborers (Conditional)	During post disaster period, specially during heavy rains / small flood that stopped workers to work in crop lands. However, at present days the program is conducted normally from September to May-June of the year.	
4.	Food for Works (FFW)	Workfare Scheme conducted 2 times in one financial year (Conditional)	September to June next year. Duration of work and number of labor depend on budget (food grain- rice/ wheat) allocated.	
5.	Employment Generation Programme for the Poorest (EGPP)	Workfare Scheme conducted 2 times in one financial year (Conditional)	September to June next year. Initially the programme was conducted for 100 days, 60+ 40 days. later it is fixed at 80 days, 40 days in each time.	There are 2 Agricultural slack-seasons- September to November (3 months) and April to May (2 months).
6.	House-building Grants	Cash and materials, such as Corrugated Iron Sheet (Grant)	Post-disaster period. Construction of resilient housing is an initiative to provide brick-wall houses to the poor all over the country started from FY 2018-19.	

Picture 1: FFW programme- unskilled labourers are doing earthen work on daily basis



First of all let clarify about food security. " Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."²²

3.6 Dimensions of Food Security

There are at least four dimension of food security. Those are: i) Availability: Reduced harvests or death of livestock from severe drought; shortage of seeds leading to reduced yields. Result is less supply of food in the market, and less storage of food grains by the farmers in their own homes. ii) Access to food: Damaged infrastructures due to disaster event cut off access of the communitypeople to food markets; low livestock prices causes a reduction in cash availability to buy food. . iii) Stabilization: Unpredictable weather patterns affecting yields of certain crops or the regular planting of staple food. iv) Utilization: Unsafe drinking water that causes chronic diarrhea resulting in decreased absorption of nutrients.

DRR issues have not been taken as a priority sector in the 6th as well as 7th FYP while we know that underlying risk of development may damage the achievements of development. The sector is still under environment and climate change chapter as if disaster happens only because of climate change. Besides, the social protection schemes of MoDMR are considered in the 6th and 7th FYPs as programmes targeted to poverty alleviation, though these protection schemes are targeted to enhance the capacity of the poor and disadvantaged (it is evident that poor and disadvantaged class are more vulnerable to disaster and climate change than the well-to-do

²² www.fao.org/docrep/003/*8346E/*8346e02.htm#P1_10 / (FAO(1996), Rome Declaration and World Food Summit Plan of Action.

families) and ensure their food security as envisaged in the vision and mission statements of the ministry. It may be mentioned that the SSNPs being conducted by the MoDMR are linked to disaster risk management and social security in following ways:

- To reduce vulnerability
- To provide rapid relief response
- To sustain the timely recovery
- To protect the most vulnerable groups

The range of these interventions include:

- Cash/ food transfer to the vulnerable- GR (Rice & Cash)
- Vulnerable Group Feeding and food security- VGF
- Workfare program for market access- EGPP
- Relief through infrastructure and social protection- FFW

3.7 Only 2 Result Indicators related to shelters are not sufficient to measure the performance of MoDMR in 5 years term

Fifthly, only 2 Development Results Indicators (DRI) we find adopted in the Plan for measuring the performance of MoDMR. These are about number of cyclone shelters and resilient housing for the poor and vulnerable people. However, it can be said that the two indicators cannot measure the whole activities of the ministry (MoDMR) supposed to be undertaken, from policy formulation to risk reduction activities including adaptation programmes to combat climate change. Although it is observed that the 7th FYP aims to obtain the objective of building up resilience of the poor and reduce their exposure and vulnerability to geo-hydro-meteorological hazards, environmental shocks, etc.

3.8 What is actually meant by resilience in DRR?

A bounce-back, not to be leaned or lost due to disaster event/s. The following two pictures show the nature of resilience capacity and adaptation mechanism of the people of Bangladesh.



Picture2:Two women are going to safe place, flood shelter may be, in Lalmonirhat Sadar Upazila during July 2019 Flood. Photo credit: The Daily Star, 15 July 2019

Picture 3: *During post-Aila the villagers started rebuilding the breaches with their own hand*



The term Resilience is sometime compared with bounce-back like when a ball is dropped on the floor it bounces back. It means that the dropped ball does not lost on the floor or ground. In fact resilience of a community to disasters refers to the capacity of the community people to anticipate, absorb, and recover from hazards and /or effects of climate change and other shocks and stresses without compromising and potentially enhancing its long-term prospects.²³

²³ Marilise Turnbull and *et.al* (2013), *Toward Resilience*, page-160

Chapter II

Performance of MoDMR in line with 7th FYP

4. Results indicators in 7th FYP to measure the performance of MoDMR

4.1 Two Development Result Indicators adopted in 7th FYP

Considering the importance of these social protection schemes proper emphasis should be given in formulating the Development Result Indicators (DRIs). Moreover, in the 7th FYP only 2 indicators are there in the Development Result Framework (DRF) to measure the performance of MoDMR, *first one is number of usable cyclone shelters to be increased by new construction of 1000 cyclone shelters and second one is number of rural communities with disaster resilient habitats and community assets to be increased from 18000 to 25000*. Can these 2 indicators be termed as disaster result indicators to measure the performance of MoDMR considering the challenges in disaster risk reduction of the country - one may question. And, obviously, considering the mandates and activities of the MoDMR in disaster risk reduction discussed in the previous paragraphs, the answer is no. Under the circumstances, it is praiseworthy that the National Resilience Programme (NRP) has been undertaken by the government for a sustainable and resilient human and economic development through inclusive, gender responsive disaster risk reduction programmes and risked informed development. However, the concept of resilient housing has not been discussed at all.

4.2 Cyclone Shelter - a place of faith and trust of the people of coastal strips to save their lives from devastating cyclones and storm-surges

Construction of cyclone shelters was undertaken in post Bholá cyclone by the International Red Cross Society and Public Works Department (PWD). Some INGOs came up with funds for construction of cyclone shelters. Such shelters are normally constructed on lands offered free of cost by the communities. However, most of those shelters were constructed stand alone. There were no approach roads and they were not women friendly. There was no toilets or wash room attached. There was no government approved design. And those shelters were two storied building keeping the ground floor open to pass water. Below is a picture of an old type cyclone shelter.

Picture 4: Old Cyclone Shelters



4.2.1 Reconstruction of old cyclone shelters

Reconstruction and renovation of the old cyclone shelters are demand of the time. Government has formulated Cyclone Shelter Construction, Maintenance and Management Policy in 2011. Two types of design of cyclone shelters have in inserted in the policy. Following that policy cyclone shelters. All sorts of facilities for women, persons with disabilities, rain water harvesting and installation of solar power system have been made available as per the requirement of the policy. *The policy also asked the government to reconstruct and renovate un-used cyclone shelters.* According to 2009 database²⁴ of cyclone shelters there were more than **500 un-used cyclone shelters**. Out of these about 58 cyclone shelters have been reconstructed **under Nobo Jibon Project** of Save the Children funded by USAID.²⁵ Following are two pictures of modern cyclone shelter with facilities of separate wash rooms for men and women and ramp facility for the persons with disabilities. It will be completed once rain water harvesting system and solar power system are installed.

²⁴ Database of Comprehensive Disaster Management (CDP), a pool fund of DPs, MoDMR.

²⁵Source: Department of Disaster Management (DDM).

Picture 5: Multi-purpose cyclone shelter under construction as per Cyclone Shelter Construction, Maintenance and Management Policy in 2011



Picture 6: Multi-purpose cyclone shelter built by NGO

4.3 Achievement of MoDMR in respect of DRIs in 7FYP

The performance of the Ministry of Disaster Management and relief (MoDMR) as against the Development Result Indicators (DRIs) mentioned in the 7th Five year Plan are discussed in the following Table10. The report has been developed through discussion with the planning officials of MoDMR and Department of Disaster Management (DDM) including officials of Monitoring and Evaluation Wing of the DDM.

Table 10

SI	Development Result Indicators	Baseline	Target	Achievement till March 2019
1	Number of Usable Cyclone Shelters	3847 (2014)	4847 (2020)	220 cyclone shelters are under construction. 100 completed during 2011-2015. However, 423 Flood Shelters are under construction during 2016- 2019. LGED is also constructing 500 cyclone shelters under WB fund.
2	Number of Rural Communities with Disaster resilient Habitats and Communities Assets	18000 (2013)	25000 (2020)	No progress achieved during 7 FYP so far. But a programme to construct 11,600 "resilient houses" has been taken all over the country in the current 2018-19 financial year.

4.4 Projects Implemented by MoDMR / DDM during 7th FY Plan period (Source: MoDMR)
MoDMR / DDM implemented the following projects during FY 2015-2016 to 2017-2018:

Table 11

SI	Title of the project	Number/ Length	Source of fund
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	12,783	GoB
2	Construction of Multi-purpose Cyclone Shelters	220	-do-
3	Construction of Flood Shelters in Flood-prone Zone and River Erosion Areas	423	-do-
4	Construction of HBB Roads in the villages	2078 Km	-do-
5	Strengthening of the Ministry of Disaster Management and Relief (SoMDMRPA) project to aid the implementation of Social Safety Net Program	-	World Bank: Budget support

Besides the above mentioned projects, MoDMR organised following programmes successfully:

- 1) Organised 2 International Conference on Disability and DRR in 2015 and 2018
- 2) Disaster Response and Exercise (DREE) with support from AFD and US Army
- 3) Plantation of Palmyra tree seed to protect lives from lightning (Total 31 lac)

4.4.1 Projects undertaken and implemented (ADP 94% and foreign aided projects 28%) in FY 2018-19 are shown in Table 12.

Table 12

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	-Reduce water-logging -Develop rural infrastructure -Reduce risk	01/2016 – 06/2019	GoB
2	Multipurpose Cyclone shelter construction project in coastal and cyclone prone areas (2 nd phase)	-Reduce death toll -Empower the coastal people -Reduce economic loss	07/2016– 06/2019	GoB
3	Strengthening of the Ministry of Disaster Management and Relief (SoMDMRPA) project to aid the implementation of Social Safety Net Program	- To aid the implementation of Social Safety Net Program -Enhance capacity of DDM programme supervision and monitoring	01/07/2013– 30/06/2019	World Bank: Budget support
4	Urban Resilient Project	-Enhance the capacity to combat urban disasters including earthquake	01/07/2015– 30/06/2020	World Bank
5	Construction of HBB road project to improve durability of Rural roads	-Improve rural kaccha roads - Improve cyclone shelter approach roads	07/2016– 06/2019	GoB
6	Construction of Flood Shelters prone and river corroding areas (3 rd stage) (01/2018 – 06/2022)	- Protect the vulnerable people at flood-prone and river eroding areas	01/2018– 06/2022	GoB
7	The disasters and risk management enhancement project	-Reduce the risk of the people -DRR & CCA	07/2016– 06/2021	JICA
8	National Resilience Programme (DDM Part)	-Reduce disaster risk -Building resilient nation -Inclusive DRR and CCA	01/01/2018– 31/03/2021	GoB & UNDP
9	Construction of Mujib Killa, Reform and Development	-To create shelters for livestock during cyclone -Reconstruction of existing but old Killas	01/07/2018– 31/12/2021	GoB

Source: Department of Disaster Management (DDM)

4.4.2 Projects undertaken for FY 2019-2020, the last FY of 7th FYP, are shown in Table 13 below.

Table 13

<i>Sl</i>	<i>Title of the project</i>	<i>Goal of the project</i>	<i>Project duration</i>	<i>Source of fund</i>
1	Construction of 15m (more or less) long Bridge/Culvert on rural roads	-Reduce water-logging -Develop rural infrastructure -Reduce risk	01/01/2018 – 30/06/2022	GoB
2	Multipurpose Cyclone shelter construction project in coastal and cyclone prone areas (2 nd phase)	-Reduce death toll -Empower the coastal people -Reduce economic loss	07/2016–06/2019 ?	GoB
3	The disasters and risk management enhancement project (Component 2 and component 3)	-Reduce the risk of the people -DRR & CCA	01/04/2017–30/06/2022	JICA
4	Construction flood Shelters (3 rd stage) (01/01/2018 – 30/06/2022)	- Protect the vulnerable people at flood-prone and river eroding areas	01/01/2018–30/06/2022	GoB
5	Construction of District Relief Warehouse & Disaster Management Information Centre	-Create Storage capacity for relief goods at the district level -Information Hub -Inspection Bungalow	01/01/2018–31/12/2020	GoB
6	Construction of HBB road project to improve durability of Rural roads 92 nd Phase)	-Improve rural kaccha roads - Improve cyclone shelter approach roads	01/07/2018–30/06/2022	GoB
7	Construction of Mujib Killa, Reform and development	-Create shelters for livestock during cyclone -Reconstruction of existing but old Killas	01/07/201–31/12/2021	GoB
8	Emergency Multi sector Rohingya Crisis Response Project (01/09/2019 – 31/08/2021)	Humanitarian support to the Myanmar citizen took shelter in Cox’s Bazar.	01/09/2019–31/08/2021	GoB

Source: Programming Division, Planning Commission

From the above Tables (2,3 &4), it is evident that there are some common projects, specially infrastructure development, are being implemented by the ministry. So, it is also implied that these are the priority projects of the ministry. Hence, in the next 8th FYP these type of projects will come up. This is important to note that the proposed Development Result Indicators (DRIs) for 8th FYP should cover these projects.

4.5 *Habitat and Resilient Housing being constructed by MoDMR*

Ministry of Disaster Management and Relief has decided to reach the 7th FYP target in respect of resilient habitat using the money, not the food, allocated in FY 2018-19 for Cash for Work (CFW), a workfare programme. Total amount allocated is Taka 99,99,97,908/=. A policy guideline has been adopted with design of the "resilient Housing" that is comprised of two rooms, 10'X10' each, small space for varanda, with kitchen and toilet separately. Cost of each house has been estimated at Taka 2,58,531. These houses will be brick-built with corrugated iron sheet (CI Sheet) on the roof top. There is only 2 months for completion of these houses since the financial year will be ended on 30 June 2019.

Picture 7: Design of Resilient Housing²⁶



4.6 *A General Criticism of Resilient Housing Design*

4.6.1 Is Resilient Housing of MoDMR really resilient to disasters?

Managing fund from its own sources for construction of resilient houses for the rural poor is a commendable decision at least at the end of the FYP. The ministry can now easily reach the target and most probably its achievement will be 100 percent plus if similar programme is taken in the next financial year, the year of the implementation of 7th FYP. But the design of these houses is not beyond criticism. When we talk about DRR or resilient to disaster we must bear in mind that reducing of vulnerability is not the prime issue, but consider *exposure* to hazards within wide efforts to address poverty and inequality.²⁷ If exposure to hazards is considered along with vulnerability disaster risk can be significantly reduced. Secondly, affected people's basic rights should also be considered. Exposure can be different according to type of hazards of a particular region or area. The exposure of the people of coastal strip of the country to cyclone and storm-surge will not be similar with the nature of exposure to flood that occurs in northern or central areas. Similarly, habitat of people is a part of culture. Though Bangladesh is a small country in size, but different cultures in habitat, in construction of houses are predominant.

²⁶ www.modmr.gov.bd

²⁷ Marilise Turnbull and *et.al* (2013), *Toward Resilience*, page-2.

The ministry has developed a proto-type design, and it is mandatory to follow this design. The upazilas selected are not all situated in the plain land of the country. There are hilly areas in the South -East, and coastal areas in the South. The habitas in all these areas are not same. There are differences in the construction process, in using of materials, and in design of the houses. The people of hilly areas are used to live in a type of house which is based on a bamboo/ wooden raised platform. This raised platform helps to pass rain water coming from the upper hills. During floods in Bandarban Hill district and its surrounding area in the year 2013 a large number of houses were damaged by flood water coming from upper hilly areas. Later it was observed that the houses built by the people of plain land settled there had been damaged, not the houses of the indigenous people living there for hundreds of years. Because the houses of the indigenous people were built on bamboo or wooden raised platform, and heavy flow of flood water passed through the underneath of their houses. Similarly, there is standing policy directives the all construction of buildings in the coastal strips of the country should follow the design of cyclone shelters. Though the houses are being constructed as habitas, not as cyclone shelters, but these small houses may be constructed on pillars keeping at least 10 feet gap to let surge water pass during a cyclone and storm surge. It is not that the inhabitant will stay in these houses during cyclone and storm-surge, they have to evacuate and take shelter in nearby cyclone shelter. But on return from cyclone shelters they would find their houses standing, not destroyed by strong wind and storm-surge. So, there is scope for review and re-designing the proposed design for resilient housing and related policy guideline.

4.6.2 Who are entitled to get a house?

The circular issued by Ministry of Disaster Management and Relief cites three characteristics of the beneficiaries those who may be entitled to receive a house free of cost:

- i. A homeless family having at least 800 sft or 2 decimal of own land or has got a lease of same amount of land received from government or from any person as gift;
- ii. Homeless families like, Hizra (3rd gender), Boul, Bedey, or member of an aboriginal/ ethnic minority group will come under this program;
- iii. Homeless freedom fighters in economic hardship, households affected by river bank erosion, a widow, a divorcee, and a person with disability whose family has no income-earning source will get priority in receiving the house.

The characteristics noted above clearly shows that the expected household will have in legal possession of at least 800 sft/ 2 decimal of land. Hence, the households who don't have such amount of land in possession legally will not come under this grant programme and subsequently will not receive a house. So, most of the floating people living in the slums in the cities and towns and don't have required amount of land will not be listed for this house grant programme. Similarly the households who have lost their houses, homesteads and other agricultural land and become penny-less due to river bank erosions and subsequently take shelter in the slums will not be entitled to receive this house grant. These floating and slum dwellers have very little connection to their left-out villages and have less access to Union Chairmen/ Members and local administration. So these ill-fated and already frustrated people/ households have little chance to get government khas land under khas land lease programme. According to Bangladesh Bureau of Statistics (BBS) 2014 Census on Slums²⁸ there were 23,935 slums developed in urban centres

²⁸ Bangladesh Bureau of Statistics: Slum Census 2014./ www.bbs.gov.bd/site/page/cc276201-9150.../Slum-Census-2014

whilst the number was only 2991 in 1997. Total households were 594,861 who had been living in the slums and floating elsewhere. Those people don't have any land of their own.

4.6.3 Experience of post-Sidr housing

1.5 million houses were damaged during cyclone Sidr that hit Bangladesh coast in 2007. It was the biggest housing recovery response of all time. An study²⁹ figure-2 below shows that women's participation in construction of houses were 90 percent.

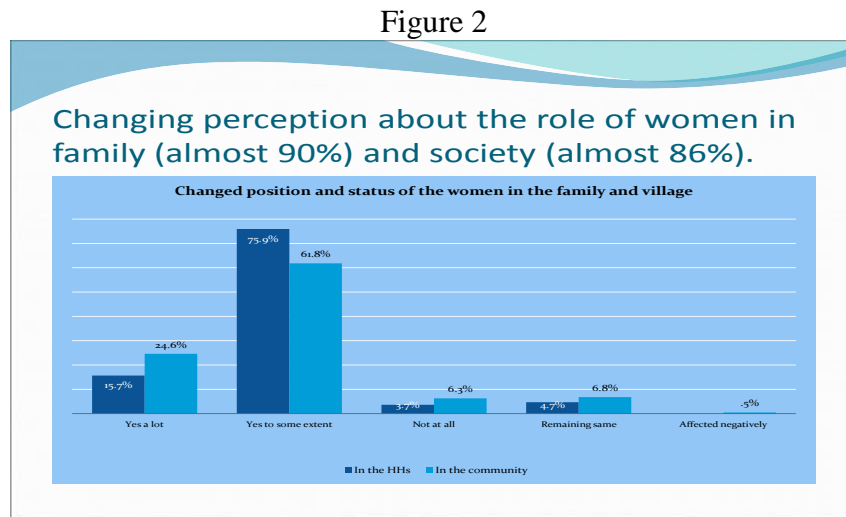
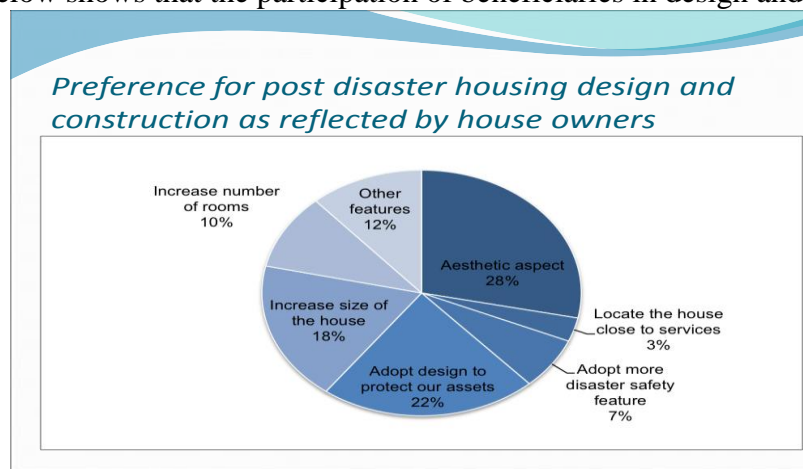


Figure 3 below shows that the participation of beneficiaries in design and construction



In the recommendation Khurshid details out the necessity of a housing policy related to post disaster housing response in the following points:

1. The land issue remained the most critical moral and operational challenge
2. Fiduciary risk is high
3. Climate change would increase frequency of disasters
4. The current trend of falling ODA proportion to GDP will shape the future of Bangladesh

²⁹ Kurshid Alam, undp Bangladesh.

5. The post disaster housing reconstruction is not clearly mandated to any GoB agencies
6. Recovery as a policy measure remains weak
7. Sustaining recent change in recovery practice of GoB.

Other recommendations made are for GoB and for Shelter Working Group under LCG-DER:

For GOB:

- | | |
|---|---------------------------------|
| • Institutional clarity for rehabilitation | Institutional strengthening |
| • Policy framework and coordination mechanism | Building code for rural housing |
| • Mitigate fiduciary risk | Strengthen M&E mechanism |

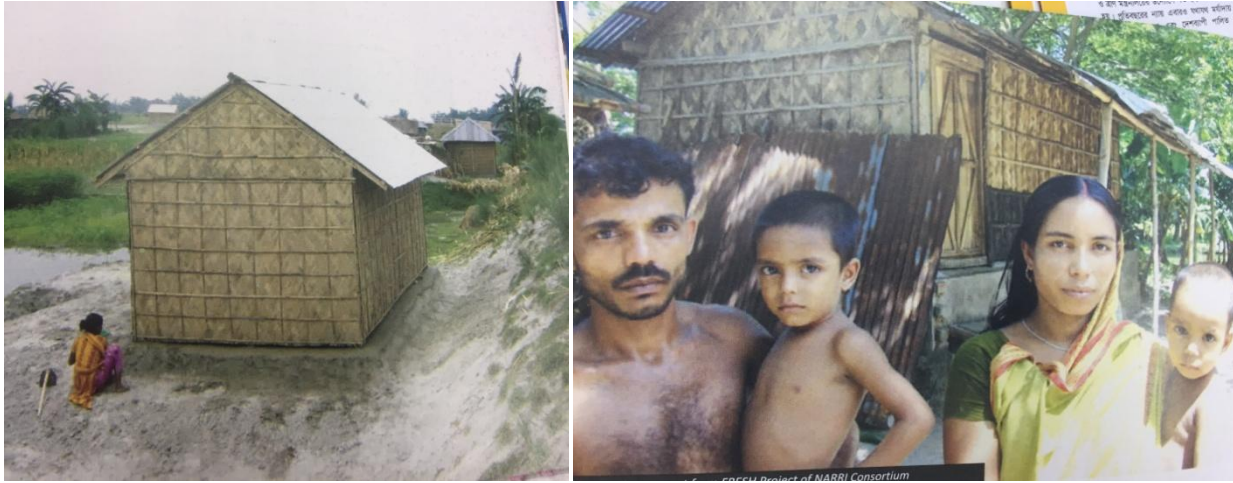
For SWG:

- Adopt owner driven reconstruction.
- Design a fiduciary risk management system, endorsed by GoB, combining real time financial monitoring and downward accountability and social auditing process.

In the following pictures we'll see how the an revolutionary change occurred in providing houses to the affected beneficiaries in post disaster period. All the pictures have been taken from the coastal belt where these houses had been distributed as grant. In the past most of the NGOs provided tin-shed bamboo wall one or two rooms houses. Under its Humanitarian Assistance Policy³⁰ MoDMR allocates Corrugated Iron (CI) Sheet and cash to be beneficiaries for construction of their houses. The programme is still going on. But considering the vulnerabilities of cyclone-prone areas and in order to provide cyclone resistant houses, MoDMR is now providing brick-built houses. Thus during cyclone alert the families will take shelter at the multi-purpose cyclone shelters and after the cyclone when they will return their homes they will find that their houses has not been damaged by the cyclone what would happen in case of thatched or tin-shed houses. The following are pictures (Picture 8) of transition from tin-shed house to brick-built house.

³⁰ MoDMR: Humanitarian Assistance Programme Implementation Guideline 2012-13

Picture 8:



In the past the above types of tin-shed low cost houses provided by the NGOs



GoB Brick-built cyclone resistant house

Cyclone resilient Houses constructed by ERF, UNDP

But at this stage providing tin-shed brick-built houses under "resilient houses" doesn't sound good. If we accept the estimate of Inter-Governmental Panel for Climate Change (IPCC) that if the sea level rise is continuing due to global temperature 17percent land in the coastal strips will go under water, we need to build coastal houses like the cyclone shelters keeping the ground floor open to pass water.

4.6.4 Guidelines on Resilient Housing with design needs to prepared

This guidelines should cover planning and strategy, land issue, implementation, construction approach and monitoring and evaluation. This guideline / policy will stop providing of different designed and types of houses to the poor under "resilient housing." Moreover, Bangladesh is committed to follow the thematic idea of "Built back Better" as envisaged in the HFA 2005-2015 and SFDRR 2016-30. Such Framework will highlights the strategic importance of preparedness measures that should be taken before the next disaster strikes and the cross-cutting nature of

capacity building and beneficiary community engagement measures that are essential to all stages of the post-disaster reconstruction process.³¹ Beside the Shelter working Group under UN system (IFRC is responsible), "*Housing Recovery and Reconstruction Platform (HRRP)*" may created. Nepal has formed such HRRP which conducts meeting on regular interval and oversee all the stages, from preparation to construction of the housing projects. Such platform is also good for sharing information and knowledge. Coordination is one of the main term of reference of this platform.

4.6.4.1 Experience of Nepal in post-earthquake Of 2015

In Nepal HRRP is a platform for coordination, strategic planning and technical guidance to agencies involved recovery and reconstruction and to support the Government of Nepal in coordinating the national construction programme.³² A 5W tool³³ has been developed under Nepal Recovery Authority (NRA) to provide an inventory of activities planned/ongoing/completed by partner organisations (POs) and other stakeholders for the recovery and reconstruction of 14 most affected and 18 moderately affected districts in Nepal in response to the Nepal Earthquake 2015. The datasets entail information on WHAT activities are planned and being implemented by WHO (partner organizations), WHERE the activities are implemented (Municipality/ward level), for WHOM and WHEN.

4.6.5 Construction of Flood Shelters

It is praiseworthy work of the MoDMR to construct flood shelters in flood -prone areas of the country. Flood is a common disaster event in Bangladesh. People in the flood plain are used to flood and are much resilient to such disaster. The affected people have their indigenous knowledge and adaptation capacity to cope with even devastating flood. In 1998 flood the 80 per cent of the country was under flood water for long 66 days. agricultural sector was doomed. No cultivation and no harvesting. It was an estimation of the some international organization that the flood would food crisis in the country, famine or famine-like situation would occur, and 2 million people might die. However, Government's sincere actions and readiness helped the people to overcome that worst situation and death toll was only 918. During flood affected people normally take shelter on the bank of the rivers or in nearby School buildings. Hence, government has taken decision to construct multi-purpose flood shelter like those of multi-purpose cyclone shelters have been constructed in the coastal strips. However, till now the flood shelters are being constructed spending public money. No I/NGO has come up for construction of flood shelter except few done under Fayel Khair Programme under Islamic Development Bank. Below is the picture of latest designed flood shelter. The shelter is constructed on earth/sand filled space on pillars above the flood level. These shelters are women, adolescent girls and persons with disability friendly.

³¹ Abdulquadri Ade Bilau and et all (2018): Practice Framework for the Management of Post-Disaster Housing Reconstruction Programmes / <https://ideas.repec.org/a/gam/jsusta/v10y2018i11p3929-d179040.html>

³² <https://data.humdata.org/organization/hrrp-nepal>

³³ <https://data.humdata.org/dataset/nepal-who-s-doing-what-where-whom-housing-recovery-and-reconstruction>

Picture 9: Flood Shelter



Chapter 111

Draft Indicators for 8th Five Year Plan

5. Development Result Indicators (DRI) for 8th FYP

5.1 *Backdrop on development indicators for measuring performance of MoDMR*

Development Result Indicators (DRIs) not only the tools for monitoring and measuring the performance of a ministry or implementing agency but they also help to increase the area of functions and better performance. It is obviously understood that the DRIs for 8th Five Year Plan will be such toolkits that will enhance the capacity of monitoring and supervision of the activities and will help to measure the performance of the MoDMR in regard to disaster risk reduction. The DRIs should reflect the ministry's vision, mission and strategic policy and action plan to combat the existing and probable disasters, challenges and climate change impacts the country has been facing and may face in future. These should go round the disaster management cycle from preparedness before disaster occurrence to response, recovery, rehabilitation and reconstruction in post disaster period.

5.2 *General Targets of 7th FYP*

Five Year Plans (FYP) of Bangladesh had been targeted to economic growth of the country and reduction of poverty. Planned growth of GDP in current 7th FYP is 7.4% and reduction of head-count poverty ratio is 6.2 percentage point with reduction of extreme poverty is 4.0 percentage point. So, it is not a easy task for a developing country like Bangladesh where growth is the main factor to penetrate into such plan with idea of disaster management if there is no previous ground work for mainstreaming disaster management. If we go through the pages of five year plans before the 6th one we wouldn't see the phrasing of a comprehensive disaster management system except post disaster relief operations and few safety net programs targeted to early recovery from disaster loss. In such a situation 6th and 7th FYPs are the exception where disaster management though still under the chapter "Environment, Climate Change and Disaster Management" has been able to manage few pages of the planning document. But the safety net programs run by the Ministry of Disaster Management and Relief (MoDMR) is treated humanitarian aid and poverty alleviation programme not as support to enhance the capacity of the poor and disadvantaged people to cope with different types of disasters. Though the vision and mission statements of MoDMR (such type of dedicated ministry not usually seen in most countries of the world) declare a paradigm shift from conventional relief operations to more comprehensive risk reduction programmes, due to lack of mainstreaming disaster risk reduction (DRR) the essence of DRR programmes and activities yet to reach the mind-set of the people working in different capacities of the government. Sixth FYP under title " Comprehensive Disaster Management" urges as follows: "This is to further strengthen the country's already proven disaster management systems to deal with increasingly frequent and severe natural calamities"³⁴ Five Year Plan of Bangladesh is treated as well thought, structured and description of what government wants to do in five year interval for the benefit of the citizens of the country. Bangladesh has achieved a

³⁴ Planning Commission, GED: Sixth Five Year Paln@016-20), page-469

wonderful progress in last few decades by proper and prudent implementation of the FYPs. The country is now on the highway of development, and earned world-wide recognition for her amazing development in almost all sectors with constant 7 plus GDP. But this hard-earned achievement in development may be halted up or ruined by a sudden natural and climate change shock and disaster. There are underlying risks of development too. In preparation of development projects and schemes such underlying risks should be given priority in order to avoid any consequent risk of development. Development can combat or avoid disasters and reduce loss of disasters; but development can create new risk too which is known as underlying risk of development. On the other hand, disaster can wash out the gain of development all on a sudden. Hence, there should be clear monitoring process in the FYP to foresee the activities those are being carried on to combat natural, man-made, environmental and climate change impacts and disasters. In this case development Result Framework (DRF) of Seventh Five Year Plan is the combination of several result indicators to measure the performance of actions and activities of different ministries/ divisions of the government. The first part of the present study is to understand what are those result indicators mentioned in the DRF of 7FYP to measure the performance of Ministry of Disaster management and Relief (MoDMR) and what is the performance of the MoDMR in this regard, and secondly, to analyse whether those disaster result indicators (DRI) are sufficiently okay and efficient to measure the performance of the ministry specially in respect of disaster risk reduction. If not, what might be the likely and effective DRIs those may be suggested for the forthcoming 8FYP.

5.3 Disasters and climate change impact

Bangladesh is a deltaic plain land of which 80% is flood-plain, 7.5% of Ganges-Brahmaputra-Meghna (GMB) basin through which 90% of water coming from Himalayas and other areas are discharged to Bay of Bengal. The country's ecosystem productivity and biodiversity are being declining due to climatic change and frequent disasters. The country is also known for her natural resource based economy (garments manufacturing industries are vibrant however) and highest population density. Rivers are the lifelines of the country, but they are dying due to withdrawal of water in the neighbouring country in the upper-stream. But these rivers, namely, Ganga / Padma, Brahmaputra and Teesta are the trans-boundary rivers in nature as the water of these rivers are shared by more than one country as they are travelling one country to another country crossing one's border. Besides, wetlands are decreasing and population is increasing. Rapid urbanization is going on due to huge migration to the cities for economic reasons. Agricultural land is decreasing 1% annually.

Different studies reveal that Bangladesh is one of the most disaster prone countries for its location, topography, funnel shape of the Bay of Bengal, tectonic plates, and many other reasons. Climate change has increased the frequency and intensity of disasters in the country. The country will frequently be hit by frequent cyclones (It is evident that cyclone SIDR hit the coastal belt of Bangladesh in 2007 followed by AILA in 2009, Mahasen in 2013, Komen in 2015, Ruano in 2016 and Mora in 2017), storm-surges, floods, tornadoes, droughts, earthquakes, other calamities. These will increase loss of assets and livelihoods of a large section of people. Some of these hazards are coastal area based, some are rural and some are urban in nature. According to predictions of the United Nations Intergovernmental Panel on Climate Change (IPCC) by 2050, Bangladesh's population at risk of sea level rise will rise to 27 million. 45cm rise in

sea level will inundate 10% -17% of coastal land by 2050. Saline water intrusion has increased in last few decades. Vulnerability to cyclone and storm-surge is expected to increase. Projected global temperature increases 2050 may reduce rice and wheat production by 8% and 32% respectively. Thus climate change will pose a threat to food security whereas ensuring "food security" as an important factor in ensuring the resilience of communities to hazards is a part of mission statement of Bangladesh. It is estimated that Bangladesh has lost an estimated 5.9% of her GDP to cyclones and storms from 1998 to 2009. Climate change impacts has also posed a threat to health of the citizens. It affects mental health, causing stress and tension. Vulnerability of women and children in particular has been highlighted in several studies. In coastal area, study finds an increase in hypertension (blood pressure) in pregnant women. This could be linked to intrusion of salty water which might worsen in future.

Figure 4: Multi-Hazard Map of Bangladesh

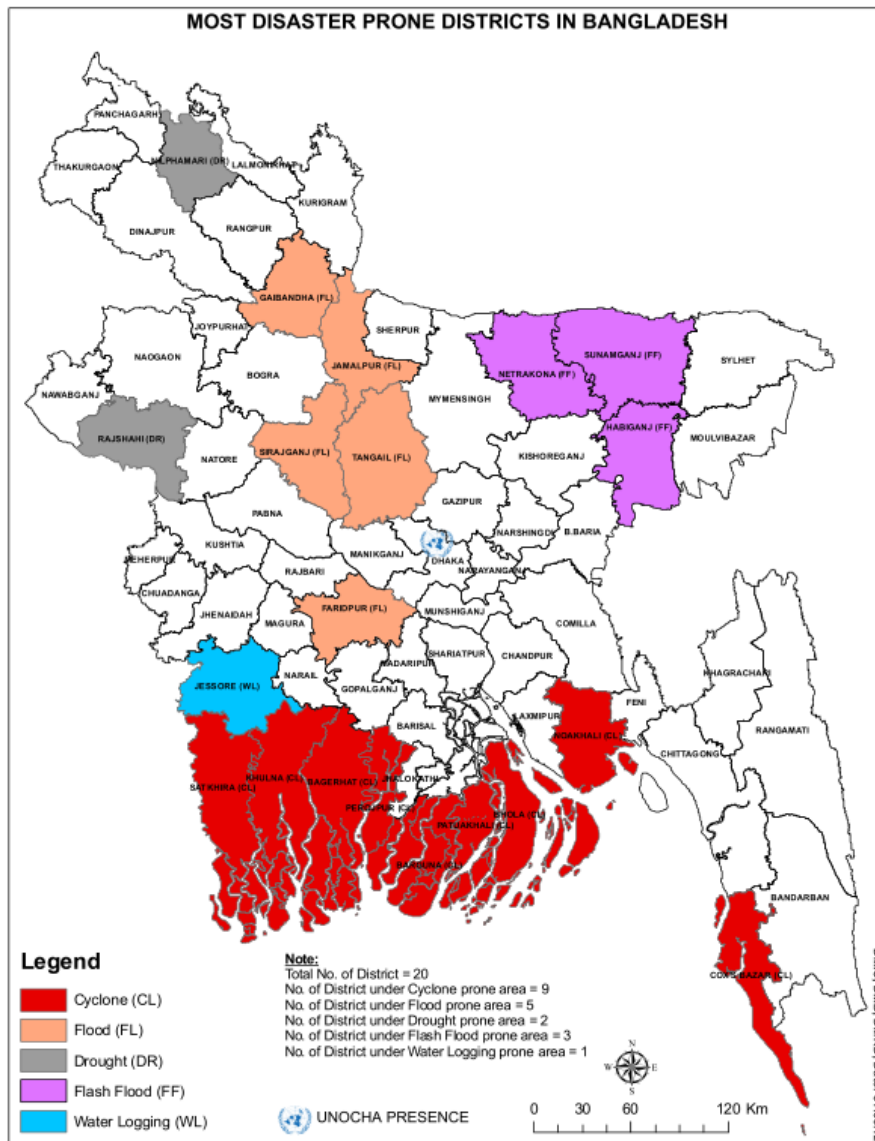


Source: Ministry of Disaster management and relief; 7th Five Year Plan, Planning Commission; Page-624

The multi-hazards map shown above identifies a significant and serious **Salinity** situation in Bangladesh has been taken place already. It is alarming since the salinity line has extended to far north from the Bay of Bengal and touches Jashore district already, and like to cover

soon the southern part of river Padma- districts of Faridpur, Sariatpur, madaripur, Gopalgonj and Rajbari. This happens because less flow of water in the branch rivers of the Padma, a result of withdrawal of water by India from trans-boundary rivers like the Padma and the Brahmaputra. The following map of disaster prone districts has been prepared by United Nations Office of the Humanitarian Affairs (UNOCHA).

Figure 5: Disaster Prone Districts of Bangladesh (Source: UNOCHA)



5.4 Types of disaster Bangladesh faced and human death toll

Table14

Disasters and Bangladesh		
Major Disasters		
Year	Type of Disaster	Human Death
1970	Cyclone Bhola*	500,000
1988	Flood	2,373
1988	Cyclone	5,704
1991	Cyclone Gorki*	138,868
1996	Tornado	545
1997	Cyclone	550
1998	Flood	918
2004	Flood	747
2007	Flood	1,071
2007	Cyclone SIDR*	4,306
2009	Cyclone Aila	190
2013	Tornado at Brahmanbaria	31 (388injured)
2013	Rana Plaza Building Collapse	1,134** (2500 Injured)
2013	Cyclone Mahasen	18***
2017	Cyclone Ruano	24

* These 3 cyclones' strength and velocity of wind speed were same. Bangladesh could successfully reduce the death toll however.

* Rana Plaza Building Collapse at Savar, Dhaka: It is considered the deadliest structural failure accident in modern human history and also the deadliest garment-factory disaster in history.³⁵

*** No death occurred in the sea. No fisherman died.

5.5 Vision and Mission of MoDMR

The vision and mission statements of the Ministry of Disaster Management and Relief are significant for preparing the plan of action and to fix the responsibilities of the ministry. The two statements are described in following paragraphs.

Vision: To reduce the vulnerability of people, especially the poor and disadvantaged (*inclusive DRR*), to the effects of natural, environmental and human induced hazards to an acceptable humanitarian level, and to have in place an efficient *emergency response management system* capable of handling large scale disaster.

It is clear from the vision statement that the disaster risk reduction efforts and activities of the ministry will be inclusive in nature which also envisages that no one will be left behind; and the

³⁵ "Bangladesh building collapse death toll passes 500". *BBC News*. 3 May 2013. Retrieved 3 May 2013. https://en.wikipedia.org/wiki/2013_Dhaka_garment_factory_collapse

response management system will be capable enough to combat all types of disasters, large or small.

Mission: To *achieve a paradigm shift* from conventional response and relief practice to a more comprehensive risk reduction culture, and to *promote food security* as an important factor in *ensuring the resilience of communities* to hazards.

The Mission statement has made it clear that the country's past response system was targeted to help its disaster affected citizens with relief items. that was the traditional approach. Now the country needs to shift from that old relief culture to much more to disaster risk reduction (DRR) culture which may be actions as- face the disaster and reduce the impacts by prior actions on preparedness, avoid risk by mitigation, transfer risk by introducing insurance, and such other activities.

5.6 Government's Legal Framework on DRR and International Drivers

Government's vision and mission of DRR have been reflected in its legal frameworks of the country and other regional and global risk reduction agendas, e.g., Disaster Management Act 2012, Disaster management Policy 2015, Standing Orders on Disaster (SOD), revised in 2010), Bangladesh Climate Change Strategy and Action Plan 2009, National Adaptation Programme and Action (NAPA), 2009, National Plan for Disaster Management 2016-2020, SAARC Framework on Comprehensive Disaster management (a regional framework developed in expert-group meeting in Dhaka in 2006 and later adopted in SAARC Summit), Hyogo Framework for Action (HFA 2005-2015) and Sendai framework for Disaster Risk reduction (SFDRR) 2016-2030 and the Sustainable Development Goals (2016-2030). DRR is reflected too in *Allocations of Business of MoDMR*. Some examples are mentioned below:

- Expand prevention and preparedness measures across a broader range of hazards such as earthquake, infrastructure collapse, Tsunami, fire and events causing mass casualties.
- Establish and improve national disaster emergency response system.
- Updating of Legal Framework: Laws, Policy, SOD (standard operating procedures), etc.
- Implement disaster related programmes/ projects,
- Design, approve, administer, coordinate and monitor emergency response and RRR in post disaster period.
- Construction and Maintenance of small bridges/ culverts, multi-purpose cyclone shelters and flood shelters.
- Maintaining database and MIS on safety net programmes.

5.7 Standing Orders on Disaster (SOD)

Standing Orders on Disaster (SOD) has been prepared in 1997 in Bangla by the present government in power during its first tenure (2006-2001). This has been revised twice- first in 2010 and *further revised in 2019*. Before formulation of DM Act 2012 SOD was treated as a Standing Operating System (SOP) by the ministries, local government bodies and NGOs.

The Standing Orders on Disaster describes the detailed roles and responsibilities of committees, Ministries and other organizations in disaster risk reduction and emergency

management, and establishes the necessary actions required in implementing Bangladesh's Disaster Management Model. The Standing Orders have been prepared with the avowed objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them. All Ministries, Divisions/Departments and Agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation. The National Disaster Management Council (NDMC) and inter- Ministerial Disaster Management Coordination Committee (IMDMCC) ensure coordination of disaster related activities at the National level. Coordination at District, Upozila levels will be done by the respective District, Upozila and Union Disaster Management Committees. The Department of Disaster Management renders all assistance to them by facilitating the process.

5.7.1 Guidelines for DRR as referred in SOD

There are as many as 18 Guidelines has been referred in the SOD. Only 3 guidelines/ policy has been formulated over the years. Rest guidelines need to be prepared for mainstreaming, better coordination with GoB agencies, I/NGOs and people-oriented disaster risk reduction. Other ministries and implement agencies will use these guidelines. The following Guidelines are to be prepared as soon as possible. This has been referred to new Result Indicators (RI) suggested for 8th FYP. The guidelines are:

1. Disaste Impact and Risk Assessment Guideline
2. Local Disaster Risk Reduction Fund Management Guidelines
3. Indigenous Coping Mechanism Guidebook
4. Damage and needs Assessment Methodology
5. Hazard Specific Risk Assessment Guidelines
6. Emergency Response and Information Management Guideline
7. Sectoral Disaster Risk Reduction Planning Template
8. Local Level Planning Template
9. National Risk Reduction Fund Management Guideline
10. National Disaster Reduction and Emergency Fund Management Guideline
11. Local Disaster Management Fund Guileline
12. Guideline for road and Water Safety
13. Guideline for Industrial safety
14. Monitoring and Evaluatin Guideline for the Implementation of the Plan
15. Guideline for International Assistance in Disaster Emergency

The inter-linkages between various regulative instruments and programming for implementation.

5.8 *Annual Performance Agreement of MoDMR*

Government has introduced Annual Performance Agreement (APA) for all ministries, divisions and implementing agencies. Challenges mentioned in APA 2018-19 are as follows:

1. Increase in frequency and intensity of disasters due to climate change
2. Sufferings of poor and disadvantaged increased
3. Comprehensive DRR and mainstreaming of DM

4. Financing in research and innovation and use of Technology to combat disasters
5. Coordination in SNPs conducted by different Agencies
6. Enhancing capacities of search and rescue team and use of volunteers and coordination.

5.9 Disaster Management Policy 2015

The Comprehensive Disaster Management programme that is significant for the ministry has been envisaged in the Disaster Management Policy 2015 in the following way:

- Professionalizing Disaster Management System
- Mainstreaming DRR and CCA
- Strengthening Institutional Mechanism
- Empowering at Risk Community
- Expanding Risk Reduction Programming Across Hazards and Sectors
- Strengthening Emergency Response System
- Developing and Strengthening Regional and Global Networks.

The Key focus areas are as follows:

- Reducing Existing Risk
- Focus on Prevention of New Risk
- Gender Equality and Women Rights
- Focus on Local Community, Local Govt. and Local Level Action
- Focus on Stakeholders and Inclusive Approach
- Focus on Recovery, Rehabilitation and Reconstruction Phase.
- Articulation of Responsibilities across Public and Private Sectors
- Role of Science and Technology: Research & Application
- Partnership- National, Regional and Global
- Focus on Recovery, Rehabilitation and Reconstruction Phase
- Professionalization of Disaster Management
- Mainstreaming Disaster Management.

5.10 National Plan for Disaster Management

5.10.1 The Goals and Core Targets of NPDM 2016-2020

The National Plan for Disaster Management (NPDM) 2016-2020, second of its kind, adopted by the ministry (MoDMR) has three core goals:

1. Saving lives
2. Protecting investments and
3. Effective recovery

This has been developed on country's success in disaster management and considering international DRR frameworks, for example, the Sendai Framework for Disaster Risk Reduction (SFDRR) 2016-2030. The NPDM adopts a phase-wise approach (three phases during 2016-2020) with 34 core targets to be implemented in partnership with relevant stakeholders. The Plan is used to:

- i. Articulate the long-term strategic focus of disaster management in Bangladesh.

- ii. Demonstrate a commitment to address key issues: risk reduction, capacity building, information management, climate change adaptation, livelihood security, issues of gender and the socially disadvantaged, etc.
- iii. Show the relationship between the government vision, key result areas, goals and strategies, and to align priorities and strategies with international and national drivers for change.
- iv. Detail a road map for the development of disaster management plans by various entities.
- v. Guide the MoDMR former DMRD in the development and delivery of guidelines and programmes.
- vi. Illustrate to other ministries, NGOs, civil society and the private sector how their work can contribute to the achievements of the strategic goals and government vision on disaster management.
- vii. Provide a framework within which to report performance and success in achieving goals and strategies.

5.10.2 The Strategy Directions of the NPDM

The Strategy directions of the plan are:

- *Upgrading existing DM programs and policies*
- *DM governance*
- *Investments for building resilience against chronic disasters*
- *Social protection*
- *Inclusive development*
- *Private sector engagement*
- *Resilient post-disaster response and recovery Emerging risks*

5.11 Mainstreaming risk reduction, one of the best way to risk informed DRR

Mainstreaming risk reduction efforts within government, NGOs and private sector is viewed as being the key to achieving sustainable all hazards risk reduction interventions across the whole country. It is one kind of coordination among the project / programme implementing agencies and between and among the ministries / divisions at the policy level. In Bangladesh mainstreaming is seen in much the same light as poverty reduction in that it is the outcome of many top down and bottom up interventions. These are summarized below and articulated briefly within Figure 15.

Advocacy: Awareness raising among Political, Senior Policy and Government Department Officials, Media and Academic Institutions is a priority strategy for building knowledge and understanding on the benefits of risk reduction and the roles these organizations play in implementing risk reduction programmes.

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

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

ensure that committees receive capacity building training to ensure they understand and can fulfill their functions effectively.

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

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

Figure 6: Mainstreaming strategies (Source: *National Plan for Disaster Management (2010-2015)*, Ministry of Disaster Management and Relief)

5.12 SFDRR- International driver

The Sendai Framework for Disaster Risk Reduction (SFDRR) 2016-2030 is a global framework for risk reduction adopted in Sendai of Japan in post-Hyogo Framework for Action (HFA) 2005-2010. Bangladesh is a signatory to this framework and committed to implement it. The SFDRR

has 4 priority area and 7 targets aimed at poverty, health and resilience to be achieved within the timeline. The priority areas are:

- Priority 1. Understanding disaster risk
- Priority 2. Strengthening disaster risk governance to manage disaster risk
- Priority 3. Investing in disaster risk reduction for resilience
- Priority 4. Enhancing disaster preparedness for effective response and to “*Build Back Better*” in recovery, rehabilitation and reconstruction.

The expected outcome of SFDRR is *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.*

The 7 targets of SFDRR are:

1. Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015
2. Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015
3. Reduce direct disaster economic loss in relation to global Gross domestic product (GDP) by 2030
4. 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
5. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
6. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030
7. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

Though most of these goals are global in nature, but country has to customise these according to country specific strategy, goals and targets. The MoDMR has some specific goals and targets to achieved in respect of Sustainable Development Goals 2016-2030. These are Goal-1 Target- 1.5, Goal-11 Target- 11.5 and Target 11b, and Goal-13 Target 13.1. The SDG targets are aimed at reduction of loss of lives and livelihood including economic loss and strengthen resilience and adaptive capacity to climate related hazards and natural disasters. So, there is a huge area of development with specific target of disaster risk reduction based on which the DRIs for 8FYP may be formulated and adopted. Moreover, 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.

5.13 MoDMR's responsibility as Lead / Co-Lead / Associate Ministry for related SDGs

There are 17 Goals and 69 Targets in the Sustainable Development Goals 2016-2030. Among these goals and targets goals 1, 2, 11 and 13 are related to the MoDMR's Allocation of Business. Table 15³⁶ below shows the associated targets and actions would be achieved by the MoDMR during 7th Five Year Plan.

Table 15

Sustainable Development Goals and associated Targets	Actions to achieve the SDG targets within 7thFYP (2016-2020)
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.	<ul style="list-style-type: none"> - Minimizing the climate impact, investment has to be made on the development of new agricultural seeds that would be stress tolerant and be able to grow in such inclement conditions. - Besides the impact on agricultural production due to floods, short-term measures are needed to help the victims of those disasters immediately. - Increase investment and build more centres where the climate victims can take shelters. This will in turn help any relief activity that would be taken after the disaster. - Ensuring that the Social Security system supports an effective disaster response system.
2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.	<ul style="list-style-type: none"> - food security for the national populace including availability, access, utilization and stability.
2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	<ul style="list-style-type: none"> - rural employment generation. - programme for poverty alleviation and increased employment opportunities including women.
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	<ul style="list-style-type: none"> -Strengthen national early warning systems. -Improvement of communication system. -Assessment of disaster situation and recommendation to declare state of disaster emergency and issuance of evacuation -Identification and implementation of preventive, and mitigation measures -Coordination of all activities -Mainstreaming Disaster Risk Reduction

³⁶ Planning Commission of Bangladesh, General Economic Division (September 2016): A Handbook Mapping of Ministries by Targets in the implementation of SDGs aligning with 7th Five Year Plan (2016-20)

<p>poor and people in vulnerable situations.</p>	<p>-Implementation of refugee related programmes.</p>
<p>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</p>	<ul style="list-style-type: none"> - Undertake responsibility for planning and implementing a wide range of infrastructure provision in urban and peri-urban areas. - Development of Growth Centre centric Urban centres in selected Upazillas of Bangladesh-300 Nos - Implementation of the disaster related programmes/ projects undertaken due to adverse impacts of climate change. Approval, administration and monitoring of safety net programmes. - Construction and Maintenance of small bridges/culverts, multi-purpose disaster shelters, cyclone shelters, flood shelters with a view to eliminating/ reducing disaster risks. - Establish, strengthen and improve the national disaster response mechanism
<p>Target 13.1 Strengthen resilience and adaptive capacity to climate- related hazards and natural disasters in all countries.</p>	<ul style="list-style-type: none"> - Mainstream poverty environment-climate-disaster nexus in the project design phase, budgetary process, project implementation and monitoring processes. - Policy measures should be taken to attract microfinance in environmentally vulnerable areas such as cyclone prone coastal areas, land locked and other flood prone areas and disaster prone areas. - Formulation, review and execution of legislation, policies, plans, procedures, standing orders and guidelines in relation to overall disaster risk reduction and emergency response management including relief rehabilitation and safety net programmes. - Relief and disaster risk reduction programmes, planning, and monitoring. - Disaster Management Framework and Key Policies / Programmes - Develop risk assessment and CCA inclusion guideline and promote DRR and CCA inclusion in development planning process.

	<ul style="list-style-type: none"> - Promote structural and nonstructural investment - Encourage different hazard based contingency planning ----- - Establish the National Emergency Operations Centre (EOC) and fully operationalise it.
13.3 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<ul style="list-style-type: none"> - Design skill-focused training for resilient agriculture, industry, infrastructure, trade and other fields on principles of practical resilience - Initiate research to understand how resilience principles could be used to improve education at different levels in Bangladesh - Ensure effective environmental management activities by allowing inclusive bottom-up participation in adaptation decision making, especially at the community level - Promote participatory, community-based environmental resource management and environmental protection (considering the access for the poor, equity, as well as gender issues) along with community based adaptation.

Though the actions are mentioned to be achieved by period (2016-2020) of 7th Five Year Plan, but implementation these activities needs to be continued during the 8th Five Year Plan in order to achieve the SFDRR. Hence, to monitor and measure the activities of the ministry (MoDMR) during 8th FYP only relevant result indicators (RIs) have been proposed carefully.

5.14 Few Priority Areas of MoDMR

From in-depth interviews with the senior level officials of MoDMR and DDM and consulting the resolution of March 2019 meeting on ADP/ Excluded ADP Development Projects/ Programmes, it is learnt that the following projects/ programmes would be in the priority list of the ministry:

1. Preparedness for Risk Reduction- National Emergency Operation Centre
2. Mainstreaming DRR
3. Inclusive DRR including women's leadership
4. Creating space for persons with disabilities following Dhaka Declarations of 2015 and 2018 on disability and disaster risk reduction.
5. Insurance to cover Disaster Risk.
6. Resilient Housing for the poor.
7. Construction of cyclone / flood shelters till reaching the target.
8. Synchronization of DM Act 2012, DM Policy 2015, NPDM 2016-20, Delta Plan 2100 with SFDRR and SDGs.

5.15 *Lessons and Constraints*

- a. The SOD is only an order not an act. Initially there was no legal obligation for the implementers of the SOD after its formulation in 1997 (with English version in 1998). Later in Disaster Management Act 2012 has incorporated SOD as rules prepared under the Act. "The regulations and stipulation prescribed in the SOD published by the Government will be enforced with necessary modifications to fulfill the requirements of this Act [Sub-sec 1]. SOD will remain in force and will be deemed to have in force under this Act" [Sub-sec 2].
- b. SOD coordination bodies are not sufficiently functional. Training is one of the best ways to enhance knowledge and skill. Advanced training, refresher training, on the job training etc. should also be arranged besides foundation/basic training. No work can be done effectively unless the stakeholders are motivated and committed. Motivational work should be undertaken for example: rewarding the best UDMC, rewarding the best UDMC member, rewarding the best volunteer etc. Revision of SOD: WARD Committees. How these will function? Who will bear the cost of meeting? Who will support these committees with secretarial services?
- c. Natural disasters cannot be stopped. But the loss of lives, assets and properties can be reduced significantly through effective and timely preparedness activities. Union Disaster Management Committees (UDMCs) have great role to play for reducing disaster risks of the vulnerable people. Standing Orders on Disaster (SOD) can guide the UDMCs for understanding and performing their roles and responsibilities. But the existing challenge for operationalizing SOD should be addressed through joint collaboration and adopting multi-sectoral approach.
- d. Monitoring is very important to track progress, learn challenges and make necessary adjustments. Upazilla Disaster Management Committee (UzDMC) should be committed enough to regularly monitor the activities of Union Disaster Management Committee (UDMC) and provide proactive support as and when required.
- e. Resources identification, mobilization and utilization are always big challenge. Government should pay due attention so that UDMCs have adequate resources for implementation of SODs and Disaster Contingency Plan. Bangladesh has achieved significant progress in ensuring 100% sanitation in many of the Unions. One of the underlying factors for this success is allocating resources at UP budget for this purpose. Similarly, government should keep such provision for Disaster Contingency Fund at Union Level. This fund could be utilized for awareness activities during peace time and early warning, search & rescue, shelter management etc. during disaster period. Union Disaster Management Committees (UDMCs) should also take collective initiatives to generate Disaster Contingency Fund through mobilizing local resources.
- f. 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.
- g. Community level preparedness works very well where it is part of poverty alleviation program. Many poor people cannot undertake safety measures simply because they cannot afford those. Change in housing pattern (mud-built to light materials housing) in Chittagong hill tracts is an example.

- h. Access to early warning is still a challenge and needed is support from the institutions. The service providers should be supported with resources so that they can do their business during disasters.
- i. Outreach is another challenge as greater number of vulnerable people has not yet been reached. There is a need to invest in inventing effective measures to scale up the ideas.
- j. Citizen action and media advocacy matter most in reduction of vulnerability and timely allocation and distribution of resources. They should be a part of disaster preparedness work.
- k. Living with disaster requires sorting the basic first. As a nation we should invest our resources in a way so that basic services like health, education and water can continue even when there are disasters. For an example, revising the school calendar can reduce school days loss. We can introduce monsoon vacation by the summer one.
- l. Climate change and its impacts, earthquake vulnerability, vulnerability monitoring etc. related information management system is also needed to be strengthened.
- m. Natural elements such as water, land and air are trans-boundary. And thus any measures to address them would also have take into consideration the trans-boundary solutions. This will likely to involve the combined and coordinated effort of the scientific and technology front, community and practice front and regional and international diplomacy front.
- n. Post disaster housing reconstruction and recovery remains as a big challenge. The GoB and NGOs are providing newly built according to their choice estimating the size of money they can invest.

Chapter IV

Result Indicators for 8th FYP

6. Draft Indicators for MoDMR in the 8th FYP

The result indicators proposed below have been developed in line with the vision, mission, strategy, and activities performed by the ministry and the priority areas are being considered by the ministry. It may be mentioned that 7th Five Year Plan 2016-2020 was prepared by the Planning commission alongside the formulation of Sustainable Development Goals (SDGs) 2016-2030. So there was scope for preparing the national plan (FYP) in line with the priority areas and targets of the global framework (SDGs). Bangladesh Government is committed to implement SDGs after her laudable success in implementation of MDG. It is also understood that 8th Five Year Plan will be prepared keeping scope to implement the provisions of SDGs possible for implementation within 5 years. The 9th Five Year Plan will be finishing touch of the implementation of SDGs. Similarly, MoDMR is committed to implement SFDRR within the same paces of time. So, there is pressure to select such result indicators those fit best to cover the priority areas and targets of SDGs and SFDRR. Hence, The proposed RIs are set in line with the targets of SDGs and SFDRR.

However, These two global frameworks (SFDRR and SDGs) are basically global in nature. So, steps are taken to translate these two frameworks into country perspective. It may be noted that SFDRR is not gender responsive. Considering one of the seven targets of SFDRR is to reduce human death in disasters, attempt has been made to set an indicator as to reduce or keep lower the death of women in disasters taking baseline of 12 death in cyclone Ruano 92016) where total death was 24. However, in devastating cyclone like Gorki (1991) and SIDR (2007) it is said the most the death were women and children. MoDMR has also keen interest in the following activities as observed from its overall activities on DRR and building resilient communities. These are: Capacity enhancement of the institutes and functioning of National DM Research & Training Institute; inclusion of comprehensive and mainstreaming DRR including DRR & CCA issues into the training curriculum; hazard specific trainings, simulations & symposium for hazard mandated agencies; preparation of DRR & CCA guideline; DRR & CCA inclusion in education curricula at school, college and tertiary levels; disaster & climate resilient housing, Construction of rural HBB Roads, small bridge and culverts; construction of approach road to shelters, other infrastructure & risk reduction programs at community level; construction of cyclone shelters and Mujib Killa, reconstruction of old cyclone shelter; organize community level drills; guidelines for Inclusive DRR with emphasis on gender and development; and disability issues in line with DRR and CCA. Taking into overall discussion following development result Indicators are proposed.

Ministry: Ministry of Disaster Management and Relief (MoDMR)
Executing Agency: Department of Disaster Management (DDM)

Outcome Statement: Reduce the risks of people from natural, environmental, chemical and human induced disasters through an effective disaster management system and adaptation.								
Performance Indicators	Data Source	Lead Ministry	Baseline (Year)	Target (2021)	Target (2022)	Target (2023)	Target (2024)	Target (2025)
1	2	3	4	5	6	7	8	9
1. Preparation of Contingency Plans / Guidelines for different GoB Agencies	DDM	MoDMR	DM Act, DM Policy & some Guidelines adopted (2012-2017)	Contingency Plans for different GoB Agencies Hazard Specific Risk Assessment Guidelines	Contd.	Contd.	Contd.	Guidelines for all agencies prepared, adopted and published
2. Number of Guidelines are Prepared as referred in the SOD	DDM	MoDMR	3 (2017) Guidelines prepared	3	6	9	12	15
3. Number of officials trained on professional skills and on disaster risk management and climate change risk management	National Disaster Management and Research Training Institute (NDMRTI)	MoDMR	1000 (2020)	1800	2600	3400	4200	5000
4. Number of Resilient Housing built	DDM	MoDMR	29600 (2019)	31,680	33,760	35,840	37,920	40000
5. KM of Cyclone Shelter approach road and HBB road in Disaster Prone Area	DDM	MoDMR	100 km (2019)	300 km	500 km	700 km	900 km	1100 km
6. Number of Cyclone Shelters constructed.	DDM	MoDMR	4000 (2020)	4150	4300	4450	4600	4750
7. Number of CPP and Urban Volunteers Trained for Search and Rescue with Database	DDM in coordination with CPP / BDRCS and FSCD	MoDMR	CPP- 55,000 & Urban- 30,000	CPP- 58000 Urban- 32000	CPP- 60000 Urban- 34000	CPP- 62000 Urban- 36000	CPP- 64000 Urban- 38000	CPP- 66,000 Urban- 40,000

8. Use of space technology for multi-hazard EWs	DDM under PPP	MoDMR	Assessment Completed (2013)	PPP programme taken	Officials trained	Equipment Procured	Trial & Test started	Space Technology is used for multi-hazard EWs
9. Activate MRVA Cell in DDM	DDM under PPP	MoDMR	Cell established in 2016	PPP programme taken	Officials trained	Equipment Procured	Trial & Test started	MRVA Cell in DDM activated
10. Number of MoDMR & DDM officials trained on results based monitoring and evaluation system	NDMRTI	MoDMR	00 (2020)	20	40	60	80	100
11. Number of unused cyclone shelters reconstructed	DDM	MoDMR	60 (2009)	100	140	180	220	250

7. *Strategy and Action Plan*

It is observed that the literature part of the FYP discusses vision, mission and most of the policy strategy and activities of the ministry. But this part is seldom read and action plan is prepared. The ministry is not accountable to perform these activities. Rather, the achievement of the ministry is measured by the RIs inserted in the Plan book. Hence, a Strategy and Action Plan may be suggested and the ministry may be asked to report on the actions mentioned in the Plan book. The 7th FYP discusses four category of goals and one cross-cutting issue. These goals are still valid and important as they are related to inclusive DRR and CCA, gender responsive and risk informed development of the country. Such strategy and action plan may be developed in line with the SFDRR target of preparing national and local risk reduction strategies. The proposed DRR Strategy and Action Plan may be based on the following Thematic areas:

1. Strengthening Institutional Mechanism
2. Mainstreaming DRR and CCA across ministries and departments
3. Risk informed development with understanding of underlying risk of development
4. Inclusive development with emphasis on gender and equity, gender and development and disability and DRR.
5. Sustain the resilience of human and economic development, resilient post disaster response and reconstruction based on the theme of "Build Back Better".
6. Social protection for ensuring food security and capacity development
7. Multi-hazard early warning and Emergency Operation system.

8. Conclusion

Disciplined risk accounting system is significantly important and difficult too to determine the baseline and benchmark. Otherwise accomplishment of objectives, targets and actions will not be possible. But the disaster and climate change risks are still not at the quantification level. Hence, some of the result indicators proposed above may be difficult to estimate and this may bring difficulties in assessing the progress performance of the MoDMR. However, these result indicators have been developed carefully in order to disaster risk reduction and climate change adaptation situation in the country. If these indicators are accepted and incorporated in the 8th FYP (2020-2025). It is interesting to note that the two important global frameworks, e.g., Sendai Framework for Disaster Risk Reduction (2016-2030) and Sustainable Development Goals (2016-2030) are to be implemented by the states at the same time. And we have seen that in most cases there are similarity between these two Frameworks. So, there should be close and to some extent similar monitoring system in the country. Since the country is vulnerable to climate change and disasters and impacts of climate is in cost cases disasters, therefore, a close monitoring system may be developed for MoDMR and MEF to handle extreme climate events and disasters jointly.

Besides, it is learnt during interviews that the 8th Five Year Plan (2021-2025) will not only be prepared as strategy oriented as done in the previous plans but there will be strategy and action plan for each sector. Such strategy and action plan will act beyond the result indicators to measure the progress performance of the ministry concerned.

9. Persons interviewed/ participated in the discussion table

Serial Number	Name	Designation & Organisation	Comments
1.	Mr. Abu Sayed Abul Hashim	Director General Department of Disaster Management (DDM)	
2.	Md. Foyzur Rahman	Additional Secretary, Planning Wing, MoDMR	
3.	Md. Mohsin	Additional Secretary, MoDMR and NPC, NRP	
4.	Ms. Shamima Haque	Additional Secretary, MoDMR	
5.	Dr. Nazrul Anwar	Additional Secretary, MoDMR	
6.	Md. Moazzem Hossain	Additional Secretary, MoDMR	
7.	Md. Khalid Mahmud	Joint Secretary, MoDMR	
8.	Dr. Mostafizur Rahman	Joint Chief and PD, Mid-Term Evaluation of 7th FYP	
9.	Md. Mahbub Alam Talukdar	Director (JS), DDM	
10.	Dr. Nurun Nahar	DEputy Chief and PD NRP Programming Division Part	
11.	Mir Ahmed Tariqul	Deputy Chief, MoDMR	
12.	Md. Anisur rahman	Director (Monitoring and Evaluation), DDM	
13.	Mahbubur Rahman	Senior Asstt. Chief, GED, Planning Commission	
14.	Md. Mazedur Rahman	Sr. Asstt. Chief, Planning Cell, MoDMR	
15.	Dr. Fazle rabbi Siddique Ahmed	Director, PKSf	
16.	Md. Kamal Hossain	Manager, NRP (DDM Part)	
17.	Ms. Dilruba Haider	UN Women Bangladesh	
18.	Ms. Farhana Hafiz	Gender Mainstreaming Specialist, NRP	